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Report of the Committee on Building Construction and Safety Code Technical Correlating Committee (BLD-AAC)

Chair
Jerry Wooldridge, Reedy Creek Improvement District, FL [E]

Secretary
Wayne G. Carson, Carson Associates, Incorporated, VA [SE]

Recording Secretary
Diane D. Matthews, National Fire Protection Association, MA

Principal
George Capko, Jr., FM Global, MA [I] Rep. FM Global/FM Engineering & Research

Russell P. Fleming, National Fire Sprinkler Association, NY [M]
David Frable, US General Services Administration, IL [U]
Sam W. Francis, American Forest & Paper Association, PA [M]


Roland J. Huggins, American Fire Sprinkler Association, Incorporated, TX [IM]

Joseph M. Jardin, New York City Fire Department, NY [C] Rep. NFPA Fire Service Section

Jerry W. Jones, Louisiana Department of Public Safety, LA [E]

Rep. National Conference of States on Building Codes & Standards Incorporated


Harry W. (Hank) Martin, American Iron and Steel Institute, CA [M]
Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]

Michael T. Newman, Johnson & Johnson, NJ [U]
Rep. NFPA Industrial Fire Protection Section

Ronald G. Nickson, National Multi Housing Council, DC [U]

Jake Pauls, Jake Pauls Consulting Services in Building Use & Safety, MD [C丁]
Rep. American Public Health Association
Jim Schwager, City of Portland, OR [E]

Alternate

John C. Harrington, FM Global, MA [I] Alt. to George Capko

Christopher P. Jones, Christopher P. Jones & Associates, NC [E] Alt. to Gerald H. Jones


Russell F. Leavitt, TVA Fire and Life Safety, Incorporated, CA [IM]
Alt. to Roland J. Huggins


John A. Rickard, Foundation Communities, TX [SE] Rep. TC on Building Systems


Peter J. Willse, GE Global Asset Protection Services, CT [I] Rep. TC on Structures and Construction

Staff Liaison: Robert E. Solomon

Committee Scope: This committee shall have primary responsibility for documents or portions of documents on the design and construction of building or structure, including structural design methods and techniques, as well as the design of integrated building systems for health, safety, comfort, and convenience.

Report of the Committee on Assembly Occupancies and Membrane Structures (BLD-AXM)

Chair
Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE]

Secretary (Staff-NV)
Ron Coté, National Fire Protection Association, MA

Principal


George D. Bushey, Rosser International, GA [SE]


Bhola Dhume, City of New Orleans, LA [E]


Roland J. Huggins, American Fire Sprinkler Association, Incorporated, TX [IM]

Jonathan Humble, American Iron and Steel Institute, CT [M]

Kevin J. Kelly, National Fire Sprinkler Association, NY [M]

John Lake, Marion County Fire Rescue, FL [E] Rep. NE Florida Fire Prevention Association

Vern L. Martindale, Church of Jesus Christ of Latter-day Saints, UT [U] Rep. TC on Structures and Construction

Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]


Jake Pauls, Jake Pauls Consulting Services in Building Use & Safety, MD [SE]

Steven W. Peavey, Altamonte Springs Fire Department, FL [E] Rep. Florida Fire Marshals & Inspectors Association


John William Pritchett, Athens–Clarke County Fire Department, GA [E]

Ed Roether, HOK SVE, MO [U]


Philip R. Sherman, Philip R. Sherman, PE, NH [SE]

Jeffrey S. Tubbs, Arup Fire, MA [SE]


Paul L. Wertheimer, Crowd Management Strategies, IL [SE] Alternate


David Cook, Ralph Gerdes Consultants, LLC, IN [SE] Alt. to Ralph Gerdes

Jerrold G. Gorrell, City of Phoenix, AZ [U] Alt. to Karl G. Ruling

Mike Hayward, Little Tikes Commercial Play Systems Incorporated, MO [M] Alt. to Keith C. Nagelski


Vern T. Lewis, Church of Jesus Christ of Latter-day Saints, UT [U] Alt. to Vern L. Martindale

Steven J. Scandaliato, Scandaliato Design Group, Incorporated, CO [IM] Alt. to Roland J. Huggins


Alternate
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Committee Scope: This Committee shall have primary responsibility for documents on the selection and design of types of building construction, exterior walls, building height and area, firewalls, and fire barrier walls, as they relate to the protection of life and property from fire.

Report of the Committee on Building Service and Fire Protection Equipment (BLD-BSF)

Chair
Richard L. Klinker, Klinker & Associates, Incorporated, MD [SE]

Secretary (Staff-NY)
Gregory E. Harrington, National Fire Protection Association, MA

Principal
Keith A. Ball, Tyco/SimplexGrinnell, FL [M]
Rep. National Electrical Manufacturers Association
Harry L. Bradley, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association
Pat D. Brock, Oklahoma State University, OK [SE]
Phillip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]
Paul M. Donga, Boston Fire Department, MA [E]
Rep. National Elevator Industry Incorporated
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
Joseph M. Jardin, New York City Fire Department, NY [C]
Rep. NFPA Fire Service Section
Ignatius Kapulewsky, Connecticut Department of Public Safety, CT [E]
David P. Klein, US Department of Veterans Affairs, MD [U]
Denis A. Lockard, Newport Beach Fire Department, CA [E]
Rep. Western Fire Chiefs Association
Roger L. McDaniel, Florida Department of Corrections, FL [U]
Richard R. Osman, Schirmer Engineering Corporation, IL [I]
James M. Mundy, Jr., Siemens Building Technology Incorporated, NY [M]
Rep. Automotive Fire Alarm Association, Incorporated
Dinesh K. Patel, US Department of the Navy, CA [U]
Martin H. Reiss, The RJA Group, Incorporated, MA [SE]
James Tizzano, Township of Old Bridge, NJ [E]
William A. Webb, Performance Technology Consulting, Limited, IL [SE]
Carl Dewayne Wren, Austin Fire Department, TX [E]

Alternate
Lisa Marie Bossert, Schirmer Engineering Corporation, NC [I]
Alt. to Richard R. Osman
James D. Brown, Oklahoma State University, OK [SE]
Alt. to Pat D. Brock
Davie J. Camp, Thyssen Krupp Elevator, TN [M]
Alt. to Edward A. Donoghue
Greg Gottlieb, Hauppauge Fire District, NY [C]
Alt. to Joseph M. Jardin
Claudia Hagood, Klinker and Associates, Incorporated, MD [SE]
Alt. to Richard L. Klinker

Report of the Committee on Board and Care Facilities (BLD-BCF)

Chair
Philip R. Jose, US Department of Veterans Affairs, NY [U]

Secretary (Staff-NY)
Gregory E. Harrington, National Fire Protection Association, MA

Principal
Gregory J. Austin, Gentex Corporation, MI [M]
Rep. National Electrical Manufacturers Association
Warren D. Bonisch, Schirmer Engineering Corporation, TX [I]
Harry L. Bradley, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association
Philip C. Favro, Tyco/SimplexGrinnell, MA [M]
Laura A. Hoffman, Volunteer State Community College, TN [SE]
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
David Ray Kiely, The Charles Lea Center, SC [U]
Rep. American Network of Community Options & Resources
James K. Lathrop, Koffel Associates, Incorporated, CT [SE]
Paul E. Patty, Underwriters Laboratories Incorporated, IL [RT]
Francis G. Reuer, US Department of Health & Human Services, CO [E]

Voting Alternate

Alternate
Kerry M. Bell, Underwriters Laboratories Incorporated, IL [RT]
Alt. to Paul E. Patty
Oystein (Sam) F. Husoe, National Fire Sprinkler Association, CA [M]
Alt. to Kenneth E. Isman
Cindy Mahan, Friendship Community Care, Incorporated, AR [U]
Alt. to David Ray Kiely
James W. Rice, US Department of Veterans Affairs, MI [U]
Alt. to Philip R. Jose
James F. Woodford, Tyco/SimplexGrinnell, MA [M]
Alt. to Gregory J. Austin
Mayer D. Zimmerman, US Department of Health & Human Services, MD [E]
Alt. to Francis G. Reuer

Staff Liaison: Gregory E. Harrington

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the nonemergency and emergency movement of people in assembly occupancies, tents, and membrane structures.

Report of the Committee on Building Construction (BLD-BLC)

Chair
Peter J. Willse, GE Global Asset Protection Services, CT [I]

Principal
Peter J. Barbadoro, FireSmart Building Technology Incorporated, MA [IM]
Jesse J. Beitel, Hughes Associates, Incorporated, MD [SE]
Robert M. Berhing, Underwriters Laboratories Incorporated, IL [RT]
David S. Collins, The Preview Group, Incorporated, CA [SE]
Rep. American Institute of Architects
Richard J. Davis, FM Global, MA [I]
Rep. FM Global/FM Research
Alan J. Dogart, Wills-Cohn & Co., NJ [I]
Victor L. Dubrowski, Code Consultants, Incorporated, MO [SE]
Bruce A. Edwards, Liberty Mutual Property, MA [I]
Rep. Alliance of American Insurers
Byron (BJ) Foster, State of California, CA [E]
David Frable, US General Services Administration, IL [U]
Sam W. Francis, American Forest & Paper Association, PA [M]
Daniel F. Gemeny, The RJA Group, Incorporated, CA [SE]
Joseph T. Holland, III, Hoover Treated Wood Products, FL [M]
Gerald Kellhier, Westinghouse Savannah River Company, SC [U]
Kevin J. Kelly, National Fire Sprinkler Association, NY [M]
Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]

Kathleen Reid, Intel Corporation, NM [U]
Rep. Semiconductor Industry Association
Sarah A. Rice, Schirmer Engineering Corporation, OH [I]
Brad Schiffer, Brad Schiffer/Taxis, Incorporated, FL [SE]
Robert A. Wessel, Gypsum Association, DC [M]
Robert J. Wills, American Iron and Steel Institute, AL [M]

Voting Alternate
Rick Thornberry, The Code Consortium, Incorporated, CA [M]

Alternate
Robert G. Backstrom, Underwriters Laboratories Incorporated, IL [RT]
Alt. to Robert M. Berhing
Brenda L. Bronson, US General Services Administration, CO [U]
Alt. to David Frable
Michael A. Gardner, Gypsum Association, DC [M]
Alt. to Robert A. Wessel
William E. Koffel, Koffel Associates, Incorporated, MD [U]
Alt. to Kathleen Reid
Renato R. Molina, The RJA Group, Incorporated, FL [SE]
Alt. to Daniel F. Gemeny
Dennis L. Pitts, American Forest & Paper Association, TX [M]
Alt. to Sam W. Francis
Stephen V. Skalko, Portland Cement Association, GA [M]
Alt. to Joseph J. Messersmith
Robert B. Treiber, National Fire Sprinkler Association, Incorporated, OH [M]
Alt. to Kevin J. Kelly
Ronald R. Walker, Charlevoix, MI [M]
Alt. to Joseph T. Holland

Staff Liaison: Bonnie E. Manley

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the nonemergency and emergency movement of people in assembly occupancies, tents, and membrane structures.

Report of the Committee on Building Construction (BLD-BLC)
Committee Scope: This Committee shall have primary responsibility for documents on the application of fire protection systems including detection, alarm, and suppression, and the life safety impact of various building systems.

Report of the Committee on Building Systems (BLD-BSY)

Chair
John A. Rickard. Foundation Communities, TX [SE]

Secretary (Staff-NV)
Allan Fraser. National Fire Protection Association, MA

Principal
William Ambrof. City of Beverly, MA [E]
Brian D. Black. Eastern Paralyzed Veterans Association, NY [C]
Dennis W. Bradshaw. Ralph Gerdes Consultants, LLC, IN [SE]
Sidney L. Cavanaugh. United Association of Journeymen/Apprentices of Plumbing/Pipe Fitting Industry of the US & Canada
Joshua W. Elvove. US Department of Veterans Affairs, CO [U]
Phil Forner. Allendale Heating Company Incorporated, MI [IM]
Raymond N. Hansen. US Air Force, FL [U]
Peter Hays. Newark, OH [M]
A. Hal Kay. City of Mesa Fire Department, AZ [E]
David A. Linville. Mercedes Benz US International Incorporated, AL [U]
Joe McElvane. City of Phoenix, AZ [E]
John E. Munroe. Earth Tech (Canada) Incorporated, Canada [SE]
Ronald G. Nickson. National Multi Housing Council, DC [U]
Jim Pauley. Square D Company, KY [M]
Lawrence G. Perry. Building Owners & Managers Association International, MD [U]
Michael J. Reeser. Santa Rosa Fire Equipment Service Incorporated, CA [IM]
Mark A. Roberts. Louisiana Office of State Fire Marshal, LA [E]
Stephen Roudinelli. The RJA Group, Incorporated, CO [SE]
Shelley Siegel. Accessible Interiors’ Network, Incorporated, FL [SE]
Robert Van Beelaere. Ruskin Manufacturing, MO [M]
Mark Wales. Mark Wales Consulting, LA [SE]
Shane M. Clary. Bay Alarm Company, Incorporated, CA [IM]
David Cook. Ralph Gerdes Consultants, LLC, IN [SE]
Jack Wells. Pass & Seymour/Legrand, NY [M]

Staff Liaison: Allan Fraser

Committee Scope: This Committee shall have primary responsibility for documents on the application of various building systems and features that relate to convenience, health, comfort, and access to a building.

Report of the Committee on Detention and Correctional Occupancies (BLD-DET)

Chair

Secretary (Staff-NV)
Ron Coté. National Fire Protection Association, MA

Principal
David L. Bondor. St. Paul Fire and Marine, TX [H]
Peter J. Collins. US Department of Justice, DC [U]
Michael DiMascio. Solutions Engineering Incorporated, MA [SE]
Randy Gaw. Correctional Service of Canada, Canada [E]
Timothy (T.J.) Gottwald. ESSEX Industries, Incorporated, CT [M]
Roger L. McDaniel. Florida Department of Corrections, FL [U]
E. Eugene Miller. Washington, DC [SE]
Jerry Neal. Cumulus Fibres, Incorporated, NC [M]
Brian C. Pavey. Folger Adam Security Incorporated, IL [M]
Kenneth J. Schwartz. Schirmer Engineering Corporation, IL [I]
Wayne S. Smith. Texas State Fire Marshal, TX [E]
David W. Spence. Corrections Corporation of America, TN [U]

Alternate
A. Larry Iseminger, Jr. Maryland State Fire Marshals Office, MD [E]
Kevin J. Kelly. National Fire Sprinkler Association, NY [M]
Kurt A. Rooper. Ingersoll Rand Security and Safety, OH [M]
Kenneth J. Schwartz. Schirmer Engineering Corporation, IL [I]
John Youngusband. Schirmer Engineering Corporation, CA [I]

Staff Liaison: Ron Coté

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in detention and correctional occupancies.

Report of the Committee on Educational and Day-Care Occupancies (BLD-END)

Chair
Catherine L. Stashak. Schirmer Engineering Corporation, IL [I]

Secretary (Staff-NV)
Ron Coté. National Fire Protection Association, MA

Principal
Scott R. Bartlett. Simplex Time Recorder Company, MA [M]
Samuel S. Dannaway. S.S. Dannaway Associates, Incorporated, HI [SE]
Victor L. Dubrowski. Code Consultants, Incorporated, MO [SE]
Vern L. Martindale. Church of Jesus Christ of Latter-day Saints, UT [U]
Michael L. Sinigaglia. Windsor Locks Fire Department, CT [E]
Aleksy L. Szachnowicz. Anne Arundel County Public Schools, MD [U]
Robert T. Trotter. Franklin Fire Department, TN [E]
Ralph J. Warburton. University of Miami, FL [SE]

Alternate
Kevin J. Kelly. National Fire Sprinkler Association, NY [M]
Amy J. Murdock. Code Consultants, Incorporated, MO [SE]
Roger B. Rudy. Performance Design Technologies, LLC, TN [SE]
Fred K. Walker. US Department of the Air Force, FL [U]

Staff Liaison: Ron Coté
Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people in educational occupancies and day-care occupancies.

Report of the Committee on Fire Protection Features (BLD-FIR)

Chair
Eric R. Rosenbaum, Hughes Associates, Incorporated, MD [SE]

Secretary (Staff-NV)
Milosh T. Puchovsky, National Fire Protection Association, MA

Principal
Carl F. Baldassarre, Schirmer Engineering Corporation, IL [I]
John F. Bender, Maryland Office of State Fire Marshal, MD [E]
Robert M. Berhing, Underwriters Laboratories Incorporated, IL [RT]
Gregory J. Cahanin, St. Petersburg, FL [U]
Paul L. Dove, City of Coldwater Fire Department, MI [E]
Brian L. Eklow, Aon Risk Consultants, IL [I]
Sam W. Francis, American Forest & Paper Association, PA [M]
Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE]
Donald Murray Golf, Hillsborough County Fire Rescue, FL [E]
Wayne D. Holmes, HSB Professional Loss Control, CT [I]
Jonathan Humble, American Iron and Steel Institute, CT [M]
Ignatius Kapalczynski, Connecticut Department of Public Safety, CT [E]
Waseem A. Khan, Brick Industry Association, VA [M]
William E. Koffel, Koffel Associates, Incorporated, MD [M]

Alternate
Jeffrey A. Maddox, The RJA Group, Incorporated, CA [SE]
John W. McCormick, Code Consultants, Incorporated, MO [SE]
Joseph J. Messersmith, Jr., Portland Cement Association, VA [M]
Kurt A. Roepfer, Ingersoll Rand Security and Safety, OH [M]
Kathleen Taraba, Rolling Plains Construction, Incorporated, CO [IM]
Firestop Contractors International Association
Kenneth Wood, Office of the Illinois State Fire Marshal, IL [E]

Alternate
Donald W. Belles, Koffel Associates, Incorporated, TN [M]
Att. to William E. Koffel
Joseph A. Brooks, Air Movement & Control Association International, IL [M]
Att. to Vickie J. Lovell
Edward K. Budnick, Hughes Associates, Incorporated, MD [SE]
Att. to Eric R. Rosenbaum
David Cook, Ralph Gerdes Consultants, LLC, IN [SE]
Att. to Ralph Gerdes
John F. Devlin, Schirmer Engineering Corporation, MD [I]
Att. to Carl F. Baldassarre
Jack Gump, HSB Professional Loss Control, TN [I]
Att. to Wayne D. Holmes
Att. to Marshall A. Klein
Thomas R. Janicak, Ceco Door Products, TN [M]
Att. to Kurt A. Roepfer
Mark Kluver, Portland Cement Association, CA [M]
Att. to Joseph J. Messersmith
David A. Lewis, Code Consultants, Incorporated, MO [SE]
Att. to John W. McCormick
Jon W. Pasqualone, Martin County Board of County Commissioners, FL [E]
Att. to Donald Murray Golf
David P. Tyree, American Forest & Paper Association, CO [M]
Att. to Sam W. Francis
Robert J. Wills, American Iron and Steel Institute, AL [M]
Att. to Jonathan Humble

Nonvoting
Michael Earl Dillon, Dillon Consulting Engineers, Incorporated, CA
Rep. TC on Air Conditioning
Att. to Jonathan Humble

Staff Liaison: Milosh T. Puchovsky

Committee Scope: This Committee shall have primary responsibility for documents on construction compartmentation, including the performance of assemblies, openings, and penetrations, as related to the protection of life and property from fire and other circumstances capable of producing similar consequences.

Report of the Committee on Fundamentals (BLD-FUN)

Chair
Morgan J. Hurley, Society of Fire Protection Engineers, MD [U]

Secretary (Staff-NV)
Ron Coté, National Fire Protection Association, MA

Principal
Thomas H. Allen, Smoke Guard Corporation, ID [U]
Robert E. Bachman, Robert E. Bachman, Consulting Structural Engineer, CA [SE]
Rep. National Council of Structural Engineers Associations
Wayne G. Carson, Carson Associates, Incorporated, VA [SE]
Amy Y. Cheng, Clark County Department of Development Services, NV [E]
James E. Churchill, Schirmer Engineering Corporation, CA [I]
Barbara Elstein, Vinick Associates, Incorporated, CT [U]
Rep. American Society of Interior Designers
Ben Greene, City of Englewood, CO [E]
Howard Hopper, Underwriters Laboratories Incorporated, CA [RT]

Alternate
Eugene A. Cable, US Department of Veterans Affairs, NY [U]
Att. to David P. Klein
Robert M. Carasitti, Schirmer Engineering Corporation, MA [I]
Att. to James E. Churchill
Robert J. Eugene, Underwriters Laboratories Incorporated, WA [RT]
Att. to Howard Hopper
John V. Loscheider, Loscheider Engineering Company, WA [SE]
Att. to Robert E. Bachman
Kimberly A. Marks, The Marks Design Group, Incorporated, TX [U]
Att. to Barbara Elstein
Eric N. Mayl, Koffel Associates, Incorporated, MD [M]
Att. to James K. Lathrop
Rodney A. McPhee, Canadian Wood Council, Canada [M]
Att. to Jeffrey B. Stone

Nonvoting
Pichaya Chantranuwat, Fusion Consultants Co. Limited/Thailand, Thailand [SE]
Att. to Ron Coté

Staff Liaison: Ron Coté

Committee Scope: This Committee shall have primary responsibility for documents on the basic goals, objectives, performance requirements, and definitions for protection of human life and property from fire, earthquake, flood, wind, and other circumstances capable of producing similar consequences and on the nonemergency and emergency movement of people.

Report of the Committee on Furnishings and Contents (BLD-FUR)

Chair
William E. Fitch, Omega Point Laboratories Incorporated, TX [RT]

Secretary (Staff-NV)
Milosh T. Puchovsky, National Fire Protection Association, MA

Principal
Vytenis Babrauskas, Fire Science and Technology Incorporated, WA [SE]
Lisa Bonneville, Bonneville Design, MA [U]
Rep. American Society of Interior Designers
Eugene A. Cable, US Department of Veterans Affairs, NY [U]
Frederic B. Clarke, Benjamin Clarke Associates, Incorporated, VA [SE]
Paul Dillon, Southern Polytechnic State University, GA [M]
Rep. Sleep Products Safety Council
Pravin D. Gandhi, Underwriters Laboratories Incorporated, IL [RT]
Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people.

Report of the Committee on Industrial, Storage, and Miscellaneous Occupancies (BLD-IND)

Chair
Wayne D. Holmes, HSB Professional Loss Control, CT [I]

Secretary (Staff-NV)
Milosch T. Puchovsky, National Fire Protection Association, MA

Principal
John A. Alderman, RRS Engineering, TX [SE]
Rep. American Society of Safety Engineers
Thomas L. Allison, Westinghouse Savannah River Co., SC [U]
Raymond E. Aratson, Rayden Research LLC, WI [SE]
Donald C. Birchler, FP&K Consultants Incorporated, MO [SE]
Howard M. Bucci, US Department of Energy, WA [U]
Charles E. Doody, Canton Fire Department, MA [E]
John F. Farney, Jr., Sargent & Lundy Engineers, IL [SE]
Larry L. Fluer, Fluer, Incorporated, CA [M]
Rep. Compressed Gas Association
Larry N. Garrett, Delphi Corporation, IN [U]
Rep. NFPA Industrial Fire Protection Section
James Golmiveaux, Tyco Fire Products, RI [M]
Rep. American Fire Sprinkler Association
Bruce W. Hisley, Fairfield, PA [E]
Rep. International Fire Marshals Association
Jonathan Hamble, American Iron and Steel Institute, CT [M]
Ronald Keefer, Menlo Park Fire Protection District, CA [E]
Rep. Automotive Oil Change Association
Neal W. Krantz, LVC Technologies, Incorporated, MI [M]
Rep. Automatic Fire Alarm Association, Incorporated
Richard S. Kraus, Petroleum Safety Consultants, VA [U]
Rep. American Petroleum Institute
Raymond W. Lonabaugh, National Fire Sprinkler Association, PA [M]
Patrick A. McLaughlin, McLaughlin & Associates, RI [U]
Rep. Semiconductor Industry Association
Millon L. Norsworthy, Arch Chemicals, Incorporated, TN [M]
Anthony M. Ordile, Loss Control Associates, Incorporated, PA [SE]
Rep. TC on Storage and Warehousing of Containers and Portable Tanks
Phani K. Raj, Technology & Management Systems, Incorporated, MA [SE]
Rep. TC on Liquefied Petroleum Gases
William J. Satterfield, HI, Hydrogen Safety, LLC/Rode & Associates, LLC, RI [SE]
Jeffrey M. Shapiro, International Code Consultants, TX [M]
Rep. The Chlorine Institute
Stephen V. Skalko, Portland Cement Association, GA [M]
Cleveland B. Skinker, Bechtel Power Corporation, MD [SE]
Bruce J. Swiecicki, National Propane Gas Association, IL [M]
David C. Tabar, The Sherwin-Williams Company, OH [U]
Samuel Vanover, Jefferson Parish Fire Department, LA [E]
Rep. TC on Hazardous Chemicals
Carl Dewayne Wren, Austin Fire Department, TX [E]

Alternate
Alt. to Howard M. Bucci
Daniel J. Gengers, National Fire Sprinkler Association, WI [M]
Alt. to Raymond W. Lonabaugh
Jack Gump, HSB Professional Loss Control, TN [I]
Alt. to Wayne D. Holmes
Alt. to Marshall A. Klein
Roland J. Huggins, American Fire Sprinkler Association, Incorporated, TX [M]
Alt. to James Golmiveaux
Mark Kluver, Portland Cement Association, CA [M]
Alt. to Stephen V. Skalko
William E. Koffel, Koffel Associates, Incorporated, MD [U]
Alt. to Patrick A. McLaughlin
Michael E. Lyden, The Chlorine Institute, Incorporated, VA [M]
Alt. to Jeffrey M. Shapiro
Todd D. Matteson, Westinghouse Savannah River Company, SC [U]
Alt. to Thomas L. Allison
David J. Repasky, The Sherwin-Williams Company, OH [U]
Alt. to David C. Tabar
Roberto Lozano Rosales, Delphi Corporation, TX [U]
Alt. to Larry N. Garrett
Roger A. Smith, Compressed Gas Association, Incorporated, VA [M]
Alt. to Larry L. Fluer
Robert J. Wills, American Iron and Steel Institute, AL [M]
Alt. to Jonathan Humble

Staff Liaison: Milosch T. Puchovsky

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Committee Scope: This Committee shall have primary responsibility for documents on the protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people, in industrial and storage occupancies, special structures, windowless and underground buildings, and high-rise buildings.

Report of the Committee on Materials (BLD-MAT)

Chair
Joseph H. Versteeg, Versteeg Associates, CT [E]
Rep. International Fire Marshals Association

Principal
Stanton M. Alexander, North American Testing Company, FL [U]
Jesse J. Beitel, Hughes Associates, Incorporated, MD [SE]
Charles B. Clark, Jr., National Concrete Masonry Association, VA [M]
Richard L. P. Custer, Arup Fire, MA [SE]
J. Daniel Dolan, Washington State University, WA [E]
Rep. National Institute of Building Sciences/BSSC
William E. Fitch, Omega Point Laboratories Incorporated, TX [RT]
Michael A. Gardner, Gypsum Association, DC [M]
Ralph Gerdes, Ralph Gerdes Consultants, LLC, IN [SE]
Rep. American Institute of Architects
John C. Harrington, FM Global, MA [I]
Rep. FM Global/FM Research
Alfred J. Hogan, Reedy Creek Improvement District, FL [E]
Lee Jones, Association of The Wall and Ceiling Industries, VA [IM]
William E. Koffel, Koffel Associates, Incorporated, MD [MP]
Rep. Glazing Industry Code Committee
Harry W. (Hank) Martin, American Iron and Steel Institute, CA [M]
Joseph J. Messersmith, Jr., Portland Cement Association, OR [M]
Dennis L. Pitts, American Forest & Paper Association, TX [M]
John C. Stevenson, John Stevenson Architect Incorporated, CA [SE]
Rep. American Institute of Architects
Kip David Thomas, Lotawata Fire Protection District, MO [E]
Rimas Veitas, Veitas & Veitas Engineers, Incorporated, MA [SE]
Rep. National Council of Structural Engineers Associations
Peter J. Wills, GE Global Asset Protection Services, CT [I]

Alternate
Richard J. Davis, FM Global, MA [I]
Alt. to John C. Harrington
Karl D. Houser, E-L-B Fire Engineering, MD [IM]
Alt. to Lee Jones
Mark Klouver, Portland Cement Association, CA [M]
Alt. to Joseph J. Messersmith
Norman J. Scheel, Norman Scheel Structural Engineer, CA [SE]
Alt. to Rimas Veitas
Jason J. Thompson, National Concrete Masonry Association, VA [M]
Alt. to Charles B. Clark
David P. Tyree, American Forest & Paper Association, CO [M]
Alt. to Dennis L. Pitts
Robert A. Wessel, Gypsum Association, DC [M]
Alt. to Michael A. Gardner
Robert J. Wills, American Iron and Steel Institute, AL [M]
Alt. to Harry W. (Hank) Martin

Staff Liaison: Bonnie E. Manley

Committee Scope: This Committee shall have primary responsibility for documents on the application of various building materials that are used in the construction of buildings, structures, and related facilities.

Report of the Committee on Means of Egress (BLD-MEA)

Chair
David A. de Vries, Firetech Engineering Incorporated, IL [SE]

Secretary (Staff-NY)
Ron Coté, National Fire Protection Association, MA

Principal
John L. Barrios, Department of Business and Community Services, FL [E]
John L. Bryan, Frederick, MD [SE]
Kenneth E. Bush, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association
Davie J. Camp, Thysken Krupp Elevator, TN [M]
Rep. National Elevator Industry Incorporated
Steven Di Pilla, ACE USA/EISIS Risk Control Services, NJ [I]
Rep. American Society of Safety Engineers
Joshua W. Elvove, US Department of Veterans Affairs, CO [U]
Philip C. Favro, Philip C. Favro & Associates, CA [SE]
Edward L. Fixen, Schirmer Engineering Corporation, CA [I]
David Frable, US General Services Administration, IL [U]

Rita C. Guest, Carson Guest, Incorporated, GA [U]
Rep. American Society of Interior Designers
Billy G. Helton, Lithonia Emergency Systems, GA [M]
Rep. National Electrical Manufacturers Association
William E. Koffel, Koffel Associates, Incorporated, MD [SE]
Lawrence J. McGinty, US Central Intelligence Agency, DC [U]
Wayne Menaz, Underwriters Laboratories Incorporated, CA [RT]
Richard A. Morris, National Association of Home Builders, DC [U]
Jake Pauls, Jake Pauls Consulting Services in Building Use & Safety, MD [C]
Rep. American Public Health Association
Robert R. Perry, Robert Perry Associates Incorporated, IL [M]
Rep. Door & Hardware Institute
Eric R. Rosenbaum, Hughes Associates, Incorporated, MD [SE]
Leslie Strull, The RJA Group, Incorporated, IL [SE]
Michael Tierney, Builders Hardware Manufacturers Association, CT [M]
Michael D. Tomy, Heery International Incorporated, GA [SE]
Rep. American Institute of Architects
Joseph H. Versteeg, Versteeg Associates, CT [E]
Rep. Fairfield CT Fire Marshal's Office

Alternate
John R. Battles, Southern Building Code Congress International
Alt. to John L. Barrios
Charles H. Berry, US Department of Veterans Affairs, MD [U]
Alt. to Joshua W. Elvove
Warren D. Bonisch, Schirmer Engineering Corporation, TX [I]
Alt. to Edward L. Fixen
Alt. to Davey J. Camp
Barbara Elsbein, Vinick Associates, Incorporated, CT [U]
Alt. to Rita C. Guest
David A. Gilda, Builders Hardware Manufacturers Association, PA [M]
Alt. To Michael Tierney
James K. Lathrop, Koffel Associates, Incorporated, CT [SE]
Alt. to William E. Koffel
R. T. Leicht, State of Delaware, DE [E]
Alt. to Kenneth E. Bush
James A. Milke, University of Maryland, MD [SE]
Alt. to John L. Bryan
Brian T. Rhodes, Hughes Associates, Incorporated, MD [SE]
Alt. to Eric R. Rosenbaum
Roy W. Schwarzenberg, US Central Intelligence Agency, DC [U]
Alt. to Lawrence J. McGinty
Michael S. Shulman, Underwriters Laboratories Incorporated, CA [RT]
Alt. to Wayne Menaz

Nonvoting
Pichaya Chantranuwat, Fusion Consultants Co. Limited/Thailand, Thailand [SE]

Staff Liaison: Ron Coté

Committee Scope: This Committee shall have primary responsibility for documents on the general requirements for safe egress for protection of human life from fire and other circumstances capable of producing similar consequences and on the nonemergency and emergency movement of people.

Report of the Committee on Mercantile and Business Occupancies (BLD-MER)

Chair
Ed Schultz, Code Consultants, Incorporated, MO [SE]

Secretary (Staff-NV)
Milosh T. Puchovsky, National Fire Protection Association, MA

Principal
David M. Banwarth, David M. Banwarth Associates, LLC, MD [SE]
E. Joseph Bucci, US Department of the Treasury, DC [U]
Kenneth E. Bush, Maryland State Fire Marshals Office, MD [E]
Rep. International Fire Marshals Association
David A. Dodge, Safety and Forensic Consulting, ME [U]
Rep. American Society of Safety Engineers
Sam W. Francis, American Forest & Paper Association, PA [M]
Douglas R. Freels, Performance Design Technologies, TN [SE]
Daniel J. Gauvin, Tyco/SimplexGrinnell, MA [M]
Rep. National Electrical Manufacturers Association
William Hiattay, The Taubman Company, MI [U]
Wayne D. Holmes, HSB Professional Loss Control, CT [I]
Jonathan Humble, American Iron and Steel Institute, CT [M]
Michael J. Laderoute, MJL Associates, Incorporated, VA [M]
Rep. Fire Equipment Manufacturers' Association
Brian L. Marburger, St. Paul Fire & Marine Insurance Company, IL [I]
Richard V. Moon, Insurance Services Office, Incorporated, NJ [I]
Lawrence G. Perry, Building Owners & Managers Association International, MD [U]
Steven E. Randall, National Fire Sprinkler Association, FL [M]
Sheldon S. Rucinski, Schirmer Engineering Corporation, IL [I]
Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people, in mercantile and business occupancies.

Report of the Committee on Residential Occupancies (BLD-RES)

Chair
James K. Lathrop, Koffel Associates, Incorporated, CT [SE]

Secretary (Staff-NV)
Gregory E. Harrington, National Fire Protection Association, MA

Principals
Warren D. Bonisch, Schirmer Engineering Corporation, TX [I]
H. Wayne Boyd, US Safety & Engineering Corporation, CA [M]
Harry L. Bradley, Maryland State Fire Marshals Office, MD [E]
Philip A. Brown, American Fire Sprinkler Association, Incorporated, TX [IM]
Sam W. Francis, American Forest & Paper Association, PA [M]
Robert Gerdes, Robert Gerdes Consultants, LLC, IN [SE]
Robert Howe, Vermont Department of Labor & Industry, VT [E]
Kenneth E. Isman, National Fire Sprinkler Association, NY [M]
Sarah A. Rice, Schirmer Engineering Corporation, OH [I]

Alternate
Susan M. Downty, S. K. Ghosh Associates Incorporated, CA [SE]
Alt. to Satyendra K. Ghosh
John C. Harrington, FM Global, MA [I]
Alt. to Richard J. Davis

Report of the Committee on Structures and Construction (BLD-STR)

Chair
Peter J. Willse, GE Global Asset Protection Services, CT [I]

Principal
Charles B. Clark, Jr., National Concrete Masonry Association, VA [M]
David S. Collins, The Preview Group, Incorporated, OH [SE]
Rep. American Institute of Architects
Richard J. Davis, FM Global, MA [I]
Rep. FM Global/FM Research
Jeffrey Feid, State Farm Fire & Casualty Company, IL [I]
Scott G. Nycheman, LZA Technology/Thornton-Tomasetti Engineers, IL [SE]
Sarah A. Rice, Schirmer Engineering Corporation, OH [I]

Alternate
Alan Robinson, TU and Robinson, Structural Engineers, Incorporated, CA [E]
Rep. National Institute of Building Sciences/BSSC
Michael T. Valley, Magnusson Klemencic Associates, WA [E]
Rep. National Institute of Building Sciences/BSSC

Report of the Committee on Emergency Movement of People (EMM-EM)

Chair
 tracey d. bellamy, tv a fire and life safety, incorporated, ga [U]

Alternate
Tracey D. Bellamy, TVA Fire and Life Safety, Incorporated, GA [U]
Alt. to William J. Foster

Alternate
James A. Rossberg, National Multi Housing Council, DC [U]
Alt. to Joseph J. Messersmith, Jr.

Alternate
Jeffrey B. Stone, National Multi Housing Council, DC [U]
Alt. to Michael T. Valley

Alternate
Sarah A. Rice, Schirmer Engineering Corporation, OH [I]
Alt. to Satyendra K. Ghosh

Staff Liaison: Gregory E. Harrington

Committee Scope: This Committee shall have primary responsibility for documents on protection of human life and property from fire and other circumstances capable of producing similar consequences, and on the emergency movement of people, in hotels, dormitories, apartments, lodge rooms and room houses, and one- and two-family dwellings.
The Report of the Committee on Building Code is presented for adoption, as follows:

The Reports were prepared by:
- Technical Correlating Committee on Building Code (BLD-ACC)
- Technical Committee on Assembly Occupancies and Membrane Structures (BLD-AXM)
- Technical Committee on Board and Care Facilities (BLD-BCF)
- Technical Committee on Building Construction (BLD-BLC)
- Technical Committee on Building Service and Fire Protection Equipment (BLD-BSF)
- Technical Committee on Building Systems (BLD-BSY)
- Technical Committee on Detention and Correctional Occupancies (BLD-DET)
- Technical Committee on Educational and Day-Care Occupancies (BLD-END)
- Technical Committee on Fire Protection Features (BLD-FIR)
- Technical Committee on Fundamentals (BLD-FUN)
- Technical Committee on Furnishings and Contents (BLD-FUR)
- Technical Committee on Health Care Occupancies (BLD-HEA)
- Technical Committee on Industrial, Storage, and Miscellaneous Occupancies (BLD-IND)
- Technical Committee on Means of Egress (BLD-MEA)
- Technical Committee on Mercantile and Business Occupancies (BLD-MER)
- Technical Committee on Residential Occupancies (BLD-RES)
- Technical Committee on Structures and Construction (BLD-STR)


NFPA 5000 has been submitted to letter ballot of the applicable Building Code Committees. The results of the balloting, after circulation of any negative votes, can be found in the report.

NFPA 5000 has also been submitted to letter ballot of the Technical Correlating Committee on Building Code, which consists of 27 voting members; of whom 20 voted affirmatively, 3 negatively after circulation of negative ballots (Baldassarra, Frable, Pauls), 1 abstained (C. Jones), and 3 ballots were not returned (Carson, Hoppie, Lauziere).

Mr. Baldassarra voted negatively on Proposal 5000-526 stating:
Reason: My notes indicate a different TCC note for that item, as follows:
“Review this proposal for consistency with the action taken on 5000-781 by BLD-MER and to give consideration, so as to make any needed changes, to Fixen’s explanation of negative with respect to the evacuation concepts of tall buildings, and to whether there is adequate technical justification for the new stair width provisions to apply to all occupancies.”
While this may appear to be subtle, it is not and should be submitted to the TC as stated above.

Mr. Frable voted negatively on Proposal 5000-526 stating:
I will be voting negative on the TCC Ballot for the TCC Note on Proposal 5000-526 based on my notes from the meeting. I am recommending that the Note be revised as follows:
“Review this proposal for consistency with the action taken on Proposal 5000-781 by BLD-MER and to give consideration, so as to make any needed changes, to Fixen’s explanation of negative with respect to the evacuation concepts of tall buildings and to whether there is adequate technical justification for the new stair width provisions to apply to all occupancies.”

Mr. Frable voted negatively on Proposal 5000-781 stating:
The Mercantile TC has not justified a special exemption applying to occupancies under its purview (Mercantile and Business). The substantiations provided for accepting the proposals are not only poorly founded or incorrect; they are of a general nature—dealing with factors that have been taken into account by the Means of Egress TC in accepting proposals NFPA 101-107 and NFPA 5000-526 and intended to apply to all occupancies for the high-population stair widths. (For example, the phrase “served by the stairway” is current code language on the minimum stair width issue; moreover, the comments about high loadings high occupant load is mistaken because such buildings—for example, serving an assembly occupancy—would already be likely to have wider stairs for their large populations.) The Mercantile TC has not provided justification for excluding particular Mercantile and Business Occupancies that are the subject of its proposals.
I believe that the Mercantile TC would not have accepted its proposals if committee members had been aware of my extensive responses (reproduced below) to negative ballot comments from Means of Egress TC members, David Frable and Edward Fixen. My responses were shared with Means of Egress TC members during their balloting of the original proposal applying to the Means of Egress chapter and setting out the basic requirement for all occupancies. It should also be noted that I had the opportunity to discuss these issues and share the following responses with the Industrial Technical Committee when it was contemplating exempting high-rise buildings from their requirement; after this the Industrial TC did not accept an exemption similar to what has been proposed for Mercantile and Business occupancies by the Mercantile TC. There was not similar opportunity to discuss the matter with the Mercantile TC, a fact that I believe resulted in its badly flawed justification for Proposals NFPA 101-781 and NFPA 5000-781.

Given the problems with the Mercantile TC proposals, I do not believe that the TCC notes are responsive enough to the proposals’ problems or the need for different action on them.

Jake Pauls’ Response to Negative Ballot Comments of Means of Egress Technical Committee members David Frable (GSA) and Edward Fixen (Schirmer Engineering Corporation) submitted as part of the Technical Committee ballot process on increased minimum exit stair widths, a public proposal submitted by Jake Pauls and contained in the NFPA Means of Egress Technical Committee for the NFPA 101, Life Safety Code, and NFPA 5000, Building Construction and Safety Code.
Jake Pauls’ responses are shown in bold italic font below, interspersed with Negative Ballot Comments from Mr. Frable and Mr. Fixen.
Proposal 5000-526 Negative Ballot from Fixen
Neg: While the technical substantiation merits consideration, it appears that the fundamental driver for this substantiation is the complete and uncontrolled evacuation of very tall buildings, as opposed to staged evacuation currently contemplated by Code. It is premature to make changes that are not anchored to corresponding fundamental changes in the Code such as complete evacuation of very tall buildings. To my knowledge there is no committee consensus on fundamentally changing the underlying evacuation philosophy of tall buildings from staged to complete.

This is not a fundamental change as the NFPA codes and all other model codes—have always stated minimum stair widths. The changes proposed simply improve the alignment of the minimum width requirements to longstanding assumptions about a certain stair widths facilitating certain kinds of crowd movement, both unidirectionally and with counterflow.

The 44-inch nominal stair width was based on a mistaken assumption that two files or columns of people could use the stair in a shoulder-to-shoulder fashion. This was long enshrined in the concept of 22-inch inch units of exit width that NFPA and other code groups began rejecting in the 1980s. See the substantiation provided with the proposal for full background on this matter.

Regarding Mr. Fixen’s contention that there is no committee consensus, the Means of Egress Technical Committee has now repeatedly voted (when there were not procedural complications as happened last cycle with the comment on NFPA 101), supported by NFPA members, in favor of realigning the minimum width to take account of the traditional misconception about the 44-inch stair width and this addresses both staged and complete evacuations recognizing that both occur in real events—fires, bombs and bomb scares—in large buildings.

Mr. Fixen would have a very difficult job selling a code to professionals and the public today if he argued that the codes were solely based on a staged evacuation concept of crowds. What the codes do implicitly is to cater to evacuation of certain portions of a building in an implicitly-assumed time but they certainly do not rule out evacuation of larger portions or the total building in a longer time. See the full justification, with the proposal, on the benefit of improved egress flow—and hence evacuation time—performance due to the fact that, because of the greater effective width, the increased stair widths will actually be an additional safety benefit beyond enhancing two abreast movement and counterflow.

Although my proposal justification refers to “a fundamental re-examination of minimum egress stair width criteria,” it is not a fundamental re-examination of egress generally and it is merely one of the simplest ergonomic aspects of the egress issue—minimum stair width. Perhaps my proposal clouded matters slightly by permitting a few population-based, width steps between the traditional 44-inch nominal width and the widely recommended nominal width of 58 inches—specified more clearly as 48 inches clear between handrails. However, I clearly stated that I would consider—that within the scope of my proposal—a code revision applying the wider minimum width (of 48 inches clear between handrails) even more generally, for example, such as the Fire Safety Directors Association of Greater New York have advocated for all high-rise buildings.

Proposal 5000-526 Negative Ballot by Frable
Neg: At the December meeting the Technical Committee voted to accept the subject proposal. However, it is my opinion that the proponent has not provided sufficient technical substantiation to justify the new proposed occupant load threshold trigger for the proposed new minimum stair width clearances between handrails. Hence this proposal would not coincide with other quality documents published by NFPA that are based on sound technical documentation.

It is remarkable that Mr. Frable can characterize a substantiation of over 2,700 words, plus a few figures and four citations to peer-reviewed literature as not being “sound technical documentation” especially as the
first dimension is not arbitrary. Read the substantiation again. Regarding “sociological, economical, and political impact,” does GSA have the base information about such impacts from current minimum stair width requirements that would be compared with the suggested new information? Is it prepared to fund such research? Is GSA interested also in what the “sociological, economical, and political impact,” would be for the United States in the future if the World Trade Center evacuation had been significantly greater—especially if the actual 9-11 attacks occurred somewhat later that day than the relatively small population of about 7,000 persons per tower? Imagine several thousand additional persons, conventionally utilizing the stair examples not used by EWTC exit stairs provided along with a 35-inch nominal width stair) while having to stop or drastically slow down because of the counterflow from first responders? Imagine a death toll a few times higher than that carried on in the Building 7 collapse?

Regarding economic impact, this was dealt with in the prior cycle’s comments and NFPA Standards Council appeal process when GSA negotiated the NFPA committee and membership acceptance of a requirement for wider exit stairway width. The economic impact (or area increase impact) was not challenged in detail. The question was raised by Fruin, Templer, Pauls and all the other participants in the code-making process—especially the Technical Committee to make the wider minimum stairway width apply (or area increase impact) was not challenged in detail. The question was raised by Fruin, Templer, Pauls and all the other participants in the code-making process—especially the Technical Committee to make the wider minimum stairway width apply

Will widening new exit stairs to these arbitrary dimensions improve safety significantly?

Characterizing new exit stair dimensions as “arbitrary” does not make

• By accepting this proposal, will this lead to a “false” perception of improved safety by the occupants of a building?

With what technical justification does GSA refer to “false” perception? From what I already know of people’s perception of the narrow stair width provided with two of the three World Trade Center exits (as well as other typical office building exits now) they do perceive them as narrow and inadequate. The John Labriola photographs taken in one of the narrower World Trade Center exits on 9-11 clearly depicted what ordinary people can readily perceive; people had to stop and twist to the side to let the firefighter pass. (The photographs are available in John Labriola’s book, Walking Forward, Looking Back, Hyper Publishing, 2003.) What basis does GSA have for ever suggesting that people’s perception of improved safety with the wider stairs is “false?”
• Is this proposal only a “band-aid” that ignores the larger issue of the building evacuation philosophy?

Band-aids do a useful job even if applied temporarily. Wider stairs are much more effective as they serve permanently and they improve building evacuation regardless of the evacuation philosophy employed. The proposal does not ignore the larger issue; I believe it clearly pointed out its scope as dealing with one of the relatively simple aspects of design for evacuation—based on traditional expectations of performance with two-unit stairs. Again, what has GSA done and what is it prepared to do to support and fund research on “the larger issue of building evacuation philosophy?”

• In lieu of requiring wider stairs, would additional protection of the stairs or requiring additional stairs be more effective in the overall goal?

The proposal-specified benefits of the wider stairs are not achieved with “additional protection of the stairs” or simply providing more of them (unless organizations like GSA are prepared to install stairways that are explicitly not intended for evacuation and are for use by first responders only). However, if the overall goal—and the means to reliably achieve it—are to not have any evacuation of a building, then the benefits of wider stairs would be unneeded. Does GSA have the confidence in “additional protection,” for example, to go this route? More important, do the occupants of GSA’s buildings share this confidence?

• In lieu of requiring wider stairs, should the expected evacuation capabilities be revised and the associated time required to egress a building?

Yes! See all the reasons stated above.

Based on the above concerns, the appropriate action on this comment should have been “Reject”.

No! The concerns expressed by the two negative balloters, Fixen and Frable, clearly do not justify rejection of the proposal.

Mr. C. Jones abstained on all items for the following reason: “With apologies, I will have to abstain on all ballot items. I found out Monday at noon that the principal, Gerald Jones, would not be submitting a ballot. I have not had time to review the ballot items and don’t want to vote without doing so, hence, my abstentions.”
Committee Meeting Action: Accept in Principle
Change “dry cleaning” to “drycleaning” in the following locations:
3.4.310.2
6.4.2.19 (2 places)
A.3.3.371.7

Committee Statement: The committee action adds the specific locations where the term “dry cleaning” appears and needs to be changed to “drycleaning.”

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Committee Meeting Action: Reject
Committee Statement: The choice of how many versions of a document to print is an NFPA management decision, not one for a technical committee to make. However, the committee action on Proposal 5000-3 (Log #653) should assuage some of the submitter’s concerns.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

TCC Action: The Technical Correlating Committee (TCC) directs that the TCs:
Follow the convention for using inch units as shown on item 2 of the TCC recommendation when preparing any future drafts and when preparing the final code.

Submitter: James K. Lathrop, Koffel Assoc., Inc.
Recommendation: Print the Code in two different versions, Metric and English. In the Metric version, do a hard metric conversion to reasonable units. For example 75 ft of travel should be 25 m not 23 m.

Substantiation: With the international push by NFPA it would be much better to have an entirely separate code for metric. More reasonable metric numbers could be used without having a conflict in the code. When a jurisdiction adopts the code, it would specify metric or English.

Committee Meeting Action: Reject
Committee Statement: The technical Correlating Committee (TCC) directs that the TCs:
Follow the convention for using inch units as shown on item 2 of the TCC recommendation when preparing any future drafts and when preparing the final code.

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Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Committee Meeting Action: Accept in Principle
Do as follows throughout NFPA 5000:
1. Maintain the current format that shows the inch/pound units first and the metric/SL units (within parentheses) second.
2. For dimensions of 72 inches or more, express them in feet, not inches.

Committee Meeting Action: Accept in Principle
Do as follows throughout NFPA 5000:
1. Maintain the current format that shows the inch/pound units first and the metric/SL units (within parentheses) second.
2. For dimensions of 72 inches or more, express them in feet, not inches.

Committee Meeting Action: Accept in Principle
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1. Maintain the current format that shows the inch/pound units first and the metric/SL units (within parentheses) second.
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Committee Meeting Action: Accept in Principle
Do as follows throughout NFPA 5000:
1. Maintain the current format that shows the inch/pound units first and the metric/SL units (within parentheses) second.
2. For dimensions of 72 inches or more, express them in feet, not inches.
Committee Statement: The Detention and Correctional Occupancies

Technical Committee rejects this proposal as it relates to Chapter 21. Chapter 21 does not use “fire area” size as a threshold for requiring sprinklers. Rather, all new detention and correctional occupancies are required to be sprinklered.

Number Eligible to Vote: 19

Ballot Results: Affirmative: 17

Vote Not Returned: 2 AMBROSE, NEALY

Submitter:  Robert Bourke, Northeastern Regional Fire Code Dev.
Recommendation:  Delete the fire area concept in the entire code.
Substantiation:  The fire area concept should be deleted as this is a tool to eliminate sprinkler protection. We agree that compartmentation is key to the fire protection strategy, but should not be used to eliminate sprinkler systems.
Committee Meeting Action:  Reject

Committee Statement:  The BLD-END committee addressed this proposal from the standpoint of Chapters 17 and 18 - the only chapters in NFPA 5000 over which the committee has purview. “Thresholds” for code requirements are expressed in many ways. The “fire compartment” threshold used currently in 17.3.5.1 and 18.3.5.1 is indicative of number of persons at risk. It represents the committee’s best judgment at the time the provision was written. See the committee action on Proposal 5000-792 (Log #672) which revises 17.3.5.1 to require sprinklers in educational occupancy buildings exceeding 20,000 ft².

Number Eligible to Vote: 13

Ballot Results:  Affirmative: 12

Vote Not Returned: 1 BARTLETT

Submitter:  Robert Bourke, Northeastern Regional Fire Code Dev.
Recommendation:  Delete the fire area concept in the entire code.
Substantiation:  The fire area concept should be deleted as this is a tool to eliminate sprinkler protection. We agree that compartmentation is key to the fire protection strategy, but should not be used to eliminate sprinkler systems.
Committee Meeting Action:  Reject

Committee Statement:  The Technical Committee chose to reject this proposal. The proponent’s substantiation provides no technical or statistical justification for the removal of a major fire protection concept.

Number Eligible to Vote: 23

Ballot Results:  Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Submitter:  Robert Bourke, Northeastern Regional Fire Code Dev.
Recommendation:  Delete the fire area concept in the entire code.
Substantiation:  The fire area concept should be deleted as this is a tool to eliminate sprinkler protection. We agree that compartmentation is key to the fire protection strategy, but should not be used to eliminate sprinkler systems.
Committee Meeting Action:  Reject

Committee Statement:  For the portion of the Code under the BLD-FUN committee’s purview, the term “Fire Area” appears only once, and that is as a definition in 3.3.32.6. As long as some other portion of the Code continues to use the term, the definition must be retained.

Number Eligible to Vote: 20

Ballot Results:  Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

Committee Statement: The fire area concept is not utilized in the context of interior finish.

Number Eligible to Vote: 10

Ballot Results:  Affirmative: 9

Vote Not Returned: 1 GANDHI
Submitter: Robert Bourke, Northeastern Regional Fire Code Dev.
Recommendation: Delete the fire area concept in the entire code.
Substantiation: The fire area concept should be deleted as this is a tool to eliminate sprinkler protection. We agree that compartmentation is key to the fire protection strategy, but should not be used to eliminate sprinkler systems.
Committee Meeting Action: Reject
Committee Statement: The proposal does not apply to the residential occupancy chapters.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 21
Vote Not Returned: 2 GOTTLIEB, RAY

Final Action: Reject

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Submitter: Robert Bourke, Northeastern Regional Fire Code Dev.
Recommendation: Delete the fire area concept in the entire code.
Substantiation: The fire area concept should be deleted as this is a tool to eliminate sprinkler protection. We agree that compartmentation is key to the fire protection strategy, but should not be used to eliminate sprinkler systems.
Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The substantiation provides no technical or statistical justification for the removal of a major fire protection concept. Also, this topic is not covered in this Technical Committee’s chapters.
Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES
Explanation of Abstention: ROSSBERG: I've been unable to review the material so that I can cast a knowledgeable vote.

Final Action: Reject

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Submitter: Robert Bourke, Northeastern Regional Fire Code Dev.
Recommendation: Delete the fire area concept in the entire code.
Substantiation: The fire area concept should be deleted as this is a tool to eliminate sprinkler protection. We agree that compartmentation is key to the fire protection strategy, but should not be used to eliminate sprinkler systems.
Committee Meeting Action: Reject
Committee Statement: This is not part of this committee’s scope and therefore the committee felt the appropriate action is to reject the proposal.
Number Eligible to Vote: 26
Ballot Results: Affirmative: 22
Vote Not Returned: 3 ALEXANDER, BLACK, WALES

Final Action: Reject

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Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.
Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject. For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
‘Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3."

Committee Meeting Action: Accept
Committee Statement: The committee agrees the proposed changes have already been incorporated into the current edition of the code.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 23

Final Action: Accept

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Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.
Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject. For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
‘Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3."

Committee Meeting Action: Reject

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Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.
Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject. For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
‘Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3."

Committee Meeting Action: Reject

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Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.
Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject. For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
‘Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3."

Committee Meeting Action: Reject

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Final Action: Reject

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Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

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Final Action: Accept

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Final Action: Accept in Principle
Committee Statement: No action is needed as a supervised sprinkler system is not required by Chapter 10.

Number Eligible to Vote: 10

Vote Not Returned: 1

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted to the TCC’s name to BLD-MEA and BLD-BSF requesting that the TCs:

Give consideration to Koffel’s explanation of negative so as to make any needed changes.

Submitter: Technical Correlating Committee on Building Code

Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:

Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

TCC: 11.1.11 Sprinkler System Supervision. Where another provision of this chapter requires an automatic sprinkler system to be supervised, the sprinkler system shall be electrically supervised in accordance with 55.3.2.

Committee Statement: The action changes “supervised” to “electrically-supervised” in all occurrences of the word ”supervised” in Chapter 11 as it relates to sprinkler systems. With those edits, 11.1.11 is no longer needed.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19 Negative: 1

Vote Not Returned: 3

Explanation of Negative: KOFFEL: While the Accept In Principle may be the correct action, I do not concur with the changes proposed for Chapter 11. Alternatively, the word “electrically” should be deleted from 55.3.2.1. This would result in the language being consistent between NFPA 101® and NFPA 5000™.

5000-24 Final Action: Accept in Principle

Committee Statement: The Committee has reviewed it’s chapters and finds that this language is not currently in these chapters.

Number Eligible to Vote: 25

Vote Not Returned: 3

TCC Action: The Technical Correlating Committee (TCC) notes that the intended recommendation appears not in the Recommendation but in the last paragraph of the Substantiation. The TCC directs that the action on this proposal be changed from Accept to: Accept in Principle. No further action required.

Submitter: Technical Correlating Committee on Building Code

Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:

Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept

5000-26 Final Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code

Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:

Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

TCC: 11.1.11 Sprinkler System Supervision. Where another provision of this chapter requires an automatic sprinkler system to be electrically supervised, the sprinkler system shall be electrically supervised in accordance with 55.3.2.

Committee Statement: Paragraph 16.3.5.1.2 already calls into play the requirement of 55.3.2 for electrical supervision. For consistency, all supervision requirements have been updated to refer to electrical supervision.

Number Eligible to Vote: 30

Ballot Results: Affirmative: 26

Vote Not Returned: 4

BACON, PERKINS, Pritchett, WERTHEIMER

5000-27 Final Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code

Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:

Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

5000-28
Committee Statement: The BLD-END action addresses Chapters 17 and 18, the only chapters of NFPA 5000 for which the committee has purview. It would be quite awkward to reword each of the occurrences so as to require compliance with 55.3.2. This is already accomplished by the requirement of 17.3.5.6 and 18.3.5.5.

Number Eligible to Vote: 13
Ballot Results: Affirmative: 12
Vote Not Returned: 1 BARTLETT

Committee Meeting Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:

Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Technical Committee review the proposal based on the original comment and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Committee Meeting Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.
Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

Explanation of Abstention:
ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

Ballot Results:
Affirmative: 23  Abstain: 1
Vote Not Returned:  2

Committee Meeting Action: Accept

5000-20 Final Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

See committee action on Proposal 5000-52 (Log #1822).

Committee Statement: See committee action for Proposal 5000-52 (Log #1822).

Number Eligible to Vote: 20
Vote Not Returned:  1

5000-20 Final Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

See committee action on Proposal 5000-823 (Log #CP1600).

Committee Statement: Committee Proposal 5000-823 (Log #CP1600).

Number Eligible to Vote: 30
Vote Not Returned:  4

5000-20 Final Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.

Committee Meeting Action: Accept in Principle

Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that this action be revised from ACCEPT to ACCEPT IN PRINCIPLE. The label “Accept in Principle” more accurately reflects the action taken.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-20 reads as follows:
Where the term “supervised sprinkler system” or “supervised automatic sprinkler system” is used throughout the standard, get the committee to verify what form of supervision they want by changing the language to “electrically supervised sprinkler system” or by referencing 11.3.2 or 11.3.3.
Committee Statement: The proponent’s substantiation recommends that the sprinkler references be dealt with consistently throughout the code. For ease of use, the Technical Committee chose to reference NFPA 13, NFPA 13D, and NFPA 13R directly, instead of referring the user to another section of NFPA 5000.

Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES

Explanation of Abstention:
ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-38 Log #182a BLD-STR Final Action: Accept

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Add “in accordance with 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Substantiation: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.

Committee Meeting Action: Accept
Committee Statement: The Technical Committee notes that acceptance of this proposal will affect only 32.3.5.2 of its responsible chapters.

Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES

Explanation of Abstention:
ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-39 Log #182b BLD-MAT Final Action: Reject

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Add “in accordance with 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Substantiation: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. It has reviewed the references to automatic sprinkler systems in the chapters under its jurisdiction and determined that electrical supervision is not required. Therefore, this modification is unnecessary.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

Explanation of Abstention:
ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-40 Log #182c BLD-BSY Final Action: Accept in Principle

TCC Action: The Technical Correlating Committee (TCC) directs that the action on this proposal be changed from Accept to: Accept in Principle. No further action needed.

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Add “in accordance with 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Substantiation: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.

Committee Meeting Action: Accept
Committee Statement: The Committee has reviewed it’s chapters and finds that this language is not currently in these chapters.

Number Eligible to Vote: 25
Ballot Results: Affirmative: 22
Vote Not Returned: 3 ALEXANDER, BLACK, WALES

Committee Meeting Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC notes on 5000-55 through 5000-70.

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3)

Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action: Accept in Principle

5000-41 Log #182d BLD-AXM Final Action: Reject

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Add “in accordance with 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.
Committee Meeting Action: Reject
Committee Statement: The action by the BLD-AXM committee relates only to Chapter 16, the only chapter of NFPA 5000 over which the committee has purview. Paragraph 16.3.5.1.2 already calls into play the requirement of 55.3.2 for electrical supervision. For consistency, all supervision requirements throughout the chapter (11 occurrences) have been updated to refer to electrical supervision via the action on Proposal 5000-26 (Log #20g).
Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4 BACON, PERKINS, PRITCHETT, WERTHEIMER

Committee Meeting Action: Accept in Principle
Committee Statement: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 BROWN, TIZZANO

Committee Meeting Action: Accept in Principle
Committee Statement: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 AMBROSE, NEALY

Committee Meeting Action: Accept in Principle
Committee Statement: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Committee Meeting Action: Reject
Committee Statement: The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.
Number Eligible to Vote: 10
Ballot Results: Affirmative: 9
Vote Not Returned: 1 GANDHI
The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.

Committee Meeting Action: Accept in Principle
See committee action on Proposal 5000-28 (Log #20i).

Committee Statement: The committee action on the referenced proposal changes “approved, supervised” to “approved, electrically-supervised” in Chapters 19 and 20 for which the BLD-HEA committee has purview. Then paragraph 19.3.5.4 and 20.3.5.2 are used to state that where another provision of that chapter requires an automatic sprinkler system to be electrically supervised, the sprinkler system must be electrically supervised in accordance with 55.3.2.

Number Eligible to Vote: 23
Vote Not Returned: 2
BROOKS, FREIRE

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The chapters as written are not the same, which has and will cause problems. By making these changes all the chapters will be written the same. If the chapters really want electrical supervision then they should refer to 55.3.2 in the same sentence.

Committee Meeting Action: Accept in Principle
See Committee Proposal 5000-823 (Log #CP1600).

Committee Statement: See Committee Proposal 5000-823 (Log #CP1600).

Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4
ALDERMAN, BIRCHLER, DOODY, KRANTZ

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Where NFPA 13D is used replace with

Committee Meeting Action: Accept in Principle
See Proposal 5000-28-2 (Log #CP1600).

Committee Statement: See action on Proposal 5000-24 (Log #20e) which addresses the subject by using the words “electrically-supervised” in lieu of referencing 55.3.2.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 20
Vote Not Returned: 3
BARRIOS, MCGINTY, MORRIS

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MAT requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1(1), 55.3.1(2), or 55.3.1(3). See related TCC note on 5000-37.

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add “in accordance with NFGA 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Committee Meeting Action: Accept
Committee Statement: The Technical Committee chose to reject this proposal, because it is not necessary to call out this particular section each and every time that electrical supervision is specified.

Number Eligible to Vote: 30
Ballot Results: Affirmative: 19
Vote Not Returned: 4
BARBADORO, FOSTER, GEMENY, WESSEL

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MAT requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1(1), 55.3.1(2), or 55.3.1(3). See related TCC note on 5000-37.

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add “in accordance with NFPA 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Committee Meeting Action: Accept in Principle
Committee Statement: No action needed.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 21
Vote Not Returned: 2
GOTTLEIB, RAY

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1(1), 55.3.1(2), or 55.3.1(3). See related TCC note on 5000-37.

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add “in accordance with NFPA 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Committee Meeting Action: Accept in Principle
Committee Statement: The Technical Committee chose to reject this proposal, because it is not necessary to call out this particular section each and every time that electrical supervision is specified.

Number Eligible to Vote: 30
Ballot Results: Affirmative: 23
Vote Not Returned: 4
BARBADORO, FOSTER, GEMENY, WESSEL

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MAT requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1(1), 55.3.1(2), or 55.3.1(3). See related TCC note on 5000-37.

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add “in accordance with NFPA 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Committee Meeting Action: Accept in Principle
Committee Statement: The Technical Committee chose to reject this proposal, because it is not necessary to call out this particular section each and every time that electrical supervision is specified.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 14
Vote Not Returned: 6
CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MAT requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1(1), 55.3.1(2), or 55.3.1(3). See related TCC note on 5000-37.

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add “in accordance with NFPA 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Committee Meeting Action: Accept in Principle
Committee Statement: The Technical Committee chose to reject this proposal, because it is not necessary to call out this particular section each and every time that electrical supervision is specified.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 21
Vote Not Returned: 2
GOTTLEIB, RAY

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MAT requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1(1), 55.3.1(2), or 55.3.1(3). See related TCC note on 5000-37.

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add “in accordance with NFPA 55.3.2” wherever the phrase electrical supervision is required for a fire sprinkler system.

Committee Meeting Action: Accept in Principle
Committee Statement: The Technical Committee chose to reject this proposal, because it is not necessary to call out this particular section each and every time that electrical supervision is specified.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4
BARBADORO, FOSTER, GEMENY, WESSEL

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BSF requesting that the TC:
Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.
Submitter: Joe McElvaney, Phoenix, AZ
Recommendation: Where NFPA 13 is used replace with 55.3.1.1(1) Where NFPA 13R is used replace with 55.3.1.1(2) Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2
BROWN, TIZZANO

Revised 16.3.5.1.1 as follows:
16.3.5.1.1* Buildings containing assembly occupancies with occupant loads greater than 300 shall be protected by an approved, supervised automatic sprinkler system installed in accordance with Section 55.3.1.1(1) as follows:

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Where NFPA 13 is used replace with 55.3.1.1(1) Where NFPA 13R is used replace with 55.3.1.1(2) Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.
Committee Meeting Action: Accept in Principle in Part
Revised 16.4.5.6 as follows:
16.4.5.6 Proscenium Opening Protection. Where required by 16.4.5.5, the proscenium opening shall be protected by a fire curtain or an approved water curtain complying with 55.3.1.1(1) NFPA 13, Standard for the Installation of Sprinkler Systems, unless Class II or Class III standpipes in accordance with NFPA 14, Standard for the Installation of Standpipe, Private Hydrant, and Hose Systems, are used.
Committee Statement: The changes to 16.3.5.1.1 and 16.4.5.6 accomplish part of what the submitter requested. A similar change is not being made to 16.4.5.10 because that paragraph mentions both NFPA 13 and NFPA 14. It would be unfair and confusing to the user if the Code text referred to “55.3.1.1(1) and NFPA 14” rather than to “NFPA 13 and NFPA 14” within the same sentence.
Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4
BACON, PERKINS, Pritchett, WERTHEIMER

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BCF requesting that the TC:
Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.
Submitter: Joe McElvaney, Phoenix, AZ
Recommendation: Where NFPA 13 is used replace with 55.3.1.1(1) Where NFPA 13R is used replace with 55.3.1.1(2) Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.
Committee Meeting Action: Accept in Principle
No action needed.
Committee Statement: The board and care occupancy chapters already reference the appropriate parts of 55.3.1.1 in lieu of the sprinkler standard titles.
Number Eligible to Vote: 12
Ballot Results: Affirmative: 10
Vote Not Returned: 2
HOFFMAN, NELSON

TCC Action: 1. The Technical Correlating Committee (TCC) directs that the action on this proposal be changed from Accept to:
Accept in Principle. The technical committee will indicate during ROC preparation the location of the needed changes.
2. The TCC directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BSF requesting that the TC:
Identify the paragraph locations and the wording change to be made, within the chapters under the purview of BLD-BSF;
3. The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BSF requesting that the TC:
Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.
Submitter: Joe McElvaney, Phoenix, AZ
Recommendation: Where NFPA 13 is used replace with 55.3.1.1(1) Where NFPA 13R is used replace with 55.3.1.1(2) Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.
Committee Meeting Action: Reject
Committee Statement: The committee believes that the current standards referenced for the type of sprinkler system to be installed are appropriately referenced in Chapter 8.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 23
5000-63 Log #129j  BLD-FUN  Final Action: Reject  
( Entire Document )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter:  Joe McElvaney, Phoenix, AZ
Recommendation:  Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation:  In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action:  Reject

Committee Statement:  Within the Code sections under the purview of the BLD-FUN committee where NFPA 13, NFPA 13R or NFPA 13D are referenced, it is more user-friendly to continue to provide the NFPA document number rather than a reference to a paragraph in Section 55.3.

Number Eligible to Vote:  20
Ballot Results:  Affirmative:  17  Negative:  1
Vote Not Returned:  2  CARSON, LANDMESSER

Explanation of Negative:  LATHROP: The Code should only refer to NFPA 13, NFPA 13R, and NFPA 13D once, and that should be in Chapter 55. After that all references should be to Chapter 55. There has been a mixture of how this is done and most of the cases references to Chapter 55 are made.

5000-64 Log #129k  BLD-FUR  Final Action: Reject  
( Entire Document )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUR requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter:  Joe McElvaney, Phoenix, AZ
Recommendation:  Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation:  In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action:  Reject

Committee Statement:  The type of sprinkler system is not specified in Chapter 55.

Number Eligible to Vote:  10
Ballot Results:  Affirmative:  9
Vote Not Returned:  1  GANDHI

5000-65 Log #129l  BLD-FUR  Final Action: Reject  
( Entire Document )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUR requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter:  Joe McElvaney, Phoenix, AZ
Recommendation:  Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation:  In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action:  Reject

Committee Statement:  The action does what the submitter requested for the only occurrence within Chapter 11 where sprinkler installation standards were referenced by name and number.

Number Eligible to Vote:  23
Ballot Results:  Affirmative:  20
Vote Not Returned:  3  BARRIOS, MCGINTY, MORRIS

5000-66 Log #129m  BLD-IND  Final Action: Reject  
( Entire Document )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-IND requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter:  Joe McElvaney, Phoenix, AZ
Recommendation:  Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation:  In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action:  Reject

Committee Statement:  The language used in the current text is appropriate as the committee intends to only refer to sprinkler systems in compliance with NFPA 13.

Number Eligible to Vote:  30
Ballot Results:  Affirmative:  26
Vote Not Returned:  4  ALDERMAN, BIRCHLER, DOODY, KRANTZ

5000-67 Log #129n  BLD-MEA  Final Action: Accept in Principle  
( Entire Document )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MEA requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related tcc note on 5000-37.

Submitter:  Joe McElvaney, Phoenix, AZ
Recommendation:  Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation:  In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action:  Accept in Principle

Committee Statement:  The exception no. 2 to 11.2.2.5.2 which has been renumbered as 11.2.2.5.2.4 to “retire” the exception by Committee Proposal 5000-509 (Log #CP2001) as follows:

Exception No. 2  11.2.2.5.2.4  Separation shall not be required between corridors and outside stairs, provided that the following conditions are met:
(1) The building, including corridors and stairs, shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 55.3.1(1).
(2) Where NFPA 13D is used replace with 55.3.1(3).

Committee Statement:  The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-MEA requesting that the TC:

Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(1), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter:  Joe McElvaney, Phoenix, AZ
Recommendation:  Where NFPA 13 is used replace with 55.3.1.1(1)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).
Substantiation:  In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(1). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action:  Accept

Committee Statement:  No action necessary as current code text reflect the submitter’s proposed changes.

Number Eligible to Vote:  20
Ballot Results:  Affirmative:  19
Vote Not Returned:  1  MOON
TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-RES requesting that the TC:

- Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(l), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter: Joe McElaney Phoenix, AZ

Recommendation: Where NFPA 13 is used replace with 55.3.1.1(l)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).

Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(l). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action: Accept in Principle

No action needed.

Committee Statement: The residential occupancy chapters already reference the appropriate parts of 55.3.1.1 in lieu of the sprinkler standard title.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 21

Vote Not Returned: 2 GOTTLIEB, RAY

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TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TC:

- Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(l), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter: Joe McElaney Phoenix, AZ

Recommendation: Where NFPA 13 is used replace with 55.3.1.1(l)
Where NFPA 13R is used replace with 55.3.1.1(2)
Where NFPA 13D is used replace with 55.3.1.1(3).

Substantiation: In NFPA 5000 some chapters use NFPA 13 versus 55.3.1.1(l). In order to make the document uniform I would propose that the section number be used. If not then delete 55.3.1.1.

Committee Meeting Action: Reject

Committee Statement: The Technical Committee chose to reject this proposal. It is more user friendly to specify the document within the requirement, instead of steering the user to another section of the code.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

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TCC Action: The Technical Correlating Committee (TCC) directs that for the TC:

- Make direct reference to NFPA 13, NFPA 13R, or NFPA 13D as appropriate rather than to 55.3.1.1(l), 55.3.1.1(2), or 55.3.1.1(3). See related TCC note on 5000-37.

Submitter: Technical Correlating Committee on Building Code

Recommendation: The TCC directs that further change be made to 1.4.2 as follows to clarify the order of preference:
1.4.2 When the requirements of a referenced code or standard differ from the requirements of this Code, the requirements of this Code shall govern.

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.

For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-22 reads as follows:
- Implement the action by BLD-MAT by inserting a new 1.4.2 (and renumber subsequent paragraphs as needed) to read:
  1.4.2 Where the requirements of a referenced standard differ from the requirements of this Code, the requirements of this Code shall govern.

Committee Meeting Action: Accept in Principle

No action needed to modify text of 2003 edition.

Committee Statement: Current 1.3.2 is correct as published in the 2003 edition.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

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TCC Action: 1. The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-STR requesting that the TC:

Review this action and determine if any further changes are necessary between Chapters 1 and 40. See companion TCC note on Proposals 5000-73 and 5000-1021.

2. The Technical Correlating Committee (TCC) requests that a task group be formed between BLD-FUN AND BLD-STR to assist with any further review of this subject and develop any suggested changes prior to the ROC meetings.

Submitter: John V. Loscheider, Loscheider Engineering Company

Recommendation: 1. Revise as follows:

3.3.95 Construction Design, Documents. The plans and specifications required to be submitted to the authority having jurisdiction for examination prior to issuance of a building permit. Quality assurance plans are also included when required by Chapter 40. Shop drawings are not included.

2. Add a new definition as follows:

3.3.95a Deferred Submittals. Those portions of the construction documents and calculations that are not submitted to the authority having jurisdiction with the application for permit, but which are to be submitted at a specified time after the application for permit.

3. Revise as follows:

1.7.6 Building Permits, Plans and Specifications, Construction Documents, and Inspections. (Revise section title only.)

4. Revise as follows:

1.7.6.2.1 Application Requirements. To obtain a permit, the applicant shall:
- File an application for permit in writing on a form supplied for that purpose by the department of building and safety. Such application shall include the following:
  1. Identification and description of the work to be covered by the permit for which application is made
  2. Description of the land on which the proposed work is to be done, by lot, block, tract, and street address or similar description that will locate specifically the proposed building or work
  3. Indication of the use or occupancy of all parts of the building
  4. Plans and specifications. Construction documents as required in 1.7.6.3
  5. Valuation of the proposed work
  6. Signature of the permittee or his/her authorized agent
  7. Provision of other information as required by the authority having jurisdiction

5. Revise as follows:

1.7.6.3 Plans and Specifications, Construction Documents, and Inspections.

1.7.6.3.1 Plans and Specifications Requirements for Construction Document.

1.7.6.3.1.1 Each application for a permit shall be accompanied by two sets of plans, specifications, construction documents and calculations when required by the authority having jurisdiction.

1.7.6.3.1.2 The authority having jurisdiction shall be allowed to issue a permit without plans, specifications, construction documents and calculations for small or finish work.

1.7.6.3.1.3 The construction documents shall be prepared by a registered design professional where required by statutes of the jurisdiction in which the construction site is located.

6. Revise as follows:

1.7.6.3.2 Examination of Plans. The authority having jurisdiction shall examine all plans, specifications, construction documents and applications for permits and amendments thereto for their compliance with this Code. If the applications or the plans, specifications, construction documents do not conform to the requirements of the pertinent laws, the authority having jurisdiction shall reject such application for a building permit in writing, stating the reasons therefor. Plans, specifications, construction documents that are rejected shall be returned for corrections. If, upon examination, the application, plans and specifications and construction documents are found to comply with the requirements of this Code, the plans, specifications, construction documents shall be signed by the authority having jurisdiction or its deputy and shall be stamped “approved.”

1.7.6.3.2.2 When practical difficulties are involved in carrying out the requirements of this Code, the authority having jurisdiction shall be permitted to grant modifications for individual cases. This shall require, first, a finding that each individual case makes strict compliance impractical and, second, that the modification is in conformance with the intent and purpose of the Code. Fire protection and structural integrity shall not be lessened.

1.7.6.3.3 Partial Approval.

1.7.6.3.3.1 Pending the completion of checking of plans and specifications, construction documents, and on payment of the fee required, the authority having jurisdiction at its discretion shall be permitted to authorize the issuance of a temporary permit for site preparation, excavation, construction,
and foundation, structural, or show/ride installations or any combination thereof. The holder of such temporary permit shall proceed at his/her own risk and without assurance that a completion permit will be granted.

1.7.6.3.2.2 Whenever there is a delay in approval of issuance or granting of a permit or approval of the drawings for each phase shall be complete in themselves for permit purposes. Certificates of occupancy shall be issued for that area only. The authority having jurisdiction shall notify the contractor or owner or his/her agent in writing that the permit is suspended. Written notice shall be mailed or given to the permit holder. It shall be unlawful for any person or persons to perform any work in or about the building or structure, except work required for correction of the violations. If, in the judgment of the authority having jurisdiction, there is imminent danger that requires immediate action, the permit can be revoked or suspended verbally and written notice shall be served later.

9. Revise as follows:

1.7.6.8.6 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

1.7.6.8.6.1 The completed project meets the conditions of the construction permit, the approved drawings and specifications, and all prior approvals.

1.7.6.8.6.2 All required fees have been paid.

1.7.6.8.6.3 All necessary inspections have been completed. Any additional fees required by the authority having jurisdiction shall be authorized.

1.7.6.8.6.4 All protective devices and equipment required to be installed by the Code shall continue to be operational as required by this Code.

1.7.6.8.6.5 All quality assurance programs required by Chapter 40 have been completed.

11. Revise as follows:

40.1.11 Performance Specifications Deferred Submittals. The responsible RDP shall identify, in the quality assurance program submitted with the application for permit, the plans and specifications for the building or structure to which the performance specifications apply. The responsible RDP shall authorize and permit deferred submittals in writing with the application for permit.  Construction documents for deferred submittals shall be reviewed by the responsible RDP and shall be subject to mandatory inspections by the authority having jurisdiction as described in Chapter 40.  All quality assurance programs required by Chapter 40 have been completed.

40.2.4 Quality Assurance. The registered design professional’s design documents shall be subject to mandatory inspections by the authority having jurisdiction.

8. Revise as follows:

1.7.6.5.4.2 Whenever the work for which a permit has been issued is not being performed in conformity with plans, specifications, or descriptions in the approved construction documents, the permit is not subject to mandatory inspections by the authority having jurisdiction as prescribed in 1.7.6.5.3 and certain types of construction shall have specific engineering inspection quality assurance as specified in Chapter 40. Prior to issuance of a certificate of occupancy, a final inspection shall be made by the authority having jurisdiction of all construction or work for which a permit has been issued.

10. Revise as follows:

1.7.6.8.6 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

1.7.6.8.6.1 The completed project meets the conditions of the construction permit, the approved drawings and specifications, and all prior approvals.

1.7.6.8.6.2 All required fees have been paid.

1.7.6.8.6.3 All necessary inspections have been completed. Any additional fees required by the authority having jurisdiction shall be authorized.

1.7.6.8.6.4 All protective devices and equipment required to be installed by the Code shall continue to be operational as required by this Code.

1.7.6.8.6.5 All quality assurance programs required by Chapter 40 have been completed.

11. Revise as follows:

40.1.11 Performance Specifications Deferred Submittals. The responsible RDP shall identify, in the quality assurance program submitted with the application for permit, the plans and specifications for the building or structure to which the performance specifications apply. The responsible RDP shall authorize and permit deferred submittals in writing with the application for permit.  Construction documents for deferred submittals shall be reviewed by the responsible RDP and shall be subject to mandatory inspections by the authority having jurisdiction as described in Chapter 40.  All quality assurance programs required by Chapter 40 have been completed.

40.2.4 Quality Assurance. The registered design professional’s design documents shall be subject to mandatory inspections by the authority having jurisdiction.

8. Revise as follows:

1.7.6.5.4.2 Whenever the work for which a permit has been issued is not being performed in conformity with plans, specifications, or descriptions in the approved construction documents, the permit is not subject to mandatory inspections by the authority having jurisdiction as prescribed in 1.7.6.5.3 and certain types of construction shall have specific engineering inspection quality assurance as specified in Chapter 40. Prior to issuance of a certificate of occupancy, a final inspection shall be made by the authority having jurisdiction of all construction or work for which a permit has been issued.

10. Revise as follows:

1.7.6.8.6 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

1.7.6.8.6.1 The completed project meets the conditions of the construction permit, the approved drawings and specifications, and all prior approvals.

1.7.6.8.6.2 All required fees have been paid.

1.7.6.8.6.3 All necessary inspections have been completed. Any additional fees required by the authority having jurisdiction shall be authorized.

1.7.6.8.6.4 All protective devices and equipment required to be installed by the Code shall continue to be operational as required by this Code.

1.7.6.8.6.5 All quality assurance programs required by Chapter 40 have been completed.

11. Revise as follows:

40.1.11 Performance Specifications Deferred Submittals. The responsible RDP shall identify, in the quality assurance program submitted with the application for permit, the plans and specifications for the building or structure to which the performance specifications apply. The responsible RDP shall authorize and permit deferred submittals in writing with the application for permit.  Construction documents for deferred submittals shall be reviewed by the responsible RDP and shall be subject to mandatory inspections by the authority having jurisdiction as described in Chapter 40.  All quality assurance programs required by Chapter 40 have been completed.

40.2.4 Quality Assurance. The registered design professional’s design documents shall be subject to mandatory inspections by the authority having jurisdiction.

8. Revise as follows:

1.7.6.5.4.2 Whenever the work for which a permit has been issued is not being performed in conformity with plans, specifications, or descriptions in the approved construction documents, the permit is not subject to mandatory inspections by the authority having jurisdiction as prescribed in 1.7.6.5.3 and certain types of construction shall have specific engineering inspection quality assurance as specified in Chapter 40. Prior to issuance of a certificate of occupancy, a final inspection shall be made by the authority having jurisdiction of all construction or work for which a permit has been issued.

10. Revise as follows:

1.7.6.8.6 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

1.7.6.8.6.1 The completed project meets the conditions of the construction permit, the approved drawings and specifications, and all prior approvals.

1.7.6.8.6.2 All required fees have been paid.

1.7.6.8.6.3 All necessary inspections have been completed. Any additional fees required by the authority having jurisdiction shall be authorized.

1.7.6.8.6.4 All protective devices and equipment required to be installed by the Code shall continue to be operational as required by this Code.

1.7.6.8.6.5 All quality assurance programs required by Chapter 40 have been completed.

11. Revise as follows:

40.1.11 Performance Specifications Deferred Submittals. The responsible RDP shall identify, in the quality assurance program submitted with the application for permit, the plans and specifications for the building or structure to which the performance specifications apply. The responsible RDP shall authorize and permit deferred submittals in writing with the application for permit.  Construction documents for deferred submittals shall be reviewed by the responsible RDP and shall be subject to mandatory inspections by the authority having jurisdiction as described in Chapter 40.  All quality assurance programs required by Chapter 40 have been completed.

40.2.4 Quality Assurance. The registered design professional’s design documents shall be subject to mandatory inspections by the authority having jurisdiction.
3. Existing 1.7.6.1.3 refers to special engineering inspections as specified in Chapter 40, but Chapter 40 never actually uses that term. This proposal substitutes a more correct reference to the quality assurance provisions in Chapter 40.

4. Chapter 1 has no provisions for deferred submittals, and they are mislabeled as performance specifications in Chapter 40, and the requirements in Chapter 40 are very difficult to understand. This proposal corrects the problems by providing a definition in Chapter 3, general requirements in Chapter 1, and understandable quality assurance requirements in Chapter 40 that are coordinated with Chapters 1 and 3. The new text is similar to provisions existing in the Uniform Building Code and International Building Code.

5. This proposal is a package of coordinated changes structured to correlate requirements between three chapters maintained by two different Technical Committees—BLD-FUN and BLD-STR. To ensure proper consideration as an integrated package, both committees should hear this proposal in its entirety.

Committee Meeting Action: Accept in Part
1. Revise as follows:

3.3.9.5 Construction Documents. The plans and specifications required to be submitted to the authority having jurisdiction for examination prior to issuance of a building permit including quality assurance plans where required.

A. 3.3.9.5 Construction Documents. Quality assurance plans might be required by Chapter 40.

3.3.9.1 Construction Documents (Structural Design). The written, graphic, electronic, and pictorial documents describing the design, locations, and construction of each individual component required to verify compliance with ASCE 7 and this Code. (ASCE 7.0-2.1)

3.3.9.2 Construction Documents (Quality Assurance). The plans, specifications, approved shop drawings, and all other documents that describe the design of a construction project for which a building permit has been issued by the authority having jurisdiction.

1. Revise as follows:

1.7.6 Building Permits, Plans and Specifications, Construction Documents, and Inspections.

(Revise section title only.)

4. Revise as follows:

1.7.6.3.1 Application Requirements. To obtain a permit, the applicant shall first file an application therefor in writing on a form supplied for that purpose by the department of building and safety. Such application shall include the following:

(1) Identification and description of the work to be covered by the permit for which application is made
(2) Description of the land on which the proposed work is to be done, by lot, block, tract, and street address or similar description that will locate specifically the proposed building or work
(3) Indication of the use or occupancy of all parts of the building
(4) Plans and specifications. Construction documents as required in 1.7.6.3
(5) Valuation of the proposed work
(6) Signature of the permittee or his/her authorized agent
(7) Provision of other information as required by the authority having jurisdiction

5. Revise as follows:

1.7.6.3 Plans and Specifications.

1.7.6.3.1 Plans and Specifications Requirements for Construction Documents.

1.7.6.3.1.1 Each application for a permit shall be accompanied by two sets of plans and specifications, construction documents, and calculations when required by the authority having jurisdiction.

1.7.6.3.1.2 The authority having jurisdiction shall be allowed to issue a permit without plans and specifications, construction documents, and calculations for small or minor work.

1.7.6.3.1.3 The construction documents shall be prepared by a registered design professional where required by statutes of the jurisdiction in which the construction site is located.

6. Revise as follows:

1.7.6.3.2 Examination of Plans.

1.7.6.3.2.1 The authority having jurisdiction shall examine all plans and specifications, construction documents, and calculations for permits and amendments thereto for their compliance with this Code. If the applications or the plans and specifications, construction documents, and calculations do not conform to the requirements of all pertinent laws, the authority having jurisdiction shall reject such application for a building permit in writing, stating the reasons therefor. Plans and specifications, construction documents, and calculations shall be returned for correction. If, upon examination, the application, plans, specifications, and construction documents are found to comply with the requirements of this Code, the plans and specifications, construction documents, and calculations shall be signed by the authority having jurisdiction or its designer and shall be approved.

1.7.6.3.2.2 When practical difficulties are involved in carrying out the requirements of this Code, the authority having jurisdiction shall be permitted to make exceptions for individual cases. This shall require, first, a finding that a special individual reason makes strict compliance impractical and, second, that the modification is in conformance with the intent and purpose of the Code. Fire protection and structural integrity shall not be lessened.

1.7.6.3.3 Partial Approval.

1.7.6.3.3.1 Pending the completion of checking of plans and specifications, construction documents, and on payment of the fee required, the authority having jurisdiction at its discretion shall be permitted to authorize the issuance of a temporary permit for site preparation, excavation, construction, and foundation, structural, or show/ride installations or any combination thereof. The holder of such temporary permit shall proceed at his/her own risk and subject to all laws and rules and regulations required by the authority having jurisdiction in connection with the construction of the work being done, the names of the owner and builder or contractor, and payment of the fee required.

1.7.6.3.3.2 Whenever there is a delay in approval of plans and specifications, construction documents under similar special circumstances, the authority having jurisdiction shall be permitted to allow the builder to place tool sheds, materials, barricades, and signs on the construction site for the purpose of actual construction, or to permit exploratory uncovering of concealed structural elements of existing buildings for design information, pending completion of plans and specifications for proposed alterations.

1.7.6.3.4 The drawings and specifications for each phase shall be complete in themselves so that review and inspection can properly be made. Preliminary plans of the total building shall be submitted with the working drawings, and with enough detail so that proper evaluation can be made. Amendments not included in the phase to be permitted shall be shown as not included.

1.7.6.3.4.1 Plans and Specifications Construction Documents. The authority having jurisdiction shall retain one set of the approved plans and specifications, and computations, construction documents, and calculations. The other set shall be kept at the building site, open to inspection at all times when the office of the authority having jurisdiction is open.

1.7.6.3.4.2 After permit issuance, all changes and deviations from the approved plans and specifications construction documents shall be submitted to the authority having jurisdiction for approval.

1.7.6.3.4.3 Approved Plans and Specifications, Construction Documents. The authority having jurisdiction shall permit the plans and specifications, and computations of the plans and specifications, and computations, construction documents to be copied by the owner or his/her authorized agent in the event of the owner’s death or inability of the owner to supply copies of the plans and specifications, construction documents.

1.7.6.3.4.4 At the time a certificate of occupancy is issued, an updated set of plans and specifications, construction documents shall be submitted and a permit fee shall be paid to reflect increased costs.

1.7.6.3.5 Multi-Tenant Buildings. Buildings that are to be completed in phases due to occupancy by tenants shall be permitted to be completed by the owner to a “rough-in” status. The individual tenant area shall then have a permit issued, and, upon completion of all work, a certificate of occupancy shall be issued for that area only. The authority having jurisdiction shall approve the certificate of occupancy by stages before starting construction and shall be permitted to require special conditions to provide safety during that construction.

1.7.6.3.5.1 Buildings that will later be occupied by multiple tenants (lessees) shall be permitted to have certain areas constructed to an unfinished rough-in condition without affecting the certificate of occupancy issued for the finished portions of the buildings. Future construction to accommodate individual tenants shall be approved upon submittals of acceptable plans and specifications, construction documents for permit purposes. Certificates of occupancy shall be granted on a case-by-case basis when Code compliance has been achieved.

1.7.6.3.5.2 Construction in individual tenant areas shall require special safety and fire protection measures to assure the safety of the building occupants during construction operations.

7. Revise as follows:

1.7.6.5 Conditions of Permit.

1.7.6.5.1 Permit Card. When plans and specifications, construction documents, and application for permit have been approved and the required fee has been paid, the authority having jurisdiction will issue a permit for the work. With each permit, the authority having jurisdiction shall issue a weather-resistant permit card bearing the legal description of the property, the nature of the work being done, the names of the owner and builder or contractor, and other pertinent information. The permit card shall be returned for correction if, upon examination, the application, plans and specifications, and construction documents are found to comply with the requirements of this Code, the plans and specifications, construction documents, and calculations shall be signed by the authority having jurisdiction or its designer and shall be approved.

1.7.6.5.2 Compliance with the Code.

1.7.6.5.2.1 Issuing or granting of a permit or approval of plans and specifications, construction documents by the authority having jurisdiction shall not be construed as approval of, or an acquiescence in, or assent to, or acquiescence in, any of the provisions of this Code. No permit presuming to give authority to violate or cancel any of the provisions of this Code shall be valid, except insofar as the use of work that it authorizes is lawful.
When plans and specifications construction documents have been approved, the issuance of a permit shall not prevent the authority having jurisdiction from thereafter requiring correction of errors in such plans and specifications or in drawings or from preventing building operations being carried on thereunder in violation of this Code or of any other regulations of the jurisdiction applicable thereto. Compliance with this Code is the responsibility of the owner or his/her authorized agent.

8. Revise as follows:

1.7.6.4.2 Whenever the work for which a permit has been issued is not being performed in conformity with plans, specifications, or descriptions conformance with approved construction documents, or approved plans and specifications are not kept at the site, the authority having jurisdiction shall notify the contractor or owner or his/her agent in writing that the permit is suspended. Written notice shall be mailed or given to the permit holder or their agent, and it shall be unlawful for any person or persons to permit or permit the building of any building or structure, except work required for correction of the violations. If, in the judgment of the authority having jurisdiction, there is imminent danger that requires immediate action, the permit can be revoked or suspended verbally and written notice shall be served later.

9. Revise as follows:

1.7.6.1.3 All construction or work for which a permit is required shall be subject to mandatory inspections by the authority having jurisdiction as prescribed in 1.7.6.6.3, and certain types of construction shall have specific engineering inspections. Quality assurance as specified in Chapter 40. Prior to issuance of a certificate of occupancy, a final inspection shall be made by the authority having jurisdiction of all construction or work for which a permit has been issued.

10. Revise as follows:

1.7.8.6 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

1. The plans and specifications construction documents including all amendments, and all prior approvals.
2. All required fees have been paid.
3. All required inspections have been completed, and the completed project meets the requirements of this Code.
4. All violations have been corrected, and any assessed penalties have been paid.
5. All protective devices and equipment required to be installed by this Code will continue to be operational as required by this Code.
6. All quality assurance programs required by Chapter 40 have been completed.

Committee Statement: The action by the BLD-FUN committee involves only the definitions and Section 1.7 portion of the submitter’s recommendation — that is, the portion for which BLD-FUN has purview. The Chapter 40 portion on quality assurance will be addressed by the BLD-STR committee. The submittee’s text was adopted almost verbatim with minor edits for style and consistency in the use of the term “construction documents.” The submittee was present for the portion of the technical committee meeting at which BLD-FUN took the above action and he expressed concurrence with what was done. Therefore, the committee action should meet the submittee’s intent.

Number Eligible to Vote: 20
Ballot Results: Affirmative 18
Vote Not Returned: 2
CARSON, LANDMESSER

Comment on Affirmative:
ALLEN: 1.2.6.3.3.3 The drawings construction documents for each phase shall be complete in themselves so that review and inspection can properly be made. Preliminary plans of the total building shall be submitted with the working drawings construction documents and with enough detail so that proper evaluation can be made. Areas and items not included in the phase to be permitted shall be shown as not included.

5000-73 Log #486b BLD-STR Final Action: Accept in Principle in Part
(Chapter 1, Chapter 3, and Chapter 40)

TCC Action: 1. The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN requesting that the TC.

Review this action and determine if any further changes are necessary between Chapters 1 and 40. See companion TCC note on Proposals 5000-01 and 5000-03.

2. The Technical Correlating Committee (TCC) requests that a task group be formed between BLD-FUN and BLD-STR to assist with any further review of this subject and develop any suggested changes prior to the ROC meetings.

Submitter: John V. Loscheider, Loscheider Engineering Company

Comment: Revise as follows:

3.3.95 Construction Design Documents. The plans and specifications required to be submitted to the authority having jurisdiction for examination prior to issuance of a building permit. Quality assurance plans are also included when required by Chapter 40. Shop drawings are not included.

3.3.95.1 Construction Documents (Structural Design). The written and graphic drawing documents describing the design, locations, and physical characteristics of the project required to verify compliance with ASCE 7 and this Code. [ASCE 7.0.2.3.1]

3.3.95.4.1 Construction Documents (Quality Assurance). The plans, specifications, approved shop drawings, and all other documents that describe the performance requirements and, once approved, to be submitted to the authority having jurisdiction.

3.3.95.6.2 New Construction. When plans and specifications construction documents have been approved, the issuance of a permit shall not prevent the authority having jurisdiction from thereafter requiring correction of errors in such plans and specifications or in drawings or from preventing building operations being carried on thereunder in violation of this Code or of any other regulations of the jurisdiction applicable thereto. Compliance with this Code is the responsibility of the owner or his/her authorized agent.

2. Add a new definition as follows:

3.3.xxx Deferred Submittals. Those portions of the construction documents and calculations that are not submitted to the authority having jurisdiction with the application for the permit, but which are to be submitted at a specified time after the application for the permit.

3. Revise as follows:

1.7.6 Building Permits Plans and Specifications Construction Documents, and Inspections.

(Revise section title only.)

4. Revise as follows:

1.7.6.2.1 Application Requirements. To obtain a permit, the applicant shall file an application therefor in writing on a form supplied for that purpose by the department of building and safety. Such application shall include the following:

1. Identification and description of the work to be covered by the permit for which application is made.
2. Description of the land on which the proposed work is to be done, by lot, block, tract, and street address or similar description that will locate specifically the proposed building or work.
3. Identification of the use or occupancy of all parts of the building
4. Plans and specifications Construction documents as required in 1.7.6.3
5. Valuation of the proposed work
6. Signature of the permittee or his/her authorized agent
7. Provision of other information as required by the authority having jurisdiction

5. Revise as follows:

1.7.6.3 Plans and Specifications Construction Documents.

1.7.6.3.1 Plans and Specifications Requirements for Construction Document.

1.7.6.3.1.1 Each application for a permit shall be accompanied by two sets of plans, specifications, construction documents and calculations when required by the authority having jurisdiction.

1.7.6.3.1.2 The authority having jurisdiction shall be allowed to issue a permit without plans, specifications, construction documents, and calculations for small or finish work.

1.7.6.3.1.3 The construction documents shall be prepared by a registered design professional where required by statutes of the jurisdiction in which the construction site is located.

6. Revise as follows:

1.7.6.3.2 Examination of Plans.

1.7.6.3.2.1 The authority having jurisdiction shall examine all plans construction documents and applications for permits and amendments thereto for their compliance with this Code. If the applications or the plans, construction documents do not conform to the requirements of all pertinent laws, the authority having jurisdiction shall reject such application for a building permit in writing, stating the reasons therefor. Plans, construction documents that are rejected shall be returned for corrections. If, upon examination, the application, plans, specifications, and construction documents are found to comply with the requirements of this Code, the plans construction documents shall be signed by the authority having jurisdiction or its deputy and shall be stamped “approved.”

1.7.6.3.2.2 When practical difficulties are involved in carrying out the requirements of this Code, the authority having jurisdiction shall be permitted to grant modifications for individual cases. This shall require, first, a finding that a special individual reason makes strict compliance impractical and, second, that the modification is in conformance with the intent and purpose of the Code. Fire protection and structural integrity shall not be lessened.

1.7.6.3.3 Partial Approval.

1.7.6.3.3.1 Pending the completion of checking of plans and specifications construction documents, and on payment of the fee required, the authority having jurisdiction at its discretion shall be permitted to authorize the issuance of a temporary permit for site preparation, excavation, construction, and foundation, structural, or show/ride installations or any combination thereof. The holder of such temporary permit shall proceed at his/her own risk and without assurance that a completion permit will be granted.

1.7.6.3.3.2 Whenever there is a delay in approval of plans construction documents under similar special circumstances, the authority having jurisdiction shall be permitted to allow the builder to place tools, materials, bathboards, and construction equipment on the site prior to actual construction, or to permit exploratory uncovering of concealed structural elements of existing buildings for design information, pending completion of plans for proposed alterations.

1.7.6.3.3.3 The drawings for each phase shall be complete in themselves so that review and inspection can properly be made. Preliminary plans of the total building shall be submitted with the working drawings, and with enough detail so that proper evaluation can be made. Areas and items not included in the phase to be permitted shall be shown as not included.

1.7.6.3.3.4 Deferred Submittals. Deferred submittal of construction documents shall be approved by the authority having jurisdiction prior to the issuance of a building permit. The responsible RDP shall identify all deferred submittals in writing with the application for permit. Construction documents for deferred submittal items shall be reviewed by the responsible RDP for compliance to the requirements and, then submitted to the authority having jurisdiction. Deferred submittal items shall not be installed until their performance requirements and construction documents have been approved by the authority having jurisdiction.
shall be submitted to the authority having jurisdiction for approval.

4. Chapter 1 has no provisions for deferred submittals, and they are virtually no support for the quality assurance provisions in Chapter 40. When required structural tests and inspections are being performed and to make observations for general conformance with the approved plans and specifications, and calculations. Identifying all of these submittal drawings, and all other documents that describe the design of a construction project for which a building permit has been issued by the authority having jurisdiction.

1.7.6.3.4 Approved Plans.
1.7.6.3.4.1 The authority having jurisdiction shall retain one set of the approved plans, specifications, and computations; construction documents and calculations shall be kept at the site, open to inspection at all times when the offices of the jurisdiction are open.

1.7.6.3.4.2 After permit issuance, all changes and deviations from the approved plans and construction documents shall be submitted to the authority having jurisdiction for approval.

1.7.6.3.4.3 Approved plans and construction documents and amendments thereto that are retained by the authority having jurisdiction shall become public record, provided that they shall be considered as confidential records of their author, that they shall be open to the public only for inspection, and that the authority having jurisdiction shall permit bona fide owners or designers employed by such owners to inspect the plans and construction documents when not available from their author. Upon written application, the authority having jurisdiction shall cause the plans and construction documents to be copied by the owner in the event of the author’s death or inability of the author to supply copies of the plans and construction documents.

1.7.6.3.4.4 At the time a certificate of occupancy is issued, an updated set of plans and construction documents shall be submitted and a permit fee shall be paid to reflect increased costs.

1.7.6.3.5 Multi-Tenant Buildings. Buildings that are to be completed in phases due to occupancy by tenants shall be permitted to be completed by the owner to a “rough-in” status. The individual tenant area shall then have a permit issued, and, upon completion of all work, a certificate of occupancy shall be issued for that area only. The authority having jurisdiction shall approve the certificate of occupancy by stages before starting construction and shall be permitted to require special conditions to provide safety during the completion.

1.7.6.3.5.1 Buildings that will later be occupied by multiple tenants (lesses) shall be permitted to have certain areas constructed to an unfinished rough-in condition within which the certificate of occupancy in the finished portions of the buildings. Future construction to accommodate individual tenants shall be approved upon submittals of acceptable plans and specifications construction documents for permit purposes. Certificates of occupancy shall be granted on a case-by-case basis when Code compliance has been achieved.

1.7.6.3.5.2 Construction in individual tenant areas shall require special safety and fire protection measures to assure the safety of the building occupants during construction operations.

7. Revise as follows:

1.7.6.5 Conditions of Permit.
1.7.6.5.1 Permit Card. When plans and specifications, construction documents, and application for permit have been approved and the required fee has been paid, the authority having jurisdiction will issue a permit for the work. With each permit, the authority having jurisdiction shall issue a weather-resistant permit card bearing the legal description of the property, the nature of the work being done, the names of the owner and builder or contractor, and other pertinent information. The permit card shall be posted and maintained in legible condition in a conspicuous place within 200 ft (60 m) of the construction area during the entire time period the work authorized by the permit is in progress.

1.7.6.5.2 Compliance with the Code.
1.7.6.5.2.1 Issuing or granting of a permit or approval of plans and specifications construction documents by the authority having jurisdiction shall not be construed as a permit for, or otherwise certify, any of the provisions of this Code. No permit presuming to give authority to violate or cancel any of the provisions of this Code shall be valid, except insofar as the use of work that it authorizes is lawful.

1.7.6.5.2.2 When Chapters 1 and 40 of these construction documents have been approved, the issuance of a permit shall not prevent the authority having jurisdiction from thereafter requiring correction of errors in such plans and specifications, or from preventing building operations being carried on thereafter in violation of this Code or of any other regulations of the jurisdiction applicable there to. Compliance with this Code is the responsibility of the owner or his/her authorized agent.

8. Revise as follows:

1.7.6.5.4.2 Whenever the work for which a permit has been issued is not being performed in conformity with plans, specifications, or descriptions conformance with approved construction documents, or approved plans and construction documents are not being kept at the site, the authority having jurisdiction shall notify the contractor or owner or his/her agent in writing that the permit is suspended. Written notice shall be mailed or given to the permit holder or their agent, and it shall be unlawful for any person or persons to perform any work in or about the building or structure, except work required for correction of the violations. If, in the judgment of the authority having jurisdiction, there is imminent danger that requires immediate action, the permit can be revoked or suspended verbally and written notice shall be served later.

9. Revise as follows:

1.7.6.6.1.3 All construction or work for which a permit is required shall be subject to mandatory inspections by the authority having jurisdiction as prescribed in 1.7.6.6.3, and certain types of construction shall have specific inspections as specified in Chapter 40. Prior to issuance of a certificate of occupancy, a final inspection shall be made by the authority having jurisdiction of all construction or work for which a permit has been issued.

10. Revise as follows:

1.7.6.8 Conditions of Certificate of Occupancy. Certificate of occupancy shall be conditioned upon the following:

1. The completed project meets the conditions of the construction permit, the approved drawings, construction documents including all amendments, and all prior approvals.
2. All required fees have been paid.
3. All necessary inspections have been completed, and the completed project meets the requirements of this Code.
4. All violations have been corrected, and any assessed penalties have been paid.
5. All protective devices and equipment required to be installed by this Code will continue to be operational as required by this Code.
6. All quality assurance programs required by Chapter 40 have been completed.

11. Revise as follows:

40.1.11 Performance Specifications Deferred Submittals.
40.1.11.1 The responsible RDP shall identify, in the quality assurance scope of work, the applicable plans and specifications, shop drawings, or other calculations and drawings that the RDP has specified to be designed by a responsible RDP under the control of the contractor, from a performance-specification provided by the responsible RDP. The responsible RDP shall identify the deferred submittals items in the quality assurance plan submitted with the application for permit.

40.1.11.2 The responsible RDP shall review the design of these elements or systems, construction documents for all deferred submittal items for general conformance to the performance-specification responsible RDP’s design and shall include them in the quality assurance program.

12. Delete without substitution:

40.2.2 Construction Documents. The plans, specifications, approved shop drawings, and calculations that comprise the design of a construction project for which a building permit has been issued by the authority having jurisdiction.

(Renumber subsequent sections.)

40.2.4 Quality Assurance. The tests, inspections and observations of construction to the extent that they provide evidence and documentation to the responsible registered design professional (RDP) and authority having jurisdiction that the work is being constructed in accordance with the registered design professional’s design approved construction documents.

14. Revise as follows:

40.2.6 Quality Assurance Program. A predefined set of periodic observations, tests, and other procedures that provide an independent record to the owner, AHI, and RDP that the construction is in general conformance with the approved design construction documents.

15. Revise as follows:

40.2.7 Quality Control. The operational procedures provided by contractors to ensure compliance with the approved construction documents.

16. Revise as follows:

40.2.3 Structural Observations. The responsible RDP or an RDP designated by the responsible RDP shall conduct site visits at the necessary construction stages, as identified in the quality assurance plan, to verify that required structural tests and inspections are being performed and to make observations for general conformance with the RDP’s design as delineated in the approved construction documents.

Substantiation: 1. The existing Chapter 1 administrative provisions provide virtually no support for the quality assurance provisions in Chapter 40. When a quality assurance plan is required by Chapter 40, it must be submitted with the plans and specifications, and calculations. Identifying all of these submittal documents repeatedly throughout Chapter 1 would be very awkward, so this proposal collectively identifies the plans, specifications, and quality assurance plans as construction documents, and then uses this term consistently.

2. The existing Chapter 3 has two conflicting definitions for construction documents, and neither one of them is very good. This proposal provides a single definition that allows proper coordination of Chapters 1 and 40.

3. Existing Section 1.7.6.1.3 refers to special engineering inspections as specified in Chapter 40, but Chapter 40 never actually uses that term. This proposal substitutes a more correct reference to the quality assurance provisions in Chapter 40.

4. Chapter 1 has no provisions for deferred submittals, and they are mislabeled as performance specifications in Chapter 40. Furthermore, the provisions in Chapter 40 are very difficult to understand. This proposal corrects the problem by providing a definition in Chapter 3, general requirements in Chapter 1, and understandable quality assurance requirements in Chapter 40 that are coordinated with Chapters 1 and 3. The new text is similar to provisions existing in the Uniform Building Code and International Building Code.

5. This proposal is a package of coordinated changes structured to correlate requirements between three chapters maintained by two different Technical Committees—BLD-FUN and BLD-STR. To ensure proper consideration as an integrated package, both committees should hear this proposal in its entirety.

Committee Meeting Action: Accept in Principle in Part

Items 1-10: Take no action.

Item 11: Accept In Principal. Modify “responsible RDP” to read ‘RPD’ responsible for design.

Items 12-15: Accept.

Item 16: Reject.

Committee Statement: Items 1-10: The Technical Committee on Structures and Construction chose to defer to the Technical Committee on Fundamentals for action on Items 1-10.
Item 11: In Proposal 5000-1021 (Log #808), the Technical Committee chose to utilize the terms “RDP responsible for design” and “RDP responsible for inspection”. The modifications to Item 11 coordinate with the new terminology.

Item 16: The Technical Committee chose to reject this part of the proposal. This modification is no longer necessary, since this sentence was deleted in the committee action on Proposal 5000-1021 (Log #808).

Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES

Explanation of Abstention: ROSS-HIRSHBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-74 Log #229 BLD-FUN Final Action: Reject (1.3.2 Exception (New ))

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add an Exception to read as follows: 1.3.2 References to Requirements of Other Codes or Standards. Where the requirements of a referenced code or standard differ from the requirements of this Code, the requirements of this Code shall govern.

Exception: When an occupancy chapter references another document in that chapter then the most restrictive code, standard or section shall apply.

Substantiation: This new section will allow occupancy chapter to review and approve the use of other code/standards and reference them if they choose to do so. Then the committees would not have to extract all the information for those reviewed code/standards. By adding the most restrictive clause then the other chapters like 6-15 can make sure their section would apply if they are most restrictive.

Committee Meeting Action: Reject
Committee Statement: It is not always possible to determine which standard is more stringent. The provisions of NFPA 5000 must prevail. Over some number of Code revisions, the requirements can be co-ordinated with those of the referenced standards.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-75 Log #103 BLD-FUN Final Action: Reject (1.3.2 Exceptions (New ))

Recommendation: Revise to read as follows: 1.3.2 References to Requirements of Other Codes. Where the requirements of a referenced code or standard differ from the requirements of this code the requirements of this Code shall govern.

Exception No. 1: Existing buildings and structures constructed, permitted and operated in accordance with the requirements of codes in standards in existence at the time of use or occupancy.

Exception No. 2: Referenced codes and standards that are incorporated (by reference) into laws, government regulations and standards.

Exception No. 3: Referenced NFPA codes and standards covering hazardous materials manufacture, storage, packaging, use, distribution and handling.

Substantiation: This exception, existing buildings, structures and particularly industrial facilities would be required to retrofit and meet new building code criteria at great expense and public inconvenience.

Exception No. 2: Without this exception a user may be in violation of federal or state law. For example, NFPA 5000, NFPA 30, and OSHA Title 29, CFR1910 reference ASTM D56, D86, and D93. If a conflict arises between NFPA 5000 requirements and those of ASTM, without this exception NFPA 5000 would prevail and users (subject to OSHA or in jurisdictions that adopt NFPA 5000) would be in violation.

Exception No. 3: The correlation of referenced NFPA standards and NFPA 5000 is currently in process. Meanwhile, discrepancies remain that are detrimental to public safety and/or continued operations. For example, Mercantile Occupancies are exempt from the requirements of NFPA 5000, Chapter 34, and industrial occupancies are subject to Chapter 34 Maximum Allowable Quantity limits. It seems ludicrous that flammable and combustible liquid storage in facilities that may have trained employees, in-house fire brigades or protection systems would be more restrictive than allowed in areas where the unaware and unfamiliar (with fire safety and exits) public is present.

Committee Meeting Action: Reject
Committee Statement: The submitter’s first exception is not within the scope of NFPA 5000. His second exception is outside the control of NFPA 5000. His third exception is inappropriate in that the expertise of the other documents needs to be extracted into NFPA 5000, rather than recognized in an all-encompassing manner.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-76 Log #368 BLD-FUN Final Action: Accept (1.3.4(5) (New ))

Submitter: George Mann, Department of Housing, Buildings and Construction / Rep. Building Code Development Committee
Recommendation: NOTE: This proposal was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the Committee's endorsement.

Add the following text: (5) The creation or relocation of a property line that affects compliance with any provision of this Code.

Substantiation: Property lines are a code concept that affect fire ratings, openings, exit paths, etc. This concept applies to the building for its lifetime. Changing the property line may change the building requirements. For example, Section 7.3 regulates the fire resistance rating of exterior walls based on the horizontal separation (defined in 3.3.282). If a building is issued a Certificate of Occupancy with a required hourly rating on the exterior walls based on the horizontal separation, the provisions of the code should apply to the exterior wall if the property line changes. Such change in the property line may now require the exterior wall to have a greater fire resistance rating.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-77 Log #366 BLD-FUN Final Action: Accept in Principle (1.5 )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN requesting that the TC:

Give consideration to Thornberry’s comment on affirmative so as to make any needed changes.

Submitter: Steven F. Wydeveld, Airport Development Department Will County, Land use Department / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.

1.5 Delete and replace as follows...
1.5 Equivalency.
1.5.1 General. Nothing in this Code shall prohibit methods of construction, materials and designs not specifically prescribed in this Code when alternate, approved by the AHJ.
1.5.2 Tests. Whenever the AHJ determines that there is insufficient evidence of proof of equivalency with the prescribed requirements of this Code, the AHJ is authorized to require tests showing proof of equivalency. Tests required by the AHJ shall be provided by the owner at no expense to the jurisdiction. Tests shall be conducted as specified in this Code or, when test methods are not specified in this Code, they shall be conducted as required by the AHJ.
1.5.3 Approval. The AHJ shall determine that the proposed alternate methods of construction, materials and designs are at least equal to the prescribed requirements of this Code.

Substantiation: The existing text is not easy to understand. This cleans up the text and makes it easier to understand and easier to enforce.

Committee Meeting Action: Accept in Principle
Delete portions and insert new text so Section 1.5, in entirety, reads as follows:

1.5 Equivalency.
1.5.1 General. Nothing in this Code shall prohibit methods of construction, materials and designs not specifically prescribed in this Code when equivalent alternatives are approved by the authority having jurisdiction (AHJ).
1.5.2 Approval of Alternatives. Alternative systems, methods, or devices approved as equivalent by the authority having jurisdiction shall be recognized as being in compliance with this Code.
1.5.3 Tests. Whenever the authority having jurisdiction determines that there is insufficient evidence of proof of equivalency with the prescribed requirements of this Code, the AHJ shall be authorized to require tests showing proof of equivalency. Tests required by the AHJ shall be provided by the owner at no expense to the jurisdiction. Tests shall be conducted as specified in this Code or, when test methods are not specified in this Code, they shall be conducted as required by the AHJ.
1.5.3 Approval. The authority having jurisdiction shall determine whether the proposal is an alternate method of construction, materials and designs are at least equivalent to the prescribed requirements of this Code.
Committee Statement: The action retains current 1.5.2 which is needed for completeness. Other editorial fixes have been made to the submitter’s text.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

Committee Meeting Action: Accept

Substantiation: The revision makes it clear that the individual in charge of the inspection agency is the A.H.J. regardless of their title.

Committee Meeting Action: Accept

Substantiation: The revision makes it clear that the individual in charge of the inspection agency is the A.H.J. regardless of their title.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER
has reason to believe that there exists in any building, or upon any premises, a condition that makes such building or premises unsafe, as defined in 1.7.5.3.1.1 of this Code, the authority having jurisdiction or his/her authorized representative shall have recourse to remedy provided by law to secure entry.

Committee Statement: The dwelling unit exemption is un warranted. The current term “reasonable time” is adequate and preferable to that proposed by the submitter.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Submitter: Rick Breezee, Airport Development Department Metropolitan Airports Commissions / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise text to read as follows:

1.7.1.3.1 Whenever it is necessary to make an inspection to enforce any of the provisions of this Code, or whenever the authority having jurisdiction or his/her authorized representative has reason to believe that there exists in any building, or upon any premises, a condition that makes such building or premises unsafe, as defined in 1.7.5.3.1.1 of this Code, the authority having jurisdiction or his/her authorized representative shall have recourse to remedy provided by law to secure entry.

Substantiation: This proposal does several things: it corrects the grammar and degenderizes the provisions. Additionally, this changes “official” to “authority having jurisdiction”, which is more appropriate since “official” is not a defined term.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Delete the following text:

1.7.1.3.2 No owner or occupant or other person having charge, care, or control of any building or premises shall fail or neglect, after proper request is made as herein provided, to permit entry therein by the authority having jurisdiction or his/her authorized representative for the purpose of inspection and examination as provided by this Code.

Substantiation: Section 1.7.1.3.1 adequately covers this topic. Having this provision is redundant. Furthermore, this may be considered a constitutional issue. As such it is confusing for the enforcement community.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER
work required for the correction of violations, shall be prohibited. Any person continuing work after having a permit suspended, except for work to correct the cited violation(s), shall be subject to the provisions of 1.7.5.3.4 and 1.7.5.3.5 and any other penalties prescribed by law. If, in the judgement of the authority having jurisdiction, there is imminent danger that requires immediate action, the permit can be revoked verbally, and written notice shall be served later. (Current 1.7.6.5.4.2 modified as underlined)

1.7.7.2.2 When a permit has been revoked, it shall not be reinstated until all violations leading to the revocation of the permit have been corrected. Written notice of reinstatement shall be given to the permit holder when requested. (this section comes from 1.7.6.5.4.3)

1.7.7.3 Revocation of Certificate. When any building or part thereof is being used contrary to the provisions of this code, or any other laws or regulations of the jurisdiction, the authority having jurisdiction shall be authorized to revoke a certificate of occupancy and order such use or occupancy discontinued and the building or part thereof vacated. The authority having jurisdiction shall provide written notice of the revocation of the certificate to the person(s) using or causing to be used such buildings or parts thereof. Continuing the use or part thereof after the certificate of occupancy has been revoked shall be in violation of this code and subject to the penalties prescribed by law. (This is a combination of current 1.7.1.5 and 1.7.6.8.3)

**Substantiation:** The sections of the code being requested for deletion are in essence being relocated with modification to a new section. These sections are dealing with a common theme, actions taken by the building official involving processing orders and revocation of permits and certificates. Section 1.7.4.1 as written simply grants the AHJ the ability to issue a stop work order. No where in the section does it identify what the AHJ must do when issuing a stop work order (i.e., who and how to notify, what work is being stopped, action necessary to lift a stop work order. This section also does not identify the repercussions for violating the stop work order.) The changes suggested for this section offer needed guidance to the AHJ for sound documentation should legal action be necessary.

Section 1.7.6.5.4.1 identifies the AHJ’s ability to suspend a permit only for false or misrepresentation of intent. The change to this section will also grant the AHJ the authority to suspend a permit should a stop work order be ignored. In many cases a suspension of a permit is directly due to the issuance of a stop work order and therefore this section should reflect that action.

The first sentence in 1.7.6.5.4.2 is recommended for deletion because the issues covered by this section are reasons to issue a stop work order and not suspend a permit. If work is being performed contrary to the approved plans, work should be stopped first and not an immediate suspension of the permit. Suspending the permit should be an action taken if the stop work order is being violated.

If after the permit has been suspended, construction work continues without the approval of the AHJ, the AHJ should have some documented course of action. The change to 1.7.6.5.3 attempt to do that by referencing 1.7.5.3.4 and 1.7.5.3.5. These sections identify the needed documentation to start legal action.

The AHJ does not need another grocery list of reasons why he may revoke a C of O, as found in section 1.7.6.8.3. The necessary reasons are already provided in 1.7.1.5 “used or occupied contrary to the provisions of this Code”, this would be the “changed in occupancy” found in 1.7.6.8.3. Then we have 1.7.5.3.1 “dangerous to human life or public welfare by reason of illegal or improper use, occupancy or maintenance. These descriptions to me include “if live load imposed on a floor exceeds that for which the floor was designed to carry”, as well as if the “number of persons permitted to assemble therein or thereon exceeds those authorized in said certificate of occupancy”, as addressed in 1.7.6.8.3. As a result of the common language shared by the two sections respectively, to combine the two into one section seems logical.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER

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**5000-88 Log #784 BLD-FUN Final Action: Accept**

**Submitter:** David S. Collins, The Preview Group, Inc. / Rep. The American Institute of Architects

**Recommendation:** Delete the following text:

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1.7.7 Approvals by Other Authorities Having Jurisdiction

The authority having jurisdiction shall have the authority to require that the laws, rules, and regulations of all other regulatory agencies having jurisdiction be met before a building permit is issued to an applicant. The authority having jurisdiction shall have the authority to require evidence in writing to show that other regulatory agencies having jurisdiction over the design, construction, alteration, repair, equipment, maintenance, demolition, and relocation of buildings and structures in the jurisdiction have approved the proposed construction. The authority having jurisdiction shall not be held responsible for enforcement of the regulations of such other regulatory agencies unless he/she is specifically authorized to enforce that agency’s regulations.

**Substantiation:** Change in title more accurate and clarifies intent of the provision. Demolition added because it should be included in the laundry list of regulated activities. Other clean up items. Section 1.7.6.1.2 deleted because it is redundant.

**Committee Meeting Action:** Reject

**Committee Statement:** See Proposal 5000-89 (Log #784) which deletes 1.7.2.

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER

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**5000-89 Log #784 BLD-FUN Final Action: Reject**

**Submitter:** Rick Breeze, Airport Development Department Metropolitan Airports Commissions / Rep. Building Code Development Committee

**Recommendation:** Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

**Substantiation:** Revise to read as follows:

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1.7.2 Approvals by Other Authorities Having Jurisdiction

The authority having jurisdiction shall have the authority to require that the laws, rules, and regulations of all other regulatory agencies having jurisdiction be met before a building permit is issued to an applicant. The authority having jurisdiction shall have the authority to require evidence in writing to show that other regulatory agencies having jurisdiction over the design, construction, alteration, repair, equipment, maintenance, demolition, and relocation of buildings and structures in the jurisdiction have approved the proposed construction. The authority having jurisdiction shall not be held responsible for enforcement of the regulations of such other regulatory agencies unless he/she is specifically authorized to enforce that agency’s regulations.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 20

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**5000-30**
1.7.3.1.1 There is hereby established a board to be designated the board of appeals, consisting of at least five members qualified by training and experience to rule on matters relating to building, who shall be appointed by the chief appointing authority of the jurisdiction. The board shall select one of its members to serve as chair, and the authority having jurisdiction shall be an ex officio member without vote and shall act as secretary to the board.

Substantiation: The first revision simplifies the code text. Regarding the second revision, traditionally there is not a ranking within the structure of an appointing authority, therefore the term “chief” serves no purpose. This should also be deleted in 1.7.3.2 where it appears.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

1.7.3.5 Procedures. The board shall establish rules and regulations for its own procedures consistent with the provisions of this Code and applicable laws and statutes.

Substantiation: Boards of Appeals are usually established by an ordinance. This additional language will ensure that the applicable laws will prevail where they exist.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER
jurisdiction shall forthwith transmit to the board all the papers relating to the
on which action appealed from was taken and shall schedule a public hearing
thereon.

Substantiation: This clarifies the provisions making it easier to understand
and enforce.

Committee Meeting Action: Accept in Principle
Revise to read as follows:
1.7.3.6 Appeals. An appeal of the decision of the authority having
jurisdiction shall be filed within 30 days from the date of the decision being
appealed by filing with the authority having jurisdiction and the board of
appeals, a notice of appeal specifying the grounds thereof. In the case of a
building or structure that, in the opinion of the authority having jurisdiction,
is unsafe or dangerous, the authority having jurisdiction shall be permitted
to limit the time for such appeal to a shorter period. The authority having
jurisdiction shall forthwith transmit to the board all the papers relating to the
on which action appealed from was taken and shall schedule a public hearing
thereon.

Committee Statement: The action does what the submitter requested, but
editorially changes the word “appealed” to “appeal.”

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Committee Meeting Action: Reject
Committee Statement: The last sentence of the current Code text adequately
addresses the subject. The Board needs latitude.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER
Recommendation: Revise to read as follows:
1.7.5.3.1.1 Description of Unsafe Building. AH Any existing buildings or structure shall be considered unsafe if any one of the following conditions are or that hereafter become, as follows following conditions are found to be unsafe:
(1) the building or structure is unsanitary because of the lack of functioning plumbing equipment;
(2) the means of egress is less than required by NFPA 101 for the occupancy;
(3) there is a hazard from fire or natural or man-made threats as determined by NFPA 1;
(4) continued occupancy is dangerous to human life or public welfare because of illegal or improper use, occupancy, or maintenance;
(5) Noncompliant with the provisions of applicable codes;
(6) significantly the building or structure was damaged by fire or explosion or other natural or man-made cause which is sufficient to make occupancy hazardous;
(7) the building is incomplete for which and the building permits have expired;
(8) The falling away, hanging loose, or loosening of any siding, block, or other building material, structural member, appurtenance, or part thereof of a building; or the deterioration of the structure or structural parts of a building, a partially destroyed damaged building or any part of a building when caused by deterioration or overstressing;
(9) The existence of unsanitary conditions by reason of inadequate or malfunctioning sanitary facilities or waste disposal systems
Substantiation: To improve the ability to understand when a building would be considered unsafe. Various undefined and unenforceable words are eliminated such as "significantly" and giving a measuring device for issues such as "unsanitary," and eliminates redundant statements such as item 1 "Unsanitary" and item 9 which provides the measurement.
Committee Meeting Action: Reject
Committee Statement: The submitter’s change to (1) is too specific so as to have the effect of not being strict enough. The change to (2) is too strict without substantiation for such. Item (3) eliminates AHJ judgment. For item (4), public welfare is a legitimate concern. Deletion of item (5) would reduce the AHJ's authority when the building is not in compliance with codes other than NFPA 1 or NFPA 101.
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Submitter: George Mann, Department of Housing, Buildings and Construction / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.
Revise to read as follows:
No person, firm, or corporation shall ...improve, convert, move a property line which affects an existing structure, or demolish any building... without first obtaining from the authority having jurisdiction a separate building permit for the work.
Substantiation: As for the moved property line issue, the location of the property line has significant impact on the fire resistance rating for exterior walls regulated by section 7.3 of the code. If the property line is moved due to the sale of a parcel of land, the fire resistance rating may change from a 0 rating to as much as a 2 hour rating. Section 7.3 involves an issue of exposure protection from adjacent buildings, whether they be buildings on separate property or on the same property. As written the code does not concern itself with the increased risk of fire form exposure if the buildings involved are existing. This modification will increase the level of protection due to fire when the horizontal separation is changed to less than 10 feet due to a change in the location of a property line.
This modification also seeks to delete the language for separate building permits for work identified in the section. If the scope of work involved on a project involves more than one of the issues addressed in the section (i.e. the scope of work involves an addition, renovations to the existing building and a change in the lot line), then a separate permit would be required for each issue. Why not just one permit for the entire scope of work?
Committee Meeting Action: Accept

Submitter: George Mann, Department of Housing, Buildings and Construction / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.
Modify the section to read as follows:
Separate Permits shall be required…
Substantiation: This modification seeks to delete the language for separate permits for work identified in the section. If the scope of work involved on a project involves more than one of the issues addressed in the section, then a separate permit would be required for each area of work. Why not just one permit for the entire scope of work? This change does not prohibit the AHJ from having a separate permit program for each phase of construction should the AHJ require separate permits but this section will allow that AHJ that does have a program to review multiple phases to issue just one permit rather than multiple permits.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Recommendation: NOTE: This comment was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the Committee’s endorsement.
Add new text to 1.7.6.2.1 as follows:
(8) Subject to the approval of the AHJ, portions or features of the design, that are not submitted at the time of application shall be listed by the Registered Design Professional as a part of the application and noted as a deferred submittal. Such deferred submittals shall be forwarded to the AHJ with a notation by the Registered Design Professional of record indicating that they have been reviewed and found to be in conformance with the requirements of this code and the design of the building. Work described in the deferred submittals shall not commence until reviewed and approved by the AHJ.
Substantiation: This proposal is to add a new subsection to section 1.7.6.3 regarding the submission of subsequent design information that is often not part of the initial permit application. This work frequently includes fire protection systems, structural steel and other “shop drawing” submittals that the AHJ has not had the opportunity to review for code compliance. This section will ensure that any subsequent submittals are first approved by the Registered Design Professional and evidence of that approval is presented to the AHJ.
Committee Meeting Action: Accept in Principle
See action on Proposal 5000-72 (Log #486a).
Committee Statement: The referenced proposal adds a new 1.7.6.3.3.4 on Deferred Submittals which should meet the submitter’s intent.
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Submitter: Rick Breeze, Airport Development Department / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.
Revise to read as follows:
1.7.6.2.5 Requirements for Demolition of Buildings and Structures.
Application for permits for the work of demolition of buildings or structures shall be accepted only from persons or firms qualified to do the work. The qualifications of persons or firms permitted to demolish a building or structure shall be in accordance with the requirements of a special ordinance.
This clarifies that jurisdictions may have other ways of establishing approval of demolition of a building besides “a special ordinance.”

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2  CARSON, LANDMESSER

### 5000-106 Log #CP102 BLD-FUN

**Final Action: Accept**

**Submitter:**  Technical Committee on Fundamentals

**Recommendation:** Revise as follows:

1.7.6.3 Plans and Specifications.

1.7.6.3 Plans and Specifications Requirements.

1.7.6.3.1 Each application for a permit shall be accompanied by two sets of plans, specifications, and calculations when required by the authority having jurisdiction.

1.7.6.3.1.2 The authority having jurisdiction shall be permitted to issue a permit without plans, specifications, and calculations for small or finish work.

1.7.6.3.1.3 The construction documents shall be prepared by a registered design professional where required by statutes of the jurisdiction in which the construction site is located.

1.7.6.3.1.4 Plans Unless otherwise provided in 1.7.6.3.1.5, plans shall be drawn to scale, shall be identified by name of designer and owner on every sheet, and shall be mechanically reproduced prints on substantial paper or cloth. The plot plan shall show all occupied and unoccupied parts of the lot or lots. The use, name, and occupancy of all parts of the building shall be shown, including all foundations, wall sections, floor plans, elevations, and structural details. Mechanical, plumbing, electrical, fire sprinkler, and alarm details shall be shown on the plans and represent the designs for those disciplines, along with such other information to show clearly the nature, character, and location of the proposed work.

1.7.6.3.1.5 For tenant improvements or building repairs, renovations, modifications, or reconstruction in accordance with Chapter 15, plans shall be drawn to scale, shall be identified by name of designer and owner on every sheet, and shall be mechanically reproduced prints on substantial paper or cloth. The use, name, and occupancy of the work area shall be shown.

Construction documents shall indicate the location, nature and extent of the proposed work, and shall show in detail that the proposed work will conform to the provisions of this Code.

1.7.6.3.1.6 1.7.6.3.1.8 Plans for all buildings shall indicate required fire-resistance-rated construction and how the required structural and fire resistance integrity will be maintained where a penetration of a required fire-resistant wall, floor, or partition will be made for electrical, gas, mechanical, plumbing and communications conduits, pipes, and systems and also indicate in sufficient detail how the fire integrity will be maintained where required fire-resistant floors intersect the exterior walls.

1.7.6.3.1.7 1.7.6.3.1.6 1.7.6.3.1.8 The classification of fire-resistance-rated floor and roof construction shall be identified on the plans as restrained or unrestrained. Only where a registered design professional has furnished documentation satisfactory to the authority having jurisdiction verifying that the construction is restrained as specified in 8.2.1.2 shall the construction be considered restrained.

1.7.6.3.1.8 1.7.6.3.1.7 The construction documents and shop drawings submitted to the authority having jurisdiction shall contain sufficient detail for evaluation of the protected hazards and the effectiveness of the system. The shop drawings for the installation of fire protection systems shall be submitted for review and approval prior to the installation of a fire protection system.

1.7.6.3.1.9 1.7.6.3.1.8 For high-rise buildings, covered mall buildings, and buildings containing atriums, the construction documents shall include a description of the fire protection systems in the building. This description shall include the basic concepts used for suppression, alarm, notification, egress, compartmentation, smoke control, and other related systems, as well as the coordination of those systems. Upon completion of the project, a copy of the approved documentation shall be maintained at the site.

**Substantiation:** The current requirements of 1.7.6.3.1.4 are overly demanding for small scope projects that do not affect the building envelope, structure, or systems.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2  CARSON, LANDMESSER

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### 5000-108 Log #381 BLD-FUN

**Final Action: Accept**

**Submitter:**  Thomas P. Scholtens, Ada County Development Services, / Rep. Building Code Development Committee

**Recommendation:** Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

1.7.6.3.1.1 Each application for a permit shall be accompanied by a minimum of two sets of plans, specifications and calculations when required by the AHJ.

**Substantiation:** Clarifies that the jurisdiction may ask for more than two sets of documents.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2  CARSON, LANDMESSER

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### 5000-109 Log #388 BLD-FUN

**Final Action: Reject**

**Submitter:**  Sal DiCristina, Rutgers, The State University of New Jersey / Rep. Building Code Development Committee

**Recommendation:** NOTE: This comment was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the Committee’s endorsement.

Revise to read as follows:

1.7.6.3.1.4 Plans shall be drawn to scale, shall be identified by name of designer and owner on every sheet, and shall be mechanically reproduced prints on substantial paper or cloth. A plot plan shall show all occupied and unoccupied parts of the lot or lots and shall delineate the accessible route(s) between all structures and features where required to be accessible in accordance with Chapter 12 of this Code. The use, name, and occupancy of all parts of the building shall be shown, including all foundations, wall sections, floor plans, elevations, and structural details. Mechanical, plumbing, electrical, fire sprinkler, and alarm details shall be shown on the plans and represent the designs for those disciplines, along with such other information to show clearly the nature, character, and location of the proposed work.

**Substantiation:** Requiring this language will ensure that the accessible routes required by Chapter 12 between parking, public transportation, buildings and other facilities on a site will be incorporated into the design at the stage where site plan approval is normally performed. All too often, site plans are approved and grades established without adequate consideration to accessibility between all site features and the proposed building.

Committee Meeting Action: Reject
Submitter: Christopher Laux, Office of the State Building Inspector / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

1.7.6.3.1.4 Plans shall be drawn to scale, shall be identified by name of designer and owner on every sheet, and shall be mechanically reproduced prints on substantial paper or cloth. A plot plan shall show all occupied and unoccupied parts of the lot or lots. The use, name, and occupancy of all parts of the building shall be shown, including all foundations, wall sections, floor plans, elevations, and structural details. Mechanical, plumbing, electrical, fire sprinkler, and fire alarm details shall be shown on the plans and represent the design for those disciplines, along with such other information to show clearly the nature, character, and location of the proposed work.

Substantiation: Without clarification that the intent of the code is to regulate fire alarms, the local code official may require details of security alarm systems. It may be inappropriate for details of such systems to be on file in the building department due to security reasons.

Committee Meeting Action: Accept

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

Submitter: Vickie J. Lovell, InterCode Incorporated / Rep. 3M Company

Recommendation: Revise to read as follows:

1.7.6.3.1.5 Plans for all buildings shall indicate required smoke resistant and fire-resistance-rated construction and how the required structural integrity, fire resistance ratings, and smoke resistance integrity will be maintained where a joint or penetration of a required fire- or smoke resist wall, floor, or partition will be made for electrical, gas, mechanical, plumbing and communications conduits, pipes and systems. Plans and shall also indicate in sufficient detail how the fire integrity will be maintained where required fire-resistant floors interest the exterior walls.

Substantiation: The NFPA 5000 has numerous references to smoke barriers and smoke partitions, plus other code statements that indicate that an assembly shall be made “smoke-tight”, or shall resist/limit/ restrict the passage of smoke, or resists the by-products of combustion, etc. This section does not address the plan details for such requirements.

Additionally, the plans sometimes do not indicate specifically WHERE such a penetration or a linear joint may occur, only that it will occur in floors, walls, etc. Therefore, providing a method of HOW such penetrations and joints are to be protected or constructed when they occur is sufficient information on the plans and in the specs.

Committee Meeting Action: Accept in Principle

Revise to read as follows:

1.7.6.3.1.5 Plans Construction documents for all buildings shall indicate required smoke resistant and fire-resistance-rated construction and how the required structural integrity, fire resistance ratings, and smoke resistance integrity will be maintained where a joint or penetration of a required fire- or smoke resist ant wall, floor, or partition will be made for electrical, gas, mechanical, plumbing and communications conduits, pipes and systems. Construction documents and shall also indicate in sufficient detail how the fire integrity will be maintained where required fire-resistant floors intersect the exterior walls.

Committee Statement: The action does what the submitter requested, but also performs some editorial revisions for consistency and clarity.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER
Report on Proposals — Copyright, NFPA

5000-115 Log #406  BLD-FUN  Final Action: Accept
(1.7.6.3.4.2 )


Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Modify the referenced section as follows:

Substantiation: Nothing in the current code text states when changes or deviations must be submitted to the AHJ. This modification improves the AHJ’s ability to enforce the code by requiring changes to approved plans get approval prior to their construction. It becomes very difficult and expensive if changes are made on site and those changes are found to be noncompliant in the field.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-116 Log #405  BLD-FUN  Final Action: Accept in Principle
(1.7.6.3.5.2 )

Submitter: Steve Anderson, Campbell County Building Department / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

Substantiation: Not sure what the provision currently intends. The term “equivalent” clarifies the provision and is enforceable.

Committee Meeting Action: Accept in Principle
Delete 1.7.6.3.5.2 Construction in individual tenant areas shall require special equivalent safety and fire protection measures to assure the safety of the building occupants during construction operations.

Committee Statement: The subject is covered by 4.5.5 and the text is not needed here.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-117 Log #404  BLD-FUN  Final Action: Accept in Principle
(1.7.6.4.3 )


Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Delete the following text:

Substantiation: With the exception of the last sentence, this section serves no purpose. First of all, it is located under the title of fees yet makes no reference to such. Secondly, 1.7.6.1.1 already allows for the issuance of permits for these structures and they are adequately addressed by 3.3.530.13, 3.3.541 and 3.3.544. I would recommend that the last sentence be retained and relocated as a new subsection to 1.7.6.5.3 entitled “Time Limitation”.

Committee Meeting Action: Accept in Principle
Do not delete. Move text to become a new 1.7.6.1.5 subject under the jurisdiction of required permits as follows:

Standards. Such Temporary structures shall be completely removed upon the expiration of the time limit stated in the permit.

Committee Statement: The subject text is important to retain, but it should be positioned under the requirements applicable to required permits.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-118 Log #393  BLD-FUN  Final Action: Accept
(1.7.6.5.1 )


Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

Substantiation: If a permit meets the requirements of the building code it “shall” be issued. The term “will” is not enforceable. As currently written a permit will be issued when someone gets around to it. Not all Jurisdictions issue permits on weather – resistant cards or on cards. This change would allow the Jurisdictions to use any method they choose to print a permit. There is a companion change to delete 1.7.6.6.1.6.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-119 Log #400  BLD-FUN  Final Action: Accept
(1.7.6.6.1.2 )

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

Substantiation: The revised language gives authority to the code official to make the inspection prior to moving a building, but does not require it. As currently written, the code requires the AHJ to inspect all buildings being moved into his/her jurisdiction. Many small municipalities may not have the ability to travel out of state to perform inspections.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-120 Log #402  BLD-FUN  Final Action: Reject
(1.7.6.6.1.4 )

Submitter: Donald LeBrun, County of Steuben, IN / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

(a) Materials. Suitability of materials for their intended purpose shall be determined by the materials listing and labeling by an approved evaluation service.
Prefabricated Assemblies. Inspections of prefabricated assemblies shall be made by an approved third party inspection agency. A record shall be maintained of every such inspection and of all violations of this Code noted during the inspection.

Substantiation: An AHJ will either require or not require an action to occur. He will not legally ‘consider it necessary.’

This section presumes that the AHJ has the ability to make a judgment as to the suitability of materials for a specific use. The AHJ needs to rely on the listing and labeling of a material or product and not his own feelings. Inspection or prefabricated assemblies is very time critical and needs to be done in the normal course of work for the fabricator, thus the need for an approved third party agency.

Committee Meeting Action: Reject
Committee Statement: The AHJ needs to be able to require inspections where “considered necessary.” The remainder of the submitter’s revised text presents no improvement.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-123 Log #401 BLD-FUN Final Action: Reject
(1.7.6.6.1.6)

Submitter: Rick Breezee, Airport Development Department, Metropolitan Airports Commission / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Delete the following text:

1.7.6.6.1.6 Work requiring a building permit shall not be commenced until the permit holder or his/her agent shall have posted the building permit card in accordance with the requirements of 1.7.6.1.1. This permit card shall be maintained in such position by the permit holder until the certificate of occupancy has been issued by the authority having jurisdiction.

Substantiation: Delete the section because it is redundant. See companion

5000-124 Log #397 BLD-FUN Final Action: Reject
(1.7.6.6.2)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

1.7.6.6.2 Inspection of Structural Units. Where a building or part thereof is a structural unit, the integral parts of which have been built or assembled prior to incorporation into the building, such building or part thereof shall conform to the requirements of this Code. Inspections shall be made by the authority having jurisdiction as required in this Code for the materials and types of construction used in the prefabricated assemblies. The inspection shall be promptly forwarded to the authority having jurisdiction for its information and records.

Substantiation: It is inappropriate for a contractor to hire the person who is responsible for inspection of his/her work due to the possibility or appearance of a conflict of interest. For consistency, RDP is substituted for designer. And the jurisdiction should not bear the cost of such inspections, the owner should bear those costs.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-122 Log #394 BLD-FUN Final Action: Accept in Principle
(1.7.6.6.1.6)

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

1.7.6.6.1.6 Work requiring a building permit shall not be commenced until the permit holder or his/her agent shall have posted the building permit in accordance with the requirements of 1.7.6.45.1. This permit card shall be maintained in such position by the permit holder until the certificate of occupancy has been issued by the authority having jurisdiction.

Substantiation: The section reference to 1.7.6.1.1 appears to be incorrect. Deleting “card” is appropriate if the proposed changes to 1.7.6.5.1 are accepted; this proposal correlates with the proposal to 1.7.6.5.1. Also, the change makes the provision gender neutral.

Committee Meeting Action: Accept In Principle
Revise to read as follows:

1.7.6.6.1.6 Work requiring a building permit shall not be commenced until the permit holder or his/her agent shall have posted the building permit in accordance with the requirements of 1.7.6.45.1. This permit card shall be maintained in such position by the permit holder until the certificate of occupancy has been issued by the authority having jurisdiction.

Committee Statement: The action does what the submitter requested, but editorially corrects the grammar related to singular and plural forms.
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5000-125 Log #395 BLD-FUN Final Action: Accept
(1.7.6.6.3.)

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:
1.7.6.6.3 The permit holder or permit holder’s agent shall notify the authority having jurisdiction of the time when a given stage of construction will be ready for inspection. The authority having jurisdiction shall then make such called inspection and other inspection as necessary, and it either shall approve in writing the permit holder that such stage of the construction as completed or shall notify the permit holder or permit holder’s agent specifically wherein the work fails to comply with the provisions of this Code.

Substantiation: This proposal correlates with a proposal to 1.7.6.5.1. Furthermore the provision is revised to only require approval in writing, not where the writing is located.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-126 Log #763 BLD-FUN Final Action: Accept
(1.7.6.6.3(B))

Recommendation: Revise to read as follows:
(B) Reinforcing Steel. Inspections of reinforcing steel shall be conducted after all reinforcing steel is in place and supported, and forms are braced but before the concrete is placed. Reinforcing steel in walls shall be inspected after the steel is in place, etc., (no change to remainder of section)

Substantiation: The reinforcing steel should be supported in place prior to the inspection. Having the steel in the foundation, but not supported at the time of inspection does not ensure that the steel will be supported in the proper location at the time of concrete placement.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-127 Log #399 BLD-FUN Final Action: Reject
(1.7.6.6.5.)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:
1.7.6.6.5...jutjures, and a reasonable time shall be allowed for such inspection; to be made such inspection shall be performed by the AHJ as soon as resources allow.

Substantiation: The term “reasonable” is not enforceable. This provides some clarification for the intent of the provision.

Committee Meeting Action: Reject
Committee Statement: The submitter’s words “as soon as resources allow” are not enforceable and are not an improvement over the current words “reasonable time.”

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-128 Log #407 BLD-FUN Final Action: Reject
(1.7.6.7.)

Submitter: Steve Anderson, Campbell County Building Department / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Delete the following text:
1.7.6.7 Cleanup of Site. Upon completion of the proposed work, the permit holder shall clear the site of rubbish, debris, construction sheds, or materials of construction. In the event that there has been damage to public property, or that rubbish, debris, construction sheds, or materials of construction have been left at the site, the authority having jurisdiction shall refuse to make final inspection and shall notify the permit holder to correct the condition of violation within 5 days. For failure to comply with such notice after such period of 5 days, the permit holder shall be subject to the penalties specified herein. The authority having jurisdiction shall have the cleanup work done and the public property restored, in which event the costs shall become a lien against the property on which the permit was issued.

Substantiation: The department of building and safety should not be responsible for having the clean-up work completed and public property restored.

Committee Meeting Action: Reject
Committee Statement: The current requirement is needed to provide the AHJ with some leverage to get the task completed.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-129 Log #409 BLD-FUN Final Action: Accept in Principle
(1.7.6.8.1.2.)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:
1.7.6.8.1.2 When, in the opinion of the authority having jurisdiction, any building repaired, altered, or enlarged, or both any combination thereof, is in compliance with this Code, the owner shall be issued a letter of compliance affirming substantial compliance with the requirements of this Code, in lieu of a certificate of occupancy.

Substantiation: This revision simply adds repairs, many of which require permits and inspections to the list of items eligible for a Certificate of Compliance and formalizes the document, rather than referring to a letter. The modifier substantial is added to compliance with the code to reflect the reality that not every project will result in 100 percent compliance, nor is every AHJ able to identify every discrepancy.

Committee Meeting Action: Accept in Principle
Revise to read as follows:
1.7.6.8.1.2 When, in the opinion of the authority having jurisdiction, any building rehabilitated, altered, or enlarged, or both any combination thereof, is in compliance with this Code, the owner shall be issued a letter of compliance affirming substantial compliance with the requirements of this Code, in lieu of a certificate of occupancy.

Committee Statement: The action does what the submitter requested, but makes minor editorial revisions for clarity and consistency with terminology used elsewhere in the Code.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-130 Log #408 BLD-FUN Final Action: Accept in Principle
(1.7.6.8.5.)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:
1.7.6.8.5 Connection of Services. It shall be unlawful for a public service corporation or agency to begin utility service to a building or structure, except as follows:

Committee Meeting Action: Accept in Principle
Revise to read as follows:
1.7.6.8.5 Connection of Services. It shall be unlawful for a public service corporation or agency to begin utility service to a building or structure, except as follows:

Committee Meeting Action: Accept in Principle

5000-38
TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN, BLD-BLC, BLD-FIR, BLD-MEA, BLD-FUR, BLD-SYS, BLD-AXM, BLD-DET, BLD-END, BLD-HEA, BLD-RES, BLD-BCF, BLD-MER, BLD-IND, BLD-STR, BLD-MAT and BLD-BSY requesting that the TCs:

1. Follow the procedures for any referenced documents that will not yet be complete during the ROC preparation meetings and reject any documents that are not complete at that time.

2. Provide a listing of specific documents and any specific comments or actions as necessary to update referenced documents in Chapter 2.

3. Provide estimated publication dates, if known, and information on documents that are scheduled to be updated by July of 2005 that the TC wants to reference.

Submitter: Technical Committee on Structures and Construction

Recommendation: Update Chapter 2 references.

Substantiation: The purpose of this committee proposal is to reference the work of the ACI Technical Committee on Structures and Construction. The committee chose to develop this proposal as a base proposal for future public comments updating these references.

Number Eligible to Vote: 26

Ballot Results: Affirmative: 23 Abstain: 1

Vote Not Returned: 2 CLARK, JONES

Explanation of Abstention: ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

Submitter: Joseph J. Messersmith, Jr., Portland Cement Association

Recommendation: Final Action: Reject

Substantiation: This proposal has been submitted to the ACI Technical Committee on Structures and Construction for review. The committee chose to reject this proposal because it was not complete at the time of the ROC meeting.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 14

Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

Submitter: Joseph J. Messersmith, Jr., Portland Cement Association

Recommendation: Final Action: Accept

Substantiation: The Technical Committee chose to accept this proposal as a base proposal for future public comments updating these references.

Number Eligible to Vote: 26

Ballot Results: Affirmative: 26

Vote Not Returned: 0

Explanation of Abstention: ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.
The purpose of this committee proposal is to reference the AF&PA/ASCE 16-95 (2001) Chapter 2 is to include only those documents referred by name/number elsewhere in the Code. A means for getting the detailed list of ASD-NDS-LRFD documents into Chapter 2 would be for BLD-STR or BLD-MAT to include a requirement in Chapter 35 or Chapter 45 with words like: Where xxxx is referenced in this chapter it shall include, as applicable, the following documents: (then the committee would list the complete set of documents from the recommendation field of this proposal).

Substantiation: The current text of 2.3.4 leaves the reader with the question of whether the reference is to the overall bundles of documents, which are each called a manual or whether it is to the individual documents within each bundle that is formally titled ASD Manual for Engineered Wood Construction (in the ASD manual) and LRFD Manual for Engineered Wood Construction (in the LRFD manual).

AF&PA’s intention has been that the reference be to the overall manual package for both ASD and LRFD. During the initial development process for the code when we added the reference to these two packages, our proposal included the full breakout of documents in each overall manual similar to what you see in this proposal. The Materials TC approved that proposal, and the detailed listing of the references appeared in the March 2002 5000 ROC Draft. But when the code was published the detailed listings of the documents within the overall manuals weren’t included. This led to the confusion which occurs today.

The plans are to combine these two bundles together in the near future, making a single ASD/LRFD document with a different format and title. Hopefully the problem of manual vs. manual will be resolved at that point. Until that time, however, the approval of this proposal will clarify the intent of the reference.

Committee Meeting Action: Reject

Committee Statement: In many instances, public proposals updating reference editions in Chapter 2 were not received. The Technical Committee chose to develop this proposal as a base proposal for future public comments updating these manual references.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 14

Vote Not Returned: 6

The TCC notes that action on Proposal 5000-138 in essence achieves the intent of this proposal.

TCC Action: The Technical Correlating Committee (TCC) directs that the action be revised from REJECT to:

ACCEPT IN PART. See action on Proposal 5000-138.

The TCC notes that action on Proposal 5000-138 in essence achieves the approach requested in this committee statement.

Submitter: Dennis L. Pitts, American Forest & Paper Association

Recommendation: Revise to read as follows:

2.3.4 AF&PA Publications. American Forest & Paper Association, 1111 19th Street, NW, Suite 800, Washington DC 20036.

NO REVISIONS


NO REVISIONS


ASD/LRFD Supplement – Special Design Provisions for Wind and Seismic

Supplements – ASD Manual for Engineered Wood Construction

Structural Lumber

Structural Glued Laminated Timber

Timber Poles and Piles

Structural-Use Panels

Structural-Use Panel Shearwall and Diaphragm

Guidelines – ASD Manual for Engineered Wood Construction

Welded I-Joists

Guideline – Structural Composite Lumber

Metal Plate Connected Wood Trusses

Guideline for Pre-Engineered Metal Connectors

LRFD, Load and Resistance Factor Design Manual for Engineered Wood Construction, 1996; [Chapter 35] 35.1.2.8.7, [Chapter 45] 45.4.2.1, to include LRFD Manual for Engineered Wood Construction, 1996; [Chapter 35] 35.1.2.8.7, [Chapter 45] 45.4.2.1, to include ASD/LRFD Supplement – Special Design Provisions for Wind and Seismic

Supplement – Structural Lumber

Supplement – Glued Laminated Timber

Supplement – Poles and Piles

Supplement – Structural-Use Panels

Supplement – Structural Connections

Guideline – Wood I-Joists

Guideline – Structural Composite Lumber

Guideline – Structural Composite Lumber

Guideline – Metal Plate Connected Wood Trusses

Guideline – Pre-Engineered Metal Connectors

Span Tables for Joists and Rafters (NO REVISIONS)

Technical Report No. 7 (NO REVISIONS)

Wood Construction Data No. 4 (NO REVISIONS)

ANSI/AF&PA WFCM (NO REVISIONS)

ANSI/AF&PA WFCM (NO REVISIONS)

Substantiation: As it applies to both our ASD and LRFD Manuals, the current text of 2.3.4 leaves the reader with the question of whether the reference is to the overall bundles of documents, which are each called a manual or whether it is to the individual documents within each bundle that is formally titled ASD Manual for Engineered Wood Construction (in the ASD manual) and LRFD Manual for Engineered Wood Construction (in the LRFD manual).

AF&PA’s intention has been that the reference be to the overall manual package for both ASD and LRFD. During the initial development process for the code when we added the reference to these two packages, our proposal included the full breakout of documents in each overall manual similar to
what you see in this proposal. The Materials TC approved that proposal, and the detailed listing of the references appeared in the March 2002 5000 ROC Draft. But when the code was published the detailed listings of the documents within the overall manuals weren’t included. This led to the confusion which occurs today.

There are plans to combine these two bundles together in the near future, making a single ASD/LRFD document with a different format and title. Hopefully the problem of manual vs. manual will be resolved at that point. Until that time, however, the approval of this proposal will clarify the intent of the reference.

Committee Meeting Action: Accept in Part
Accept: Reference to all other documents.

Committee Statement: The Technical Committee chose not to make a direct reference to the ASD Manual Guidelines and the LRFD Manual Guidelines in the main body of the code. Instead, these references have been moved to an Annex A note in Committee Proposal 5000-1045 (Log #CP401). Consequently, the Guidelines will not appear as a Chapter 2 references; instead, they will be listed in Annex D.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal because the standard edition listed has not yet been published. The proponent is encouraged to submit a public comment updating this standard to an edition which has been completed prior to the ROC meeting.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-139 Log #274 BLD-MAT Final Action: Reject (2.3.7)

Submitter: John V. Loscheider, Loscheider Engineering Company
Recommendation: Revise 2.3.7 as follows: AISI NASPEC, North American Specification for the Design of Cold-Formed Steel Structural Members, 2001, Including Supplement Dated 2004 AISI CFSD (Update the date from 2001 to 2004) [Note also change short title to AISI General] AISI –Header (Update the date from 2001 to 2004) AISI-Truss (Update the date from 2001 to 2004)
Substantiation: Reason to update the reference standards to the most current edition or supplement of the subject standards which are currently in production.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal because several of the standards editions listed have not yet been published. The proponent is encouraged to submit a public comment updating these standards to editions which have been completed prior to the ROC meeting.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-140 Log #489a BLD-STR Final Action: Reject (2.3.11)

Submitter: John V. Loscheider, Loscheider Engineering Company
Recommendation: Revise the version date of reference standard ASCE 7 in 2.3.11: ASCE 7, Minimum Design Loads for Buildings and Other Structures, 2005 (Remainder of text unchanged.)
Substantiation: NFPA 5000 should use the latest version of ASCE 7. The 2005 version should be available within this code cycle.
Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal because the standard edition listed has not yet been published. The proponent is encouraged to submit a public comment updating this standard to an edition which has been completed prior to the ROC meeting.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: CLARK, JONES
Explanation of Abstention: ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-141 Log #489b BLD-MAT Final Action: Reject (2.3.11)
Submitter: John V. Loscheider, Loscheider Engineering Company
Recommendation: Revise the version date of reference standard ASCE 7 in 2.3.11: ASCE 7, Minimum Design Loads for Buildings and Other Structures, 2005 (Remainder of text unchanged.)
Substantiation: NFPA 5000 should use the latest version of ASCE 7. The 2005 version should be available within this code cycle.
Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal because the standard edition listed has not yet been published. The proponent is encouraged to submit a public comment updating this standard to an edition which has been completed prior to the ROC meeting.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: CLARK, JONES
Explanation of Abstention: ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.
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completely reorganized and heavily edited to improve clarity and usability. This updated reference standard should be adopted in the 2006 edition of NFPA 5000, to the benefit of the user community.

Committee Meeting Action: Reject
Committee Statement: See committee statement on Proposal 5000-140 (Log #489a).

Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES
Explanation of Abstention: ROSSBERG: I've been unable to review the material so that I can cast a knowledgeable vote.

5000-145 Log #904b BLD-MAT Final Action: Reject (2.3.11)
Submitter: Michael T. Valley, b, Magnuson Klemencic Associates
Recommendation: Revise the version date of reference standard ASCE 7 in 2.3.11:

Substantiation: The NFPA 5000 Code is built upon up-to-date, technically sound reference standards. During development of the 2004 edition of ASCE 7 several technically substantive improvements were made to requirements related to earthquake loads. Also, the earthquake loads section was completely reorganized and heavily edited to improve clarity and usability. This updated reference standard should be adopted in the 2006 edition of NFPA 5000, to the benefit of the user community.

Committee Meeting Action: Reject
Committee Statement: See committee statement on Proposal 5000-141 (Log #489b).

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-146 Log #CP512 BLD-STR Final Action: Accept (2.3.11)
Submitter: Technical Committee on Structures and Construction
Recommendation: Update ASCE 8:

Substantiation: The purpose of this Technical Committee proposal is to reference the most up-to-date ASCE standard.

Committee Meeting Action: Accept
Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES
Explanation of Abstention: ROSSBERG: I've been unable to review the material so that I can cast a knowledgeable vote.

5000-147 Log #CP513 BLD-STR Final Action: Reject (2.3.11)
Submitter: Technical Committee on Structures and Construction
Recommendation: Update the ASCE publications:

Substantiation: The purpose of this Technical Committee proposal is to reference the most up-to-date ASCE standards.

Committee Meeting Action: Reject
Committee Statement: In many instances, public proposals updating reference editions in Chapter 2 were not received. The Technical Committee chose to develop this proposal as a base proposal for future public comments updating these ASCE references.

Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES
Explanation of Abstention: ROSSBERG: I've been unable to review the material so that I can cast a knowledgeable vote.

5000-148 Log #304a BLD-FUN Final Action: Accept (2.3.13)
Recommendation: revise entry for ASME A17.1 as follows:

Substantiation: The addenda providing the latest requirements of ASME A17.1 should be referenced by the Code.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-149 Log #304b BLD-MEA Final Action: Accept (2.3.13)
Recommendation: revision for ASME A17.1 as follows:

Substantiation: The addenda providing the latest requirements of ASME A17.1 should be referenced by the Code.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 20
Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

5000-150 Log #304c BLD-BSY Final Action: Accept (2.3.13)
Recommendation: Revision for ASME A17.1 as follows:

Substantiation: The addenda providing the latest requirements of ASME A17.1 should be referenced by the Code.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 22
Vote Not Returned: 3 ALEXANDER, BLACK, WALES

5000-151 Log #CP400 BLD-MAT Final Action: Accept (2.3.22)
Submitter: Technical Committee on Materials
Substantiation: The purpose of this committee proposal is to reference the most up-to-date Gypsum Association Publication standard.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-152 Log #CP301 BLD-BSY Final Action: Accept (2.3.24)
Submitter: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies
Recommendation: Change the referenced standards as follows:
2.3.24 IAPMO Publications. International Association of Plumbing and Mechanical Officials, 2001 Walnut Drive South, Walnut, CA 91789.

Substantiation: The committee updated it’s references to the most recent editions.

Committee Meeting Action: Accept
Number Eligible to Vote: 25
Ballot Results: Affirmative: 22
Vote Not Returned: 3 ALEXANDER, BLACK, WALES

5000-42
5000-153 Log #765a BLD-FUN Final Action: Accept
(2.3.25)

Submitter: Mark Wales, Wales Associates / Rep. The American Institute of Architects
Recommendation: Revise to read as follows:
2.3.25 ICC Publications.
Substantiation: This proposal is to reference the most up to date standard available.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-154 Log #765b BLD-MEA Final Action: Accept
(2.3.25)

Submitter: Mark Wales, Wales Associates / Rep. The American Institute of Architects
Recommendation: Revise to read as follows:
2.3.25 ICC Publications.
Substantiation: This proposal is to reference the most up to date standard available.
Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 20
Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

5000-155 Log #765c BLD-BSY Final Action: Accept
(2.3.25)

Submitter: Mark Wales, Wales Associates / Rep. The American Institute of Architects
Recommendation: Revise to read as follows:
2.3.25 ICC Publications.
Substantiation: This proposal is to reference the most up to date standard available.
Committee Meeting Action: Accept
Committee Statement: ANSI has approved the document. Minor editorial work is still being done, but it will be available in early 2004 and well before the ROC phase.
Number Eligible to Vote: 25
Ballot Results: Affirmative: 22
Vote Not Returned: 3 ALEXANDER, BLACK, WALES

5000-156 Log #765d BLD-BSF Final Action: Accept
(2.3.25)

Submitter: Mark Wales, Wales Associates / Rep. The American Institute of Architects
Recommendation: Revise to read as follows:
2.3.25 ICC Publications.
Substantiation: This proposal is to reference the most up to date standard available.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 BROWN, TIZZANO

5000-157 Log #CP507 BLD-STR Final Action: Accept
(2.3.29)

Submitter: Technical Committee on Structures and Construction
Recommendation: Update the NSPI references as follows:
NSPI 1 — 2003
NSPI 4 — 1999 with Addendum 2003
NSPI 5 — 2003

Substantiation: The purpose of this Technical Committee proposal is to reference the most up to date NSPI standards.
Committee Meeting Action: Accept
Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES

5000-158 Log #233a BLD-STR Final Action: Accept
(2.3.31)

Submitter: Joseph J. Messersmith, Jr., Portland Cement Association
Recommendation: Revise to read as follows:
2.3.31 PCA Publications. Portland Cement Association, 5420 Old Orchard Road, Skokie, IL, 60077-1083.
PCA EB118, Prescriptive Method for Insulating Concrete Forms in Residential Construction Second Edition (Revised), May 1998, December 2002 [Chapter 35] 35.1.2.3(1), [Chapter 41] 41.2(1), 41.2(2)
Substantiation: To update prescriptive design procedure referenced by code to the latest edition.
Committee Meeting Action: Accept
Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES

5000-159 Log #233b BLD-MAT Final Action: Accept
(2.3.31)

Submitter: Joseph J. Messersmith, Jr., Portland Cement Association
Recommendation: Revise to read as follows:
2.3.31 PCA Publications. Portland Cement Association, 5420 Old Orchard Road, Skokie, IL, 60077-1083.
PCA EB118, Prescriptive Method for Insulating Concrete Forms in Residential Construction Second Edition (Revised), May 1998, December 2002 [Chapter 35] 35.1.2.3(1), [Chapter 41] 41.2(1), 41.2(2)
Substantiation: To update prescriptive design procedure referenced by code to the latest edition.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-160 Log #511 BLD-MAT Final Action: Accept
(2.3.33)

Submitter: Jonathan Humble, American Iron and Steel Institute
Recommendation: Revise to read as follows:
2.3.33 RMI Publication. Rack Manufacturers Institute, 8720 Red Oak Blvd., Suite 201, Charlotte, NC 28217.
Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks, 1997, 2002 [Chapter 44] 44.5.1, 44.5.2.
Note: Supporting material is available for review at NFPA Headquarters.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-161 Log #275a BLD-STR Final Action: Accept
(2.3.36)

Submitter: Harry W. (Hank) Martin, American Iron and Steel Institute
Recommendation: Revise as follows:
Update the SJI reference dates from 1994 to 2002.
Substantiation: The Subject SJI Standards have been updated and the current edition is 2004.
Committee Meeting Action: Accept

5000-43
Committee Statement: The Technical Committee notes that the incorrect date has been printed in the proponent’s substantiation — the 2002 edition is the current date.

Number Eligible to Vote: 26

Ballot Results: Affirmative: 23 Abstain: 1

Vote NotReturned: 2 CLARK, JONES

Explanation of Abstention:
ROSSBERG: I've been unable to review the material so that I can cast a knowledgeable vote.

Substantiation: Update standards to current editions and titles.

Committee Meeting Action: Accept

Revise the UL 217 reference as follows:

Committee Statement: Of the UL documents listed by the submitter as needing updating, only UL 217 falls under the purview of BLD-FUN. The other UL documents can be addressed by BLD-FIR, BLD-BLC, BLD-STR, BLD-MEA, BLD-MAT and BLD-MER, as applicable.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

Substantiation: 2000-164 Log #2858 BLD-FIR Final Action: Accept (2.3.4.1)

Committee Statement:

Recommendation: Revise to read as follows:

2.3.41 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.

UL 10C, Positive Pressure Fire Tests of Door Assemblies, 2001. [Chapter 8] 8.7.5.2(B)

UL 217, Standard for Single and Multiple Station Smoke Alarms, 2001. [Chapter 10] 10.2.6.1.1 Exception No. 2

UL 263, Standard for Fire Tests of Roof Deck Constructions, 2002. [Chapter 8] 8.2.1.2

UL 555C, Standard for Ceiling Dampers, 1996. [Chapter 8] 8.8.8.6

UL 555S, Standard forLeakage Rated Dampers for Use in Smoke Control Systems Dampers, 1999. [Chapter 8] 8.10.5.2, 8.11.6.2

UL 580, Standard for Tests for Uplift Resistance of Roof Assemblies, 1994. [Chapter 38] Table 38.4.2.1


UL 1040, Standard for Fire Test of Insulated Wall Construction, 1996. [Chapter 37] 37.4.4.1(2), [Chapter 48] 48.3.3.2(3), 48.4.4.1(2)

UL 1256, Standard for Safety for Fire Test of Roof Deck Constructions, 2002. [Chapter 38] 38.3.2(3), [Chapter 48] 48.3.3.4(5)(b)(ii)

UL 1975, Standard for Fire Tests for Foamed Plastics Used for Decorative Purposes, 1996. [Chapter 27] 27.4.4.11(e), 27.4.4.11(1)

UL 2024, Standard for Optical Fiber Cable Raceway, 2002. [Chapter 7] 7.2.3.2.16(1)(e)

UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-handling Spaces, 2000. [Chapter 7] 7.2.3.2.16(3)


UL 2218, Standard for Impact Resistance of Prepared Roof Covering Materials, 2002. [Chapter 38] 38.5.2.1(2), 38.5.2.2(2)


Committee Statement:

Recommendation: Revise to read as follows:

2.3.41 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.
UL 3043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, 1996, [Chapter 7], 7.2.3.2.16(3)


UL 2218, Standard for Impact Resistance of Prepared Roof Covering Materials, 1998, [Chapter 38] 38.5.2.1(2), 38.5.2.2(2)

CAN/ULC S102.2, Standard Method of Test for Surface Burning Characteristics of Flammable Floor Covering and Miscellaneous Materials and Assemblies, 2003, [Chapter 8] 8.16.5

Substantiation: Update standards to current editions and titles.

Committee Meeting Action: Accept in Principle

No changes needed to UL references under the purview of BLD-MEA committee.

Committee Statement: Neither of the two UL standards referenced in Chapter 11 (UL 924 and UL 1784), and under the responsibility of the BLD-MEA committee, is shown by the submitter as needing updating of the publication year.

Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

5000-168 Log #285f BLD-MAT Final Action: Accept (2.3.41)

Submitter: Bob Eugene, Underwriters Laboratories Inc.

Recommendation: Revise to read as follows:

2.3.41 UL Publications. Underwriters Laboratories Inc., 333 Pfingston Road, Northbrook, IL 60062.

UL 10C, Positive Pressure Fire Tests of Door Assemblies, 2001, [Chapter 8] 8.7.5.2(B)

UL 217, Standard for Single and Multiple Station Smoke Alarms, 2002, [Chapter 15] 15.6.2.6.1.2 Exception No. 2


UL 555, Standard for Fire Dampers, 1999, [Chapter 8] 8.8.8.2, 8.11.6.2


UL 555S, Standard for Leakage Rated Dampers for Use in Smoke Control Systems Dampers, 1999, [Chapter 8] 8.10.5.2, 8.11.6.2

UL 580, Standard for Tests for Uplift Resistance of Roof Assemblies, 1994, [Chapter 38] 38.4.2.1


UL 1040, Standard for Fire Test of Insulated Wall Construction, 1996, [Chapter 37] 37.4.4.1(2)(b), [Chapter 48] 48.3.3.2(3), 48.4.4.1(2)

UL 1256, Standard for Safety for Fire Test of Roof Deck Constructions, 1998, [Chapter 38] 38.3.3(3), [Chapter 48] 48.3.3.5(b)(ii)

UL 1286, Standard for Office Furniture, 2002, [Chapter 28] 28.3.7.1(2)

UL 1479, Standard for Safety for Fire Tests of Through-Penetrations Fire Stops, 2004, [Chapter 8] 8.8.2.4, 8.8.7.1

UL 1715, Standard for Safety for Fire Test of Interior Finish Material, 2002, [Chapter 37] 37.4.4.1(2)(d), [Chapter 48] 48.3.3.2(1), 48.4.4.1(1)


UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics, 2002, [Chapter 7] 7.2.3.2.16(1)(b)

UL 1877, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics, 2002, [Chapter 7] 7.2.3.2.16(1)(c)

UL 1897, Standard for Safety for Uplift Tests for Roof Covering Systems, 2002, [Chapter 38] 38.4.2.1

UL 1975, Standard for Fire Tests for Foamed Plastics Used for Decorative Purposes, 1996, [Chapter 27] 27.4.4.1(6), 27.4.4.1(12)

UL 2024, Standard for Optical Fiber Cable Raceway, 1995, 2002, [Chapter 7] 7.2.3.2.16(1)(d)

UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces, 1996, [Chapter 7], 7.2.3.2.16(3)


UL 2218, Standard for Impact Resistance of Prepared Roof Covering Materials, 1998, [Chapter 38] 38.5.2.1(2), 38.5.2.2(2)

CAN/ULC S102.2, Standard Method of Test for Surface Burning Characteristics of Flammable Floor Covering and Miscellaneous Materials and Assemblies, 2003, [Chapter 8] 8.16.5

Substantiation: Update standards to current editions and titles.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Vote Not Returned: 1 MOON

5000-170 Log #CP504 BLD-STR Final Action: Accept (Chapter 3 and 38.11.1)

Submitter: Technical Committee on Structures and Construction

Recommendation: Add the following definitions to Section 38.1.1 and Chapter 3:

Built-up Roofing. A continuous, semiflexible membrane consisting of plies of saturated felts, coated felts, fabrics or mats assembled in place with alternate layers of bitumen, and surfaced with mineral aggregate, bituminous materials, or a granule surfaced sheet (abbreviation, BUR). [ASTM D1079: 2.1]

Coal Tar. A dark brown to black cementitious material produced by the destructive distillation of coal. [ASTM D1079: 2.1]

Flashing. The system used to seal membrane edges at walls, expansion joints, drains, gravel stops, and other places where the membrane is interrupted or terminated. Base flashing covers the edges of the membrane. Cap or
counterflashing shields the upper edges of the base flashing. [ASTM D1079: 2.1]

Gravel. Coarse, granular aggregate, with pieces larger than sand grains, resulting from the natural erosion of rock. [ASTM D1079: 2.1]

Organic. Being or composed of hydrocarbons or their derivatives, or matter of plant or animal origin. [ASTM D1079: 2.1]

Inorganic. Being or composed of matter other than hydrocarbons and their derivatives, or matter that is not of plant or animal origin. [ASTM D1079: 2.1]

Vapor Retarder. A layer of material or a laminate used to appreciably reduce the flow of water vapor into the roofing system. [ASTM D1079: 2.1]

Substantiation: The Technical Committee chose to reject Proposal 5000-968 (Log #556) because it was too vague and many of the terms were not appropriate for or applicable to Chapter 38. Instead, the Technical Committee chose to identify the specific terms that should be extracted from ASTM D1079-02 into NFPA 5000.

Committee Meeting Action: Accept
Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2 CLARK, JONES
Explanation of Abstention: ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-171 Log #CP10 BLD-FUN (Chapter 3 Definitions (GOT))

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to the NFPA Technical Committee on Fundamentals requesting that the TCs:

Review the proposed actions on the recommendations and the committee action on the proposed changes to the defined terms.

Submitter: Technical Committee on Fundamentals

Recommendation: Adopt the preferred definitions from the NFPA Glossary of Terms for the following terms:

Chimney. (preferred) NFPA 211, 2003, ed.

A structure containing one or more vertical or nearly vertical passageways for conveying flue gases to the outside atmosphere.


One or more passageways, vertical or nearly so, for conveying flue gases to the outside atmosphere.


Capable of reacting with oxygen and burning if ignited.

Combustible (secondary) NFPA 5000, 2003 ed.

A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible.


A chemical process of oxidation that occurs at a rate fast enough to produce heat and usually light in the form of either a glow or a flame.

Combustion (secondary) NFPA 5000, 2002 ed.

A chemical process that involves oxidation sufficient to produce light or heat.

Design Fire Scenario (preferred) NFPA 914, 2001 ed.

A fire scenario selected for evaluation of a proposed design.

Design Fire Scenario (secondary) NFPA 5000, 2002, ed.

A fire scenario used for evaluation of a proposed design.


Mathematical prediction of fire growth, environmental conditions, and potential effects on structures, systems, or components based on the conservation equations or empirical data.


A structured approach to predicting one or more effects of a fire.


A transition phase in the development of a contained fire in which surfaces exposed to thermal radiation reach ignition temperature more or less simultaneously and fire spreads rapidly through the space.

Flashover (secondary) NFPA 5000, 2002, ed.

A stage in the development of a contained fire in which all exposed surfaces reach ignition temperatures more or less simultaneously and fire spreads rapidly through the space.


The total quantity of combustible contents of a building, space, or fire area, including interior finish and trim, expressed in heat units or the equivalent weight in wood.


The total quantity of combustible contents of a building, space, or fire area.


The deliberate movement of material in containers by any means to a point of storage or use.

Handling (secondary) NFPA 5000, 2002, ed.

The deliberate movement of material by any means to a point of storage or use.

Imminent Danger. (preferred) NFPA 1, 2003, ed.

A condition or practice in an occupancy or structure that poses a danger that could reasonably be expected to cause death, serious physical harm, or serious property loss.

Imminent Danger (secondary) NFPA 5000, 2002, ed.

Any conditions or practices in any occupancy or structure that pose a danger that could reasonably be expected to cause death, serious physical harm, or serious property loss.


Any governmental unit or political division or subdivision, including, but not limited to: township, village, borough, parish, city, county, state, commonwealth, province, freehold, district, or territory over which the governmental unit exercises power and authority.

Jurisdiction (secondary) NFPA 5000, 2002, ed.

Legally constituted governmental unit that has adopted this Code by law or ordinance.


A goal that is achieved through the attainment of a skill, knowledge, or both, and that can be observed or measured.

Objective (secondary) NFPA 5000, 2002, ed.

A requirement that needs to be met to achieve a goal.


A story occupied by people on a regular basis. Stories used exclusively for mechanical equipment rooms, elevator penthouses, and similar spaces are not occupable stories.


A story occupied by people on a regular basis.


The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.


An area where improved property and wildland fuels meet at a well-defined boundary.

Substantiation: Adoption of preferred definitions will assist the user by providing consistent meaning of defined terms throughout the National Fire Codes.

The following procedure must be followed when acting on defined terms (extract from the Glossary of Terms Definitions Procedure):

2.1 Revising Definitions

2.1.1 Prior to revising Preferred definitions, the Glossary of Terms should be consulted to avoid the creation of additional Secondary definitions.

2.1.2 All Secondary definitions should be reviewed and eliminated where possible by the following method (in order of preference):

a) adopt the preferred definition if suitable;

b) modify the secondary term and/or definition to limit its use to a specific application within the scope of the document.

c) request that the Standards Council determine responsibility for the term .

d) request that the Standards Council authorize a secondary definition. (extract from the NFPA Manual of Style).

2.3.2.6 Existing general definitions contained in the NFPA Glossary of Terms shall be used where technically accurate and correct.

Committee Meeting Action: Accept in Part
Change the current definition of the following words/terbars to the NFPA Glossary of Terms (GOT) “Preferred” definition shown above in the recommendation field:

1. Chimney

2. Combustion

3. Design Fire scenario

4. Flashover

5. Imminent danger

6. Wildland/Urban Interface

Replace the term “Limited Combustible (Material)” and its definition with the following:

Limited Combustible. Refers to a building construction material not complying with the definition of noncombustible that, in the form in which it is used, has a potential heat value not exceeding 8141 kJ/kg (3500 Btu/ lb), where tested in accordance with NFPA 259, Standard Test Method for Potential Heat of Building Materials, and includes either of the following:

(1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 3.2 mm (1/8 in.) that has a flame spread index not greater than 50 ;

(2) materials, in the form and thickness used, other than as described in (1) having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would...
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be cut through using the material and on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion.

Revise the definition of Profession Engineer as follows:

Professional Engineer. A person registered or licensed to practice engineering in a jurisdiction, subject to all laws and limitations imposed by the jurisdiction.

Revise the definition of Structure as follows:

Structure. That which is built or constructed and limited to buildings and nonbuilding structures defined herein.

Committee Statement: Numerous GOT “Preferred” definitions could not be adopted for the following reasons:

Combustible. The NFPA 220 definition is inadequate for use in NFPA 5000 because it lacks the words “in the form in which it is used and under the conditions anticipated.” It is also important to retain the portion of the definition that says that something that doesn’t meet the definition of noncombustible or limited-combustible is defined as being combustible.

Fire Exit Hardware. Very few fire models do what the NFPA 805 definition says.

Fire Load. The NFPA 921 definition contains the prescriptive requirement “incandescent trim” which is not what NFPA 101 intends. The NFPA 921 definition also expresses the value in the equivalent weight of wood which is not always done.

Handing. The NFPA 55 definition is inaccurate as the material might not be handled in a container.

Jurisdiction. The NFPA 1141 definition includes an unneeded shopping list of examples that should be moved to advisory Annex text.

Limited Combustible. The NFPA 33 definition has a conflict within it. It says “...and complies with (a) or (b) and later in the definition it says...not greater than 50; and...”

Objective. The NFPA 472 definition is a training objective that does not meet the needs of NFPA 101.

Occupable Story. The NFPA 101B definition has a second sentence that should be advisory Annex text, not part of the definition.

Changes were made to the definitions of Limited-Combustible, Professional Engineer, and Structure for correlation with NFPA 101.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 17 Abstain: 1

Vote Not Returned: 2 CARSON, LANDMESSER

Explanation of Abstention:

BACHMAN: I do not feel that I have the expertise to comment on this item.

5000-172 Log #CP11 BLD-MEA Final Action: Accept in Part (Chapter 3 Definitions (GOT))

Submitter: Technical Committee on Means of Egress

Recommendation: Adopt the preferred definitions from the NFPA Glossary of Terms for the following terms:

Fire Exit Hardware. (preferred) NFPA 80, 1999 ed.

Labeled devices for swinging fire doors installed to facilitate safe egress of persons and generally consisting of a cross bar and various types of latch mechanisms that cannot hold the latch in a retracted locked position.

Fire Exit Hardware (secondary) NFPA 5000, 2002, ed.

A door-latching assembly incorporating a device that releases the latch upon the application of a force in the direction of egress travel and provides fire protection where used as part of a fire door assembly."


Having the ability to store incident electromagnetic radiation typically from ambient light sources, and release it in the form of visible light.

Photoluminescent (secondary) NFPA 5000, 2002, ed.

Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.


A type of sign that is self-energized with respect to luminosity and requires no external power source.


Illuminated by a self-contained power source and operated independently of external power sources.

Substantiation: Adoption of preferred definitions will assist the user by providing consistent meaning of defined terms throughout the National Fire Codes.

The following procedure must be followed when acting on defined terms (extract from the Glossary of Terms Definitions Procedure):

2.1 Revising Definitions
2.1.1 Prior to revising Preferred definitions, the Glossary of Terms should be consulted to avoid the creation of additional Secondary definitions.

2.1.2 All Secondary definitions should be reviewed and eliminated where possible by the following method (in order of preference):

a) adopt the preferred definition if suitable.

b) modify the secondary term and/or definition to limit its use to a specific application within the scope of the document.

c) request that the Standards Council determine responsibility for the term.

d) request that the Standards Council authorize a secondary definition.

(extract from the NFPA Manual of Style):

2.3.2.6 Existing general definitions contained in the NFPA Glossary of Terms shall be used where technically accurate and correct.

Committee Meeting Action: Accept in Part

1. Do not adopt the NFPA 80 “Preferred” definition of Fire Exit Hardware.

2. Adopt the NFPA 301 “Preferred” definition of Photoluminescent

3. Retain the current “Secondary” definition of Self-Luminous.

Committee Statement: 1. The definition of Fire Exit Hardware is being revised by Committee Proposal 5000-186 (Log #CP202). The NFPA 80 “Preferred” definition is included for use in NFPA 5000 which must also contend with the term “panic hardware” which is not used in NFPA 80.

2. The NFPA 301 “Preferred” definition of Photoluminescent is an improvement. The preferred definition is technically more accurate since the sign emits light even under ambient light conditions.

3. The NFPA 170 “Preferred” definition of Self-Luminous is not useful to NFPA 5000. It refers to a “sign” where in NFPA 5000 such material might be used for more than signs, such as path marking.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19 Negative: 4

Vote Not Returned: 3 BARRIOS, MCCINTY, MORRIS

Explanation of Negative:

HELTON: I vote to reject the Committee’s action because allowing the definition of photoluminescent to say that it is typically charged by ambient lighting implies that this sign can be installed anywhere. This could lead the AHJ to not consider the charging source and its intensity. These products are not listed using ambient light. Adding this in the definition will confuse the AHJ as allowing ambient light to be used for charging. These signs are limited to specific lighting types and levels for minimum charging levels in order to perform. Allowing ambient light in the definition is subjective and could never be controlled by the AHJ.

Comment on Affirmative:

ELFOVE: Committee action to Accept may not be appropriate as the committee didn’t completely accept this proposal as written. [Note action taken on definition for “Panic Hardware” in 5000-186 (Log #CP202).]

5000-173 Log #CP12 BLD-FIR Final Action: Accept (Chapter 3 Definitions (GOT))

Submitter: Technical Committee on Fire Protection Features

Recommendation: Maintain the secondary definitions of fire damper, fire resistance rating and smoke damper as noted below and do not adopt the preferred definition.

Fire Damper (preferred) NFPA 221, 2000, ed.

A device, installed in an air distribution system, designed to close automatically upon detection of heat, to interrupt migratory airflow, and to restrict the passage of flame.

Fire Damper (secondary) NFPA 5000, 2002, ed.

A device, installed in an air distribution system, that is designed to close automatically upon detection of heat to interrupt migratory airflow and to restrict the passage of flame.


The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials.


The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as determined by the tests or methods based on tests, prescribed by this Code.

Smoke Damper (preferred) NFPA 211, 2000, ed.

A damper arranged to seal off airflow automatically through a part of an air duct system, to restrict the passage of smoke. A smoke damper also can be a standard louvered damper serving other control functions, provided the location lends itself to the dual purpose. A smoke damper is not required to meet all the design functions of a fire damper.

Smoke Damper (secondary) NFPA 5000, 2002, ed.

A device within an air distribution system to control the movement of smoke.

Substantiation: No changes are proposed for the terms fire damper, fire resistance rating and smoke damper even though these definitions are currently considered secondary definitions by NFPA’s Manual of Style. A request will be made to the Standards Council to authorize these secondary definitions.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 23

5000-174 Log #CP14 BLD-FUR Final Action: Accept (Chapter 3 Definitions (GOT))

Submitter: Technical Committee on Furnishings and Contents

Recommendation: Revise the definition of "contents and furnishings" to read as follows:
Contents and Furnishings. Any movable objects in a building Objects, goods, or products placed inside a structure for functional, operational, or decorative reasons, excluding parts of the building structure, building service equipment, and items meeting the definition of interior finish.

Substantiation: The committee reviewed the two definitions of "contents and furnishing" used in NFPA 5000 and NFPA 555, and revised the definition as indicated based upon the intended use of the term. A committee proposal in the name of the committee chair will be submitted for NFPA 555 to revise the definition of "contents and furnishing" in that document to be consistent with that proposed for NFPA 5000. The same definition is also proposed for NFPA 101.

Committee Meeting Action: Accept
Number Eligible to Vote: 10
Ballot Results: Affirmative: 9
Vote Not Returned: 1 GANDHI

NFPA 5000 - Chapter 3 Definitions (GOT)

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC's name to BLD-IND to:
Support the formation of the Task Group noted in Item 4 of the committee recommendation to study and refine the issues to and to transmit the results to all affected committees.

Further, the TCC formally requests that NFPA Standards Council proceed to take this into consideration when revising the various TCC's that utilize TCC barricade, compressed gas, flammable liquid, flammable vapors, fuel gas, liquid and tank as used in the high hazard contents chapter (Chapter 34) of NFPA 5000 and to further correlate use of these terms as necessary.

Submitter: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

Recommendation: 1. Revise Section 3.1 as follows:
3.1 General. The following terms, for the purposes of this Code, shall have the meanings given in this chapter, if not otherwise modified by another chapter. Words used in the present tense shall include the future; words used in the masculine gender shall include the feminine and neuter; the singular number shall include the plural, and the plural number shall include the singular. Words are not defined in this chapter or within another chapter but are defined in other NFPA documents, the definitions used in the NFPA documents shall apply.
Where terms are not defined in this chapter, within another chapter or within another NFPA document, they shall be defined using their ordinarily accepted meanings within the context in which they are used. Webster's Third New International Dictionary of the English Language, Unabridged, shall be a source for ordinarily accepted meaning.
2. Revise the definitions of the following terms as follows:

Combustible Dust. (preferred) NFPA 654, 2000 ed.
Affected finely divided solid material that is 420 microns or smaller in diameter (material passing a U.S. No. 40 Standard Sieve) and presents a fire or explosion hazard in a dispersed.in air.

Any finely divided solid material that is 120 microns or smaller in diameter (material passing through a U.S. Standard Sieve) and presents a fire or deflagration hazard.

Any liquid that has a closed-cup flash point at or above 37.8°C (100°F).

Optional:
Combustible Liquid Classification. (NFPA 30)
Combustible Liquid Class II. Any liquid that has a flash point at or above 37.8°C (100°F) and below 60°C (140°F).
Combustible Liquid Class IIIA. Any liquid that has a flash point at or above 60°C (140°F), but below 93°C (200°F).
Combustible Liquid Class IIIB. Any liquid that has a flash point at or above 93°C (200°F).

-A liquid having a flash point at or above 37.8°C (100°F).

-A refrigerated gas having a boiling point below -130°F (-90°C) at atmospheric pressure.

-A fluid with a boiling point lower than -90°C (-130°F) at an absolute pressure of 101.325 kPa (14.7 psia).

Flammable Gas. (secondary) NFPA 5000, 2002 ed.
-A material that is a gas at 68°F (20°C) or less at 117 psi (101.3 kPa) of pressure that (1) is ignitable at 117 psi (101.3 kPa) when a mixture of 12 percent or less by volume with air, or (2) has a flammable range at 147 psi (101.3 kPa) with air of at least 12 percent, regardless of lower limit. The limits shall be determined at 117 psi (101.3 kPa) of pressure and a temperature of 68°F (20°C) in accordance with nationally recognized standards.

-A material that is a gas at 20°F (68°C) or less at an absolute pressure of 101.325 kPa (14.7 psia), that is ignitable at an absolute pressure of 101.325 kPa (14.7 psia) when in a mixture of 13 percent or less by volume with air, or that has a flammable range at an absolute pressure of 101.325 kPa (14.7 psia) with air of at least 12 percent, regardless of the lower limit.

Flash Point. (preferred) NFPA 30, 2000 ed.
The minimum temperature at which a liquid or a solid emits vapor sufficient to form an ignitable mixture with air near the surface of the liquid or the solid.
[Add the following as annex material for the term flash point:]
1. the flash point of a liquid having a viscosity less than 45 SUS at 100°F (37.8°C) and a flash point below 200°F (93°C) shall be determined in accordance with ASTM D 56.
2. the flash point of a liquid having a viscosity of 45 SUS or more at 100°F (37.8°C) or a flash point of 200°F (93°C) or higher shall be determined in accordance with ASTM D 93.
3. as an alternate, ASTM D 3278 may be used for paints, enamels, lacquers, varnishes, and related products and their components having flash points between 32°F (0°C) and 230°F (110°C) and having a viscosity lower than 150 stokes at 77°F (25°C); (4) as an alternate, ASTM D 3826 may be used for materials other than those for which specific Setaflash Methods exist.

Flash Point. (secondary) NFPA 5000, 2002 ed.
The minimum temperature at which a liquid gives off vapor in sufficient concentration to form an ignitable mixture with air near the surface of the liquid within the vessel as specified by appropriate test procedure and apparatus as follows:
1. the flash point of a liquid having a viscosity less than 45 SUS at 100°F (37.8°C) and a flash point below 200°F (93°C) shall be determined in accordance with ASTM D 56.
2. the flash point of a liquid having a viscosity of 45 SUS or more at 100°F (37.8°C) or a flash point of 200°F (93°C) or higher shall be determined in accordance with ASTM D 93.
3. as an alternate, ASTM D 3278 may be used for paints, enamels, lacquers, varnishes, and related products and their components having flash points between 32°F (0°C) and 230°F (110°C) and having a viscosity lower than 150 stokes at 77°F (25°C); (4) as an alternate, ASTM D 3826 may be used for materials other than those for which specific Setaflash Methods exist.

Any material having a vapor pressure not exceeding that allowed for commercial propane that is composed predominantly of the following hydrocarbons, either by themselves or as mixtures: propane, propylene, butane (normal butane or isobutane), and butylenes.

Any material having a vapor pressure not exceeding that allowed for commercial propane that is composed predominantly of the following hydrocarbons, either by themselves or as mixtures: propane, propylene, butane (normal butane or isobutane), and butylenes.

Any organic compound having a double oxygen or peroxy (-O-O-) group in its chemical structure.

Class I Organic Peroxide. Organic peroxide formulations that are capable of deflagration but not detonation.

Class II Organic Peroxide. Organic peroxide formulations that burn very rapidly and that present a severe reactivity hazard.

Class III Organic Peroxide. Organic peroxide formulations that burn rapidly and that present a moderate reactivity hazard.

Class IV Organic Peroxide. Organic peroxide formulations that burn in the same manner as ordinary combustibles and that present a minimal reactivity hazard.

Class V Organic Peroxide. Organic peroxide formulations that burn with less intensity than ordinary combustibles or do not sustain combustion and that present no reactivity hazard.

An organic compound that contains the bivalent -0-0- structure and that present no reactivity hazard.

Oxidizer. (preferred) NFPA 130, 2000 ed.
Any material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials.

A material, other than a blasting agent or explosive, that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials.
An oxidizer that does not moderately increase the burning rate of combustible materials with which it comes into contact. 

An oxidizer that causes a moderate increase in the burning rate of combustible materials with which it comes into contact. 

An oxidizer that causes a severe increase in the burning rate of combustible materials with which it comes into contact. 

An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock and that causes a severe increase in the burning rate of combustible materials with which it comes into contact.

The adoption of preferred definitions will assist the user by providing consistent meaning of defined terms throughout the National Fire Codes. 

Forewarning (preferred) NFPA 1123, 2000, ed. 

Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration, or detonation that meets the definition of Consumer Fireworks or Display Fireworks as set forth in this code.

Fireworks (secondary) NFPA 5000, 2002, ed. 

Any composition or device for the purpose of producing a visible or an audible effect by combustion, deflagration, or detonation, and that meets the definition of Consumer Fireworks, 1.4G, or Display Fireworks, 1.3G, as set forth in this Code.

Flammable Solid (preferred) NFPA 45, 2000, ed. 

A solid, other than a blasting agent or explosive, that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited, burns so vigorously and persistently as to create a serious hazard.


A solid substance, other than one defined as a blasting agent or explosive, that is liable to cause fire through friction or as a result of retained heat from manufacture, that has an ignition temperature below 212°F (100°C), or that burns so vigorously or persistently when ignited that it creates a serious hazard.


A substance (solid, liquid, or gas) that when released is capable of creating harm to people, the environment, and property.


A chemical or substance that is classified as a physical hazard material or a health hazard material, whether the chemical or substance is in usable or waste condition.

Lower Flammable Limit (LFL), (preferred) NFPA 30, 1990, ed. 

That concentration of a combustible material in air below which ignition will not occur. Also known as the Lower Explosive Limit (LEL). Mixture below this limit are said to be "too lean."

Lower Flammable Limit (LFL), (secondary) NFPA 5000, 2002, ed. 

The concentration of a combustible material in air below which ignition will not occur.

4. Maintain the definitions of the following terms as currently identified in NFPA 5000, but establish a joint committee task group with other respective committees to coordinate the definitions.

Barricade 

Compressed Gas 

Flammable Liquid 

Flammable Vapors 

Fuel Gas 

Liquid 

Tank 

Substantiation: Adoption of preferred definitions will assist the user by providing consistent meaning of defined terms throughout the National Fire Codes.

The following procedure must be followed when acting on defined terms (extract from the Glossary of Terms Definitions Procedure):

2.1 Revising Definitions

2.1.1 Prior to revising Preferred definitions, the Glossary of Terms should be consulted to avoid the creation of additional Secondary definitions.

2.1.2 All Secondary definitions should be reviewed and eliminated where possible by the following method (in order of preference):

a) adopt the preferred definition if suitable.

b) modify the secondary term and/or definition to limit its use to a specific application within the scope of the document.

c) request that the Standards Council determine responsibility for the term.

d) request that the Standards Council authorize a secondary definition. (extract from the NFPA Manual of Style):

3.3.2.6 Existing general definitions contained in the NFPA Glossary of Terms shall be used where technically accurate and correct. This proposal is a result of the referenced policy to coordinate the definitions of terms used in NFPA documents. Upon its review of terms identified by NFPA's editors, the committee recommends four actions. The first adds a general statement to refer to other NFPA documents for terms not defined in NFPA 5000. Other NFPA documents may define terms and these definitions should be preferred over those defined in Webster's Dictionary. The second action proposes revisions of existing definitions. These definitions were taken from other NFPA documents as identified. The exception being the definition of oxidizer which was proposed for partial revision by the TC on Hazardous Chemicals (see Proposal 5000-226 (Log #240). Part 3 identifies those definitions that the committee does not believe justifies revision based upon the context in which the terms are used in NFPA 5000. Part 4 pertains to definitions that the committee believes need to be further defined but which require the input from other respective committees.

Committee Meeting Action: Accept
Substantiation: This proposal was developed by those members of NFPA's Technical Committee on Cultural Resources present at the September 22–24, 2003 meeting, which took place in Washington, D.C. Those committee members present unanimously instructed the committee chair, Deborah Freeland, to submit this proposal to NFPA 5000 on their behalf.

A separate proposal has been submitted that references NFPA 909 for special construction requirements pertaining to cultural resource properties. The term cultural resource is being proposed for inclusion in NFPA 5000 for completeness.

Committee Meeting Action: Accept

Committee Statement: The BLD-FUN committee notes that the definition proposed by the submitter (and accepted by the committee) is the one proposed for the revision to NFPA 909 being made through the 2004 Fall revision cycle.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18 Negative: 2
Vote Not Returned: 2 CARSON, LANDMESSER

5000-178 Log #CP206 BLD-MEA Final Action: Accept

(3.3.xx Equivalency-Electrically-Locked Egress Doors (New))

Submitter: Technical Committee on Means of Egress

Recommendation: Add a definition as follows:

3.3.xx Electrically-Locked Egress Doors. Doors in a means of egress having electro-magnetic locks arranged to control access but permit free egress at any time.

Substantiation: The definition is being added to support the committee action. Comment Proposal 5000-522 (Log #CP205) that revises the 11.2.1.6.2 provisions for Access-Controlled Egress Doors and gives them the new name: Electrically-Locked Egress Doors. There are many doors in existence that are electrically locked, but if they do not permit free egress at any time they violate the Code addresses as Electrically-Locked Egress Doors and they are not permitted to make use of the provisions of 11.2.1.6.2.

Committee Meeting Action: Accept

Number Eligible to Vote: 23
Ballot Results: Affirmative: 18 Negative: 2
Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

Explanation of Negative: GUEST: I voted to reject this proposal since I believe the definition should change to:

3.3.xx Electrically-Locked Egress Doors. Doors in a means of egress having electro-magnetic locks arranged to control access but permit free egress at any time the power to the hardware is disconnected.

VERSTEEG: Refer to my opposing position as stated under 5000-522 (Log #CP205).

5000-179 Log #324 BLD-FUN Final Action: Accept

(3.3.xx Equivalency (New))

Submitter: Deborah L. Freeland, Arthur J. Gallagher & Company

Recommendation: Add a new term and definition to read as follows:

Equivalency. A term and means of providing an equal or greater degree of safety than that afforded by strict conformance to prescribed codes and standards.

Substantiation: This proposal was developed by those members of NFPA’s Technical Committee on Cultural Resources present at the September 22–24, 2003 meeting, which took place in Washington, D.C. Those committee members present unanimously instructed the committee chair, Deborah Freeland, to submit this proposal to NFPA 5000 on their behalf.

Section 1.5.1 allows for equivalency but the term is not defined.

Committee Meeting Action: Accept

Committee Statement: In accepting the submitter’s proposed definition of Equivalency, the BLD-FUN committee is not adopting the NFPA Glossary of Terms (GOT) “Preferred” definition from NFPA 914. The NFPA 914 definition uses the words “…degree of fire safety…” and this definition uses the words “…degree of safety…” Equivalency per NFPA 5000 can involve more than “fire safety”.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-180 Log #823 BLD-MEA Final Action: Accept in Principle

(3.3.xx Equivalency Escape Device or System and A.3.3.1 (New))

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-IND requesting that the TCC:

Re-address this issue during its ROC meeting. A related proposal in Chapter 7 (Proposal 5000-359) by BLD-BLC is introducing special provision for this unique type of structure. The TCC recommends that a task group be formed with representatives from BLD-IND, BLD-BLC and BLD-STR, as well as representatives of the NFPA Technical Committee on Explosion Protection Systems, Technical Committee on Industrial and Medical Gases, Technical Committee on Liquified Petroleum Gases, Technical Committee on Hazardous Chemicals, Technical Committee on Explosives and Technical Committee on Pyrotechnics to review these proposals and develop public comments as necessary on this subject as System(s) of Protection relates to Protection levels 1, 2 or 3 as used in NFPA 5000: Chapter 34.

Submitter: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

Recommendation: Add a definition and a new 7.4.1.3.5.3 on Frangible Buildings to read as follows:

Chapter 3 Definition – Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures.

7.4.1.3.5.3 Frangible Buildings.

(A) Frangible buildings containing high hazard contents requiring Protection Level 1.2, or 3 shall not be permitted to exceed 400 sq ft in total floor area unless otherwise approved, shall be limited to one above-ground story without basement, and shall have a maximum occupant load of two people.

(C) Frangible buildings shall be separated in accordance with Chapter 34 from buildings and other structures not designed to withstand the effects of a fire, deflagration or detonation within the frangible building.

(D) Frangible buildings containing high hazard contents requiring Protection Level 1, or 2 shall be designed to vent.

(E) Venting elements of frangible buildings shall not exceed a weight of 2.5 lbs. per sq ft unless otherwise approved.

(F) A sign shall be posted on an exterior wall with approved language.

A.3.3.1 (3) (D) Additional guidance regarding designing buildings for deflagrations can be found in NFPA 68 and FM Global Loss Prevention Data Sheet 1-44.
It is desirable for venting wall panels to release at as low a pressure as possible. Usually the vent release pressure is based on the wind design pressure, consequently, use of these buildings in high wind areas (greater than 35 mph and greater than 40 psf for PM D 1-44) is not recommended. While seismic design loads must also be considered, since that is typically a function of the wall panel weight and such weight is limited, in most cases wind load may govern. The maximum outward wind design pressures should not exceed that required by Chapter 35 to assure that venting in a deflagration will begin at as low a pressure as practical. That will help to limit the maximum pressure rise within the frangible building. It is also recommended that safety factors applied to explosion venting design be limited as pressures will continue to rise in a deflagration even after the vent panels have started to release. Design loads (based on a safety factor of 1.0) for tested explosion venting fasteners are listed in the FM Approvals Guide, Building Materials volume.

Substantiation: The recommendation of this committee proposal is same as the recommendation of Committee Proposal 5000-359 (Log #CP902) which was developed by the TC on Structures and Construction (BLD-STR). This proposal was generated so that BLD-IND could respond the the action taken by BLD-STR.

Committee Meeting Action: Reject

Committee Statement: While the committee agrees that there may be some merits to the concepts associated with a Frangible Building, the provisions as proposed by BLD-STR are too broad and have not been supported by any technical substantiation. In some cases the proposed wording presents more restrictive criteria than currently allowed by some NFPA documents. The proposed provisions would apply to high hazard level 2 and 3 contents which do not necessarily have an explosion hazard. Additionally, the provisions do not address the hazards associated with shrapnel and other potential projectiles.

Number Eligibles to Vote: 30
Ballot Results: Affirmative: 6
Vote Not Returned: 4

5000-182 Log #325 BLD-FUN Final Action: Accept (3.3.xx Historic Preservation (New))

Submitter: Deborah L. Freeland, Arthur J. Gallagher & Company
Recommendation: Add a new term and definition as follows:

Historic Preservation, A generic term that encompasses all aspects of the professional and public concern related to the maintenance of a historic structure, site, or element in its current condition, as originally constructed, or with the additions and alterations determined to have acquired significance over time. [914:3.2.41]

Substantiation: This proposal was developed by those members of NFPA's Technical Committee on Cultural Resources present at the September 22–24, 2003 meeting, which took place in Washington, D.C. Those committee members present unanimously instructed the committee chair, Deborah Freeland, to submit this proposal to NFPA 5000 on their behalf. The term "historic preservation" is used in NFPA 5000 but is not defined. The definition as found in NFPA 914 should be used.

Committee Meeting Action: Accept

Committee Statement: In accepting the submitter’s proposed definition as extracted material from NFPA 914, the BLD-FUN committee is not showing an exclusion from NFPA 914, the NFPA Glossary of Terms (GOT) “Preferred” definition is from NFPA 909. The definition as found in NFPA 909 and NFPA 914. The NFPA 914 committee is expected to have responsibility for the definition shifted from NFPA 909 to NFPA 914 as an update to the GOT.

Number Eligibles to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-183 Log #323 BLD-FUN Final Action: Accept (3.3.xx Historic Structure (New))

Submitter: Deborah L. Freeland, Arthur J. Gallagher & Company
Recommendation: Add a new term and definition to read as follows:

Historic Structure, A building, bridge, lighthouse, monument, pier, vessel, or other construction that is designated or that is deemed eligible for such designation, national, or international, as having historical, architectural or cultural significance. [914:3.2.43]

Substantiation: This proposal was developed by those members of NFPA's Technical Committee on Cultural Resources present at the September 22–24, 2003 meeting, which took place in Washington, D.C. Those committee members present unanimously instructed the committee chair, Deborah Freeland, to submit this proposal to NFPA 5000 on their behalf. The term is used in NFPA 5000 and should be defined. The definition is taken from the term Historic Structure is more widely accepted in the historic preservation community, as reflected in the current title of NFPA 914. Code for the Protection of Historic Structures and in the Department of Interior’s Building is not a term of historic structures; NFPA 5000 clearly addresses historic structures as well as buildings (15.9.1.2(F)2, 15.9.1.3, 15.9.1.5, etc.). Examples of historic structures that are not considered buildings include: Lincoln Memorial, Statue of Liberty, Vermont Covered Bridge, Lunar Launch Platform, and the Washington Monument. A separate proposal has been submitted to NFPA 5000 proposing the addition of a new definition for historic structures.

Committee Meeting Action: Accept

Committee Statement: In accepting the submitter’s proposed definition of Historic Structure, the BLD-FUN committee is not adopting the NFPA Glossary of Terms (GOT) “Preferred” definition from NFPA 909. The NFPA 909 and NFPA 914 definitions are very similar, but the NFPA 914 definition is better. The NFPA 914 committee is expected to have responsibility for the definition shifted from NFPA 909 to NFPA 914 as an update to the GOT.

Number Eligibles to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-184 Log #CP103 BLD-FUN Final Action: Accept (3.3.xx Kitchen (New))

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN requesting that the TC:

Give consideration to Hurley’s Explanation of Negative so as to make any needed changes.

Submitter: Technical Committee on Fundamentals

Recommendation: Add a definition as follows:

3.3.xx Kitchen, A room or area equipped for preparing and cooking food, utilizing a stove or cooktop.

Substantiation: The term “Kitchen” is used in the code and should be defined. This will clarify that non-hazardous food preparation with microwave ovens and coffee makers does not qualify as a kitchen. One example of the use of the term is in 11.5.2.1 on means of egress.

Committee Meeting Action: Accept

Number Eligible to Vote: 20
Ballot Results: Affirmative: 17 Negative: 1
Vote Not Returned: 2

5000-185 Log #488 BLD-FUN Final Action: Accept in Principle (3.3.xx Owner (New))

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUN requesting that the TC:

Give consideration to Bachman’s Explanation of Negative so as to make any needed changes.

Submitter: John V. Loscheider, Loscheider Engineering Company

Recommendation: Add a new definition as follows:

3.3.xx Owner, The owner of a building or structure or his duly authorized agent, attorney, purchaser, devisee, fiduciary and a person having a vested interest in the property.

Substantiation: This definition appears to have been inadvertently omitted from the published version of NFPA 5000, in which case this proposal is an error. The text is from the 2006 edition of the code.

See Standards Council Decision (Final) D#02-17 on agenda item SC#02-80(nn) dated 19 July 2002. This action deleted a definition of owner from Chapter 37. It appears that the definition in Chapter 3 was inadvertently deleted as well.

Committee Meeting Action: Accept in Principle

Add a new definition as follows:

3.3.xx Owner, A person or persons having a vested financial interest in a property, building, or structure.

Committee Statement: The definition as modified by the BLD-FUN committee should meet the submitter’s intent. It does not use the word “owner” in the defining words, but it is the same definition as the NFPA Glossary of Terms (GOT) “Preferred” definition.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 17 Negative: 1
Vote Not Returned: 2

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be able to assign his code-required responsibilities to agents, who generally do not have a vested financial interest in the property. If the committee prefers to change the previous definition, then I recommend the following, which has been used for many years in all of the other model building codes:

Owner. Any person, agent, firm, or corporation having a legal or equitable interest in the property.

5000-186 Log #CP202 BLD-MEA Final Action: Accept
(3.3.xx Actuating Member or Bar (New), 3.3.189 Fire Exit Hardware, 3.3.390 Panic Hardware)

Submitter: Technical Committee on Means of Egress
Recommendation: Revise as follows:
Add a new definition as follows:

3.3.xxx* Actuating Member or Bar. The activating mechanism of a panic hardware or fire exit hardware device located on the egress side of a door.

A.3.3.xxx* Actuating Member or Bar. The active surface of the actuating member or bar release that releases the latch bolt upon the application of a force in the direction of egress travel.

Panic Hardware. A door-latching assembly incorporating an actuating member or bar release that releases the latch bolt upon the application of a force in the direction of egress travel.

Fire Exit Hardware. A door-latching assembly incorporating an actuating member or bar release that releases the latch bolt upon the application of a force in the direction of egress travel and which additionally provides fire protection where used as part of a fire door assembly.

Substantiation: The revised definitions are needed for completeness. The NFPA 80 definition of “Fire Exit Hardware” is incomplete and includes language better suited for requirements within that document such as “latch mechanisms that cannot hold the latch in a retracted locked position.” NFPA 80 needs to contend only with the definition of Fire Exit Hardware, and NFPA 5000 needs to make the definitions of Panic Hardware and Fire Exit Hardware work together. The means of egress committee will work toward having the Glossary of Terms (GOT) changed to show the NFPA 101/5000 definitions as “Preferred.”

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 20
Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

5000-187 Log #CP215 BLD-MEA Final Action: Accept
(3.3.xxx Stair Descent Device and A.3.3.xxx (New))

Submitter: Technical Committee on Means of Egress
Recommendation: Add a definition and advisory Annex text, as follows:

3.3.xxx Stair Descent Device. A portable device, incorporating a means to control the rate of descent, used to transport a person with a severe mobility impairment downward on stairs during emergency egress.

A.3.3.xxx Stair Descent Device. A stair descent device typically requires the assistance of a trained operator.

Substantiation: The new definition supports the changes being made to 11.2.12.2.3(2) via Committee Proposal 5000-540 (Log #CP214). The annex text includes the advisory information that was not suitable for inclusion within the definition.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 20
Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

5000-189 Log #CP201 BLD-MEA Final Action: Accept
(3.3.33.1 Accessible Area of Refuge)

Submitter: Technical Committee on Means of Egress
Recommendation: Revise the definition as follows:
Accessible Area of Refuge. An area of refuge that complies with the access route requirements of ICC/ANSI A117.1 American National Standard for Accessible and Usable Buildings and Facilities.

Substantiation: It is important for the definition to show the title of A117.1. This will make the definition read the same as in NFPA 101.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 20
Vote Not Returned: 3 BARRIOS, MCGINTY, MORRIS

5000-190 Log #246a BLD-FUN Final Action: Reject
(3.3.44 Baled Cotton Definitions)

Recommendation: Add new definitions to read as follows:
3.3.44 Baled Cotton Definitions
3.3.44.1 Baled Cotton. A natural seed fiber wrapped and secured in industry-accepted materials, usually consisting of burlap, woven polypropylene, or sheet polyethylene, and secured with steel, synthetic, or wire bands, or wire, also includes bales (that are removed from the cottonseed) and bales (residual materials from the ginning process).
3.3.44.2 Densely-Packed Baled Cotton. Cotton, made into banded bales, with a packing density of at least 360 kg/m^2 (22 lb/ft^2), and dimensions consistent with the following: a length of 1,400 ± 20 m (ca. 55 in.), a width of 530 ± 20 mm (ca. 21 in.) and a height of 700-900 mm (27.6-35.4 in.).
3.3.44.3 Fire-Packed Baled Cotton. A cotton bale within which a fire has been packed as a result of a process, ginning being the most frequent cause.
3.3.44.4 Naked Cotton Bale. An unwrapped cotton bale secured with wire or steel straps. Cotton which has been baled.

Substantiation following 3.43 as 3.45 onwards.
A.3.44.2 Experimental work by the US Department of Agriculture, and others (Wakeley and Hughes, 2002), investigated the flammability of cotton bales with a packing density of at least 360 kg/m^2 (22 lb/ft^2). The research showed that such cotton bales (densely-packed cotton bales) did not undergo self-heating nor spontaneous combustion and that the likelihood of sustained smoldering combustion internal to the cotton bale, creating a delayed fire hazard, was extremely low. The same research also showed that, when the cotton bales were exposed to smoking cigarettes, matches and open flames (including the gas burner ignition source used for the mattress tests in ASTM E 1531 and California Technical Bulletin 129), the probability of initiating flaming combustion was at such a low level as not to qualify the densely-packed cotton bales as flammable solids. These investigations resulted in harmonization between the U.S. Department of Transportation, (FACR172-102, note 137), the United Nations Recommendations on the Transport of Dangerous Goods, the International Maritime Dangerous Goods Code) and the International Civil Aviation Organization’s Technical Instructions, with the removal of the flammable solid designation from densely-packed cotton bales, complying with ISO 8115, “Cotton Bales - Dimensions and Density” and the exemption of such cotton bales from the Hazardous Materials Regulations.


Substantiation: In order to counteract some historical anecdotal information regarding the combustibility characteristics of densely-packed cotton bales, flammability research was conducted, including the following experiments and results:

1. Standard cotton fibre “passed” the Department of Transportation spontaneous combustion test: the cotton did not exceed the oven temperature and was not classified as self-heating.
2. Cotton within densely-packed cotton bales did not cause sustained smoldering propagation: an electric heater placed within the bale was unable to cause sustained smoldering propagation, due to the lack of oxygen inside the densely-packed bale.
3. Cotton within densely-packed cotton bales was exposed to ignition from a cigarette and a match and performed very well: no propagating combustion was observed.
4. Cotton within densely-packed cotton bales was exposed to ignition from the gas burner source in ASTM E 1590 (also known as California Technical Bulletin 129; 12 L/min of propane gas for 180 seconds) and passed all the criteria of CA TB 129: mass loss of less than 1.36 kg (3 pounds), heat release rate less than 100 kW and total heat release of less than 25 MJ in the first 10 minutes of test.

In consequence, the US Department of Transportation (US Coast Guard), the United Nations and the International Maritime Organization have all removed the listing of baled cotton from the list of hazardous materials, and from the list of flammable solids, provided the cotton bales are the type of bales listed above.

Chapter 34, Table 34.1.3 Maximum Allowable Quantity of Hazardous Materials per Control Area, contains limitations for storage of baled cotton.
This limitation should not be applied to “densely-packed cotton bales” as they have been shown not to be a hazardous material. In order to be able to do this, the definitions of the various types of baled cotton need to be added to the code, so that it can be made clear in Table 34.1.3.1 that it does not apply to “densely-packed cotton bales”. A companion proposal on Table 34.1.3.1 is being sent to that chapter stating as follows: Cotton, dry, is not subject to the requirements of this Table when it is baled as “Densely-Packed Baled Cotton” as it is not a flammable solid. Densely-packed baled cotton is cotton made into baled bales, with a packing density of at least 360 kg/m^3 (22 lb/ft^3), and dimensions complying with the following:

length of 1,400 ± 20 m, a width of 530 ± 20 mm and a height of 700-900 mm.

The definitions of “Baled Cotton”, “Fire-Packed Baled Cotton” and “Naked Cotton Bale” are taken from NFPA 230, Standard for the Fire Protection of Storage (2003). Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Reject Committee Statement: The Fundamentals Committee (SAF-FUN) did not technically judge the recommendation. The action of “Reject” reflects that the term “baled cotton” has not yet been introduced into the descriptions of high hazard industrial occupancies and high hazard contents; and that the issue should be decided by the Industrial/Storage (BLD-IND) committee under whose jurisdiction the subject falls. BLD-FUN requests that if BLD-IND takes an action other than Reject, the Technical Correlating Committee act so as to show the BLD-IND action as overruling that of BLD-FUN.

Number Eligible to Vote: 20 Ballot Results: Affirmative: 18 Vote Not Returned: 2 CARSON, LANDMESSER

5000-191 Log #246b BLD-IND Final Action: Reject (3.3.44 Baled Cotton and A.3.3.44.2 (New))

Submitter: Marcelo M. Hirschler, GBH International / Rep. National Cotton Council Recommendation: Add new definitions to read as follows: 3.3.44 Baled Cotton Definitions 3.3.4.1 Baled Cotton: A natural seed fiber wrapped and secured in industry-acceptable materials consisting of burlap, woven polypropylene, or sheet polyethylene, and secured with steel, synthetic, or wire bands, or wire; also includes lint (lint removed from the cottonseed) and mantles (residual materials from the ginning process).

3.3.4.2 Densely-Packed Baled Cotton: Cotton made into baled bales, with a packing density of at least 360 kg/m^3 (22 lb/ft^3), and dimensions complying with the following: a length of 1,400 ± 20 m (ca. 21 in.), a width of 530 ± 20 mm (ca. 21 in.), and a height of 700-900 mm (27.6-35.4 in.).

3.3.4.4 Naked Cotton Bale: An unwrapped cotton bale secured with wire or steel straps. Cotton which has been baled.

Reumber definitions following 3.43 as 3.45 onwards.

A.3.3.44.2 Experimental work by the US Department of Agriculture, and others (Wakelyn and Hughes, 2002), investigated the flammability of cotton bales with a packing density of at least 360 kg/m^3 (22 lb/ft^3). The research showed that as cotton bales (densely-packed bales) did not undergo self-heating nor spontaneous combustion and that the likelihood of sustained smoldering combustion internal to the bale, creating a delayed fire hazard, was extremely low. The same research also showed that, when the cotton bales were exposed to smoldering cigarettes and open flames (including the gas burner ignition source used for the mattress tests ASTM E 1537 and California Technical Bulletin 129), the probability of initiating flaming combustion was at such a low level as not to qualify the densely-packed baled cotton as flammable solids. These investigations resulted in harmonization between the US Department of Transportation (49CFR172.102, note 137), the United Nations Recommendations on the Transport of Dangerous Goods, the International Maritime Organization (the International Maritime Dangerous Goods Code) and the International Civil Aviation Organization’s Technical Instructions, with the removal of the flammable solid designation from densely-packed cotton bales, complying with BLD, BDC, and DPC. “Cotton Bales - Dimensions and Density” and the exemption of such cotton bales from the Hazardous Materials Regulations. Add to a new section D1.2.10 (ISO Publication) a reference to ISO 8115, “Cotton Bales - Dimensions and Density” to referenced standards.

Substantiation: In order to counteract some historical anecdotal information regarding the combustion characteristics of densely-packed cotton bales, flaming research was conducted, including the following experiments and results:

1. Standard cotton fiber “passed” the Department of Transportation spontaneous smoking test; the cotton did not exceed the oven temperature and was not classified as self-heating.
2. Cotton within densely-packed cotton bales did not cause sustained smoldering propagation: an electric heater placed within the bale was unable to cause sustained smoldering propagation, due to the lack of oxygen inside the densely-packed bale.
3. Cotton within densely-packed cotton bales was exposed to ignition from a cigarette and a match and performed very well: no propagating combustion with either.
4. Cotton within densely-packed cotton bales was exposed to ignition from the gas burner source in ASTM E 1590 (also known as California Technical Bulletin 129; 12 L/min of propane gas for 180 seconds) and passed all the criteria of CA TB 129: mass loss of less than 1.36 kg (3 pounds), heat release rate less than 100 kW and total heat release of less than 25 MJ in the first 10 minutes of test.

In consequence, the US Department of Transportation (US Coast Guard), the United Nations and the International Maritime Organization have all removed the listing of baled cotton from the list of hazardous materials, and from the list of flammable solids, provided the cotton bales are the type of bales listed above.

Chapter 34, Table 34.1.3.1 Maximum Allowable Quantity of Hazardous Materials per Control Area, contains limitations for storage of baled cotton. This limitation should not be applied to “densely-packed cotton bales” as they have been shown not to be a hazardous material. In order to be able to do this, the definitions of the various types of baled cotton need to be added to the code, so that it can be made clear in Table 34.1.3.1 that it does not apply to “densely-packed cotton bales”.

A companion proposal on Table 34.1.3.1 is being sent to that chapter stating as follows: Cotton, dry, is not subject to the requirements of this Table when it is baled as “Densely-Packed Baled Cotton” as it is not a flammable solid. Densely-packed baled cotton is cotton made into baled bales, with a packing density of at least 360 kg/m^3 (22 lb/ft^3), and dimensions complying with the following: a length of 1,400 ± 20 m, a width of 530 ± 20 mm and a height of 700-900 mm.

The definitions of “Baled Cotton”, “Fire-Packed Baled Cotton” and “Naked Cotton Bale” are taken from NFPA 230, Standard for the Fire Protection of Storage (2003). Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Reject Committee Statement: Because of the committee action on Proposal 5000-891 Log #247, definitions pertaining to baled cotton are not necessary.

Number Eligible to Vote: 30 Ballot Results: Affirmative: 26 Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

Commitment on Affirmative: ALLISON: Densely-packed baled cotton clearly does not fit the definition of a flammable solid found in NFPA 5000. Therefore, the proposed changes are not necessary.

5000-192 Log #860a BLD-FUN Final Action: Accept (3.3.58.9 High-Rise Building)

Submitter: William E. Koffel, Kofef Assoc., Inc. / Rep. Chair Height & Area Task Group Recommendation: Modify the Definition as follows: 3.3.58.9* High-Rise Building. A building where the floor of an occupiable story is greater than 75 ft (23 m) above the lowest level of fire department vehicle access, in height where the building height is measured from the lowest level of fire department vehicle access to the floor of the highest occupiable story.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification.

Committee Meeting Action: Accept Committee Statement: The BLD-FUN committee notes that NFPA 5000 has responsibility in the NFPA Glossary of Terms for the definition of High-Rise Building. The current definition from NFPA 5000 is shown in the GHT as the "Preferred" definition. The revised definition will become the "Preferred".

Number Eligible to Vote: 20 Ballot Results: Affirmative: 18 Vote Not Returned: 2 CARSON, LANDMESSER

5000-193 Log #860b BLD-FIR Final Action: Accept (3.3.58.9 High-Rise Building)

Submitter: William E. Koffel, Kofef Assoc., Inc. / Rep. Chair Height & Area Task Group Recommendation: Modify the Definition as follows: 3.3.58.9* High-Rise Building. A building where the floor of an occupiable story is greater than 75 ft (23 m) above the lowest level of fire department vehicle access, in height where the building height is measured from the lowest level of fire department vehicle access to the floor of the highest occupiable story.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification.

Committee Meeting Action: Accept Committee Statement: The BLD-FUN committee notes that NFPA 5000 has responsibility in the NFPA Glossary of Terms for the definition of High-Rise Building. The current definition from NFPA 5000 is shown in the GHT as the "Preferred" definition. The revised definition will become the "Preferred".

Number Eligible to Vote: 23 Ballot Results: Affirmative: 23

5000-54
5000-194 Log #860c  BLD-IND  Final Action: Accept (3.3.6.5 High-Rise Building )
Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify the Definition as follows: 3.3.65 High-Rise Building. A building where the floor of an occupiable story is greater than 75 ft (23 m) above the lowest level of fire department vehicle access, in height where the building height is measured from the lowest level of fire department vehicle access to the floor of the highest occupiable story.
Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification.
Committee Meeting Action: Accept Number Eligible to Vote: 30 Ballot Results: Affirmative: 26 Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZZ

5000-195 Log #22a  BLD-FIR  Final Action: Reject (3.3.6.3 [3.3.444.2 Fire Resistance Rating )
Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that the action be retained as “Accept in Principle” but in lieu of including the equivalent fire test standards in an annex note, that they be included in the main body of the code text. See the related TCC note on 5000-435.
Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop the needed language to further clarify or expand on, the intent of the Code as it relates to this subject.
For review purposes, the comment as published in the A2002 ROC is reprinted below.
Comment 5000-167 reads as follows: Revise Section 3.3.63, as originally proposed by the submitter of the Proposal, to read as follows:
Fire Resistance Rating. The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials or ASTM E 119, Test Methods for Fire Tests of Building Construction and Materials.
Committee Meeting Action: Reject
Committee Statement: Test methods should not be located in the definitions.
Number Eligible to Vote: 23 Ballot Results: Affirmative: 19 Negative: 4
Explanation of Negative:
FRANCIS: The TCC directed that NFPA 5000 list ASTM E-119 and UL 252 in addition to NFPA 251 where a fire resistance rating was required. This was to be in the text rather than the Annex. This passed several ballots and was acknowledged by staff to be the text which would appear in the NFPA 5000-2003 Building Code. Unfortunately, the full intent of the TCC was not understood by staff and the appropriate references to ASTM E-119 and UL 263 did not appear in the actual text sections of the building code. The TCC has directed this committee to correct that error and, in addition to any action the TCC may choose to take this cycle, this TCC should meet the mandate in a responsible manner. Failing to include these important, nationally recognized standards which were voted into the code last cycle is improper for this committee.
GERDES: The definition already has one test method noted. The TCC submitted this change based on the need to allow other test methods. The other test method is a nationally recognized standard.
HOLMES: Change my vote to Negative. I concur with Mr. Francis’ comment and the direction previously given by the TCC on the Building Code.
KLEIN: Please register my vote as negative on this code proposal based on the comment submitted by Sam Francis’ ballot comment.

5000-196 Log #22b  BLD-FUR  Final Action: Reject (3.3.6.3 [3.3.444.2 Fire Resistance Rating )
Submitter: Technical Correlating Committee on Building Code
Recommendation: The TCC directs that the action be retained as “Accept in Principle” but in lieu of including the equivalent fire test standards in an annex note, that they be included in the main body of the code text. See the related TCC note on 5000-435.
Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject.
For review purposes, the comment as published in the A2002 ROC is reprinted below.
Comment 5000-167 reads as follows: Revise Section 3.3.63, as originally proposed by the submitter of the Proposal, to read as follows:
Fire Resistance Rating. The time, in minutes or hours, that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials or ASTM E 119, Test Methods for Fire Tests of Building Construction and Materials.
Committee Meeting Action: Reject
Committee Statement: The specific proposal is not within the scope of the committee.
Number Eligible to Vote: 10 Ballot Results: Affirmative: 9 Vote Not Returned: 1 GANDHI

Recommendation: Add a new definition to read as follows: 3.3.66 Catwalk. A walkway used to access equipment or storage racks and/or shelving and is a working platform. Catwalks may be independent of the building structure and are a component of the equipment or storage system.
Substantiation: Catwalks are used in several industries where the process of storage and removal are hand pick, such as records storage facilities, parts storage, back of house in stores, and mail order facilities. There is a need to have definitions and protection requirements for these special storage systems. They do not meet the definition of a story, floor, or mezzanine and are part of the rack structure. The catwalks are removed when the building is vacated. They are special use occupancy and normally the public is not allowed in the storage area, the storage system is used by employees only.
Committee Meeting Action: Reject
Committee Statement: The Fundamentals Committee (SAF-FUN) action of “Reject” reflects that the proposed definition of catwalk focuses on racks of storage systems. The same term is used in a different way by the BLD-AXM committee in its requirements for stages in assembly occupancies. The issue should be decided jointly by the Assembly Occupancies (BLD-AXM), Industrial/Storage Occupancies (BLD-IND), and Means of Egress (BLD-PRISM) committees under whose jurisdiction the subject falls. BLD-FUN requests that if those committee can come to agreement on an action other than Reject, the Technical Correlating Committee act to show such joint action as overruling that of BLD-IND.
Number Eligible to Vote: 29
Ballot Results: Affirmative: 18 Vote Not Returned: 2 CARSON, LANDMESSER

Recommendation: Add a new definition to read as follows: 3.3.66 Catwalk. A walkway used to access equipment or storage racks and/or shelving and is a working platform. Catwalks may be independent of the building structure and are a component of the equipment or storage system.
Substantiation: Catwalks are used in several industries where the process of storage and removal are hand pick, such as records storage facilities, parts storage, back of house in stores, and mail order facilities. There is a need to have definitions and protection requirements for these special storage systems. They do not meet the definition of a story, floor, or mezzanine and are part of the rack structure. The catwalks are removed when the building is vacated. They are special use occupancy and normally the public is not allowed in the storage area, the storage system is used by employees only.
Committee Meeting Action: Reject
Committee Statement: The submitter’s proposed definition of “Catwalk” is so specific to storage racks that it does not meet the needs of Chapter 16 which addresses assembly stage catwalks.
Number Eligible to Vote: 30
Ballot Results: Affirmative: 26 Vote Not Returned: 4 BACON, PERKINS, PRITCHETT, WERTHEIMER

5000-199 Log #41b  BLD-AXM  Final Action: Reject (3.3.66 Catwalk (New )
Recommendation: Add a new definition to read as follows: 3.3.66 Catwalk. A walkway used to access equipment or storage racks and/or shelving. Catwalks may be independent of the building structure and are a component of the equipment or storage system.
Substantiation: Catwalks are used in several industries where the process of storage and removal are hand pick, such as records storage facilities, parts storage, back of house in stores, and mail order facilities. There is a need to have definitions and protection requirements for these special storage systems. They do not meet the definition of a story, floor, or mezzanine and are part of the rack structure. The catwalks are removed when the building is vacated. They are special use occupancy and normally the public is not allowed in the storage area, the storage system is used by employees only.
Committee Meeting Action: Reject
Committee Statement: Because of the committee action on Proposal 5000-837 (Log #40), a definition of catwalk as proposed is not necessary. The committee believes that the cross-reference under "drycleaning" should be switched.
Recommendation: Move the existing definition and the cross-reference as follows, also correcting “dry cleaning” to “drycleaning” in the extracted definition as follows:
3.3.146 Dwelling Unit
A plant in which dry cleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
3.3.140.2 Drycleaning Plant
A plant in which drycleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
See 3.3.142.
Substantiation: This proposal was prepared by the Coordination Task Group for Technical Committee for Textile and Garment Care Processes, responsible for NFPA 32. The material is extracted from NFPA 32 and is technically correct except the word “drycleaning” was inadvertently extracted as “dry cleaning”. The alphabetical placement is not user-friendly and the definition as follows:
A plant in which drycleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
See 3.3.142.
Substantiation: This proposal was prepared for NFPA 32 and is technically correct except the word “drycleaning” was inadvertently extracted as “dry cleaning”. The alphabetical placement is not user-friendly and the definition as follows:
A plant in which dry cleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
See 3.3.142.
Substantiation: This proposal was prepared by the Coordination Task Group for Technical Committee for Textile and Garment Care Processes, responsible for NFPA 32. The material is extracted from NFPA 32 and is technically correct except the word “drycleaning” was inadvertently extracted as “dry cleaning”. The alphabetical placement is not user-friendly and the definition as follows:
A plant in which drycleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
See 3.3.142.
Substantiation: This proposal was prepared for NFPA 32 and is technically correct except the word “drycleaning” was inadvertently extracted as “dry cleaning”. The alphabetical placement is not user-friendly and the definition as follows:
A plant in which drycleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
See 3.3.142.
Substantiation: This proposal was prepared by the Coordination Task Group for Technical Committee for Textile and Garment Care Processes, responsible for NFPA 32. The material is extracted from NFPA 32 and is technically correct except the word “drycleaning” was inadvertently extracted as “dry cleaning”. The alphabetical placement is not user-friendly and the definition as follows:
A plant in which drycleaning and associated operations are conducted, including the office, receiving area, and storage rooms. [32:1.4]
See 3.3.142.

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Committee Meeting Action: Rejected
Committee Statement: The TCC learned at its ROP meeting which occurred after the Technical Committee on Residential Occupancies (BLD-RES) held its ROP meeting of the task group by the NEC project to address the definition of Dwelling Unit. As no new wording has yet been recommended for the definition, this proposal is shown as “Rejected.” This proposal is submitted by the TCC to permit the BLD-RES committee to make any needed changes to the definition of Dwelling Unit during ROC preparation.
Committee Meeting Action: Rejected
Committee Statement: The TCC learned at its ROP meeting which occurred after the Technical Committee on Residential Occupancies (BLD-RES) held its ROP meeting of the task group by the NEC project to address the definition of Dwelling Unit. As no new wording has yet been recommended for the definition, this proposal is shown as “Rejected.” This proposal is submitted by the TCC to permit the BLD-RES committee to make any needed changes to the definition of Dwelling Unit during ROC preparation.
Committee Meeting Action: Rejected
Committee Statement: The TCC learned at its ROP meeting which occurred after the Technical Committee on Residential Occupancies (BLD-RES) held its ROP meeting of the task group by the NEC project to address the definition of Dwelling Unit. As no new wording has yet been recommended for the definition, this proposal is shown as “Rejected.” This proposal is submitted by the TCC to permit the BLD-RES committee to make any needed changes to the definition of Dwelling Unit during ROC preparation.

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-RS requesting that the TC:
Review their action with respect to the need to call out the referenced test standard.
Recommendation: Add new definitions to read as follows:
3.3.202 Flame Spread Index. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame vs. time for a material tested in accordance with NFPA 255 or with ASTM E 84.
3.3.501 Smoke Developed Index. A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration vs. time for a material tested in accordance with NFPA 255 or with ASTM E 84. Also, after inserting the new definitions, renumber all other definitions starting at 3.3.202.
Substantiation: It is important to have definitions for flame spread index and smoke developed index in the code, as these terms are used extensively. The definitions proposed are based on the definitions in ASTM E 176, Standard Terminology of Fire Standards, developed by ASTM Committee E05 on Fire Standards. The exact definitions in ASTM E 176 are as follows:
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flame spread index, a - a comparative measure expressed as a dimensionless number, derived from visual measurements of the spread of flame vs. time in test method E84.

Discussion: Classifications have been developed using these values. This index is different from that derived in Test Methods E162 or D3675. smoke developed index, n - a comparative measure expressed as a dimensionless number, derived from measurements of smoke obscuration vs. time in test method E84.

Discussion: Classifications have been developed using these values.

Committee Meeting Action: Accept in Principle
Add new definitions to read as follows:
3.3.28 Flame Spread Index. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame vs. time for a material tested in accordance with NFPA 255 or ASTM E 84.

3.3.501 Smoke Developed Index. A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration vs. time for a material tested in accordance with NFPA 255 or ASTM E 84.

Committee Statement: The submitter’s definitions are being added, but have been editorially changed to delete the word “with” before “ASTM 84.” The BLD-FUR committee is aware that these definitions are not those from NFPA 220 and NFPA 90A which are shown as “Preferred” in the NFPA Glossary of Terms (GOT). These new definitions better meet the needs of NFPA 5000 than do those in NFPA 220 and NFPA 90A.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 17 Abstain: 1
Vote Not Returned: 2 CARSON, LANDMESSER

Explanation of Abstention:
BACHMAN: I do not feel that I have the expertise to comment on this item.

TCC Action: 1. The Technical Correlating Committee (TCC) directs that the action on this proposal be changed from Accept to:
Accept in Principle, See Proposal 5000-204.
2. The (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-FUR requesting that the TCC:
Review its action with respect to the need to call out the referenced test standard.

Recommendation: Add new definitions to read as follows:
3.3.29 Flame Spread Index. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame vs. time for a material tested in accordance with NFPA 255 or with ASTM E 84.

3.3.501 Smoke Developed Index. A comparative measure, expressed as a dimensionless number, derived from measurements of smoke obscuration vs. time for a material tested in accordance with NFPA 255 or with ASTM E 84.

Also, after inserting the new definitions, renumber all other definitions starting at 3.3.202.

Substantiation: It is important to have definitions for flame spread index and smoke developed index in the code, as these terms are used extensively. The definitions proposed are based on the definitions in ASTM E 176, Standard Terminology of Fire Standards, developed by ASTM Committee E05 on Fire Standards. The exact definitions in ASTM E 176 are as follows: flame spread index, n - a comparative measure expressed as a dimensionless number, derived from visual measurements of the spread of flame vs. time in test method E84.

Discussion: Classifications have been developed using these values. This index is different from that derived in Test Methods E162 or D3675.

smoke developed index, n - a comparative measure expressed as a dimensionless number, derived from measurements of smoke obscuration vs. time in test method E84.

Discussion: Classifications have been developed using these values.

Committee Meeting Action: Accept
Number Eligible to Vote: 10
Ballot Results: Affirmative: 8 Abstain: 1
Vote Not Returned: 1 GANDHI

Explanation of Abstention:
HIRSCHLER: I vote affirmative on all items except for the following: I abstain on items 5000-205 (Log #253b), 5000-493 (Log #313), 5000-494 (Log #254), 5000-497 (Log #899), 5000-498 (Log #256), 5000-500 (Log #259), 5000-501 (Log #263), and 5000-502 (Log #685) because of the potential for conflict of interest as I am a “Special Expert” member of the technical committee and these proposals have the potential to affect a client interest.

Submitter: Kate D. Steel, O’Keefe’s, Inc.
Recommendation: Add a new definition to read as follows:
3.3.24 Fire-Rated Glazing. Glazing installed in glass, or other transparent or translucent material with fire resistance of one of the following two categories:
(a) I-Rated Glazing. The designation that indicates that the Fire Rated Glazing has insulating properties and the maximum surface temperature on the unexposed side does not exceed a temperature rise of 250° (121°C) for the duration of the fire test exposure that the Fire Rated Glazing was exposed and for which it successfully met all of the acceptance criteria determined in accordance with NFPA 251, Section 6.2.
(b) E-Rated Glazing. The designation that indicates that the Fire Rated Glazing has endurance properties when tested in accordance with NFPA 251, Fire Tests of Building Construction and Materials to achieve a rating in terms of hours.

Substantiation: The new definitions address new technologies in the fire rated glazing industry and misconceptions about how glazing in fire rated barriers achieves degrees of safety. I-Rated glazing has an insulating property that makes it safe to touch without being burned while E-Rated glazing may not be safe to the touch. A comparative measure, fire glazing that prevents fire from propagating to other building areas. The fire rated glass industry has applications for both types of these products. It is important that these concepts be incorporated into the next editions of NFPA 5000 so that enforcement officials can recognize the distinct differences in fire protection concepts. I and E ratings are more widely used in Europe and defined in British Standard BS EN 357:2000, Glass in building — Fire resistant glazed elements with transparent or translucent glass products — Classification of fire resistance. Many of the glazing technologies have evolved from Europe and implementing standards that do not originate in the United States is consistent with the stated goals of making NFPA 5000 truly and internationally applicable document.

Committee Meeting Action: Accept in Principle
See committee action and statement on Proposal 5000-393 (Log #788a) and 5000-449 (Log #9603).

Committee Statement: See committee action and statement on Proposal 5000-393 (Log #788a) and 5000-449 (Log #9603).

Number Eligible to Vote: 23
Ballot Results: Affirmative: 23

5000-207 Log #816 BLD-BLC Final Action: Accept
(3.3.282 Horizontal Separation)

Submitter: Stephen V. Skalko, Portland Cement Association
Recommendation: Revise the definition to read as follows:
3.3.282 Horizontal Separation. The width of the permanent open space as measured horizontally between a building exterior wall and the adjacent property line or to the centerline of a facing street, alley, or public way or to an imaginary line drawn between exterior walls of adjacent buildings on the same lot.

Substantiation: One of the purposes of the term horizontal separation is to define the fire resistive requirements for exterior walls for buildings located on adjacent lots or located on the same lot. The present definition does not make it clear that the horizontal separation distance is measured to an imaginary line between buildings located on the same lot as required in 7.3.4.2. This proposal clarifies how that distance is determined.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-208 Log #CP701 BLD-FUR Final Action: Accept
(3.3.294.1 Interior Ceiling Finish)

Submitter: Technical Committee on Furnishings and Contents
Recommendation: Revise the definition of Interior Ceiling Finish to read as follows:
“Interior Ceiling Finish. The interior finish of ceilings.”

Substantiation: The is a minor editorial revision that makes the definition of interior ceiling finish consistent between NFPA 101 and NFPA 5000.

Committee Meeting Action: Accept
Number Eligible to Vote: 10
Ballot Results: Affirmative: 9
Vote Not Returned: 1 GANDHI

5000-209 Log #156 BLD-IND Final Action: Accept
(3.3.313.1 Combustible Liquid)

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Revise to read as follows:
3.3.313.1 Combustible Liquid. A liquid having a closed cup flash point at or above 100°F (37.8°C).

Substantiation: The closed cup test method is the best method for combustible liquids. This tells which test method should be used in determining if a liquid is a combustible liquid.

Committee Meeting Action: Accept in Principle
See Committee Proposal 5000-175 (Log #CP15).

Committee Statement: See Committee Proposal 5000-175 (Log #CP15).
Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ
5000-210 Log #681 BLD-MAT Final Action: Accept in Principle  
(3.3.340.1 Aluminum Composite Material (ACM))


Recommendation: Revise definition to read as follows:

3.3.340.1 Aluminum Composite Material (ACM). A factory-manufactured panel consisting of aluminum skins bonded to both faces of a plastic core made of any plastic other than foam plastic insulation as defined in 3.3.224.

Substantiation: The purpose of this proposal is to indicate that the intent of Section 37.4 Aluminum Composite Materials is to address those composite panels that contain a plastic core which does not consist of a foam plastic insulation as defined in 3.3.224. The requirements specified in Section 37.4 were developed to address very specific types of aluminum composite materials that perform differently than assemblies containing foam plastic insulation from which many of the criteria were originally derived when these products were first developed and used in building construction. However, the requirements for these materials have evolved over time, which has resulted in a specific section that addresses aluminum composite materials. Therefore, so that other materials such as foam plastic insulation in an aluminum composite panel are not included in the requirements for Section 37.4, we are making this proposal. Foam plastic insulation as defined in 3.3.224 is a low density foamed plastic which has a density of less than 20 lb per cu ft. Some of the plastic cores used in aluminum composite materials manufactured today contain foamed plastic, but the foam plastic has a significantly greater density since it is intended to perform more as a structural foam plastic rather than an insulating foam plastic. Aluminum composite material panels are basically decorative panels that also provide weather resistance but are not intended to achieve any significant degree of insulation value for the building exterior envelope. Since exterior wall systems containing foam plastics are currently regulated by 48.4.1, this proposal will make it clear that aluminum composite materials are regulated by Section 37.4 and foam plastic insulation exterior wall panels are not.

Committee Meeting Action: Accept in Principle

Revise definition to read as follows:

3.3.340.1 Aluminum Metal Composite Material (AMCM). A factory-manufactured panel consisting of aluminum metal skins bonded to both faces of a plastic core made of any plastic other than foam plastic insulation as defined in 3.3.224.

Committee Statement: These additional modifications coordinate the definition with the committee action on Proposal 5000-960 (Log #606).

Number Eligible to Vote: 20

Affirmative: 13   Negative: 1

Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

Explanation of Abstention:

BIETEL: While I have no client interest on this Committee, I shall abstain under Section 3-3 of the “Guide For The Conduct Of Participants In the NFPA Codes And Standards Development Process”.

5000-211 Log #CP1618 BLD-IND Final Action: Accept  
(3.3.340.7 Hazardous Production Material (HPM))

Submitter: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

Recommendation: Revise 3.3.340.7, definition of hazardous production material, to read as follows:

3.3.340.7 Hazardous Production Material (HPM). A solid, liquid, or gas associated with semiconduction manufacturing that has a degree of hazard rating of 3 or 4 in health, flammability, instability or water reactivity as ranked in accordance with NFPA 704 and that is used directly in research, laboratory, or production processes that have as their end product materials that are not hazardous.

Substantiation: This is an editorial change that provides a more accurate description of HPM.

Committee Meeting Action: Accept

Number Eligible to Vote: 30

Affirmative: 26

Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

5000-212 Log #CP907 BLD-BLC Final Action: Accept  
(3.3.340.10 Limited Combustible)

Submitter: Technical Committee on Building Construction

Recommendation: Modify the definition of Limited Combustible as follows:

Limited Combustible Material. Refers to a building construction material not complying with the definition of noncombustible that, in the form in which it is used, has a potential heat value not exceeding 8141 kJ/kg (3500 Btu/lb), where tested in accordance with NFPA 259, Standard Test Method For Potential Heat of Building Materials, and includes either of the following:

1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 3.2 mm (1/8 in.) that has a flame spread index not greater than 50.

2) materials, in the form and thickness used having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion, when tested in accordance with NFPA 220, Standard Method of Test of Surface Burning Characteristics of Building Materials, or ASTM E 84.

Substantiation: The Technical Committee added the reference to NFPA 255 and ASTM E 84 to the definition for further clarification.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Affirmative: 18   Negative: 1

Vote Not Returned: 4 BARBARODO, FOSTER, GEMENY, WESSEL

Explanation of Negative:

DAVIS: Number (1) in the proposal does not refer to NFPA 255 or ASTM E 84. The definition accepted by this committee in 220-4 (Log #CP2) for NFPA 220 should be accepted here.

5000-213 Log #566 BLD-FIR Final Action: Reject  
(3.3.340.10 Limited-Combustible (Material))

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted to the TCC’s name to BLDFIR and BLDBLC requesting that the TCs:

Give consideration to Francis’ and Klein’s explanation of negative so as to make any needed changes. The TCC notes that the proposed change in Proposal 5000-212 may be an appropriate proposal to address the subject.


Recommendation: Revise to read as follows:

3.3.340.10 Limited-Combustible (Material). Refers to a building construction material not…progressive combustion. Where the term limited-combustible is used in this Code, it shall also include noncombustible.

Delete without replacement:

7.1.1 Terminology: Where the term limited combustible is used in this Code, it shall also include noncombustible.

Substantiation: The intent of this proposal is to relocate information vital to the correct application of the term “limited-combustible” in the most appropriate location.

Currently the provision that tells the user that “limited-combustibles” include “combustibles” is found in 7.1.4. This proposal seeks to relocate this information within the definition of limited-combustible."

Committee Meeting Action: Reject

Committee Statement: The proposal adds a requirement to the definition which is not permitted per NFPA’s Manual of Style.

Number Eligible to Vote: 23

Affirmative: 21   Negative: 2

Explanation of Negative:

FRANCIS: The submitter has correctly identified a flaw in the current code. It is inherent in the term “Limited Combustible” that noncombustible is also included. However, by making that assertion in Chapter 7, any Occupancy or other core chapter TC may choose to ignore that inherent equivalency. I agree that it belongs in the definition to make the relationship absolutely clear.

KLEIN: Please register my vote as negative on this code proposal based on Sam Francis’ ballot comment.

5000-214 Log #219a BLD-MAT Final Action: Accept in Principle  
(3.3.340.16 Thermoplastic Material)

Submitter: John C. Harrington, FM Global

Recommendation: Add a new sentence as follows after the existing definition of Thermoplastic Material:

“Examples are, PVC, EPS, polycarbonate, PMMA, and polyethylene.”

Substantiation: The existing definition for Thermoplastic Material may not provide the code user with a clear picture of what type of plastic materials fit this category. Examples will be useful.

Committee Meeting Action: Accept in Principle

Add the following annex note to 3.3.340.16. A.3.3.40.16 Examples of thermoplastic materials include polystyrene, polycarbonate, polymethylmethacrylate, polyethylene, and some formulations of polyvinyl chloride.

Committee Statement: The Technical Committee agreed that examples would be helpful to the user. However, it is not appropriate to add the
examples to the definition found in Chapter 3. Instead, these examples have been incorporated into an annex note on the definition.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-215 Log #219b BLD-IND Final Action: Accept in Principle
(3.3.340.16 Thermoplastic Material )

Submitter: John C. Harrington, FM Global
Recommendation: Add a new sentence as follows after the existing definition of Thermoplastic Material:

“Examples are, PVC, EPS, polycarbonate, PMMA, and polyethylene.”

Substantiation: The existing definition for Thermoset Material may not provide the code user with a clear picture of what type of plastic materials fit this category. Examples will be useful.

Committee Meeting Action: Accept in Principle
Add the following as an annex note to 3.3.340.16 :

A.3.3.340.16 Examples of thermoplastic materials include polystyrene, polycarbonate, polymethylmethacrylate, polyethylene, and some formulations of polystyrene.

Committee Statement: The Technical Committee agreed that examples would be helpful to the user. However, it is not appropriate to add the examples to the definition found in Chapter 3. Instead, these examples have been incorporated into an annex note on the definition.

Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

5000-216 Log #220a BLD-MAT Final Action: Accept in Principle
(3.3.340.17 Thermoset Material )

Submitter: John C. Harrington, FM Global
Recommendation: Add a new sentence as follows after the existing definition of Thermoset Material:

“Examples are, polyurethane, polysocyanurate, FRP, phenolic foam, and melamine.”

Substantiation: The existing definition for Thermoset Material may not provide the code user with a clear picture of what type of plastic materials fit this category. Examples will be useful.

Committee Meeting Action: Accept in Principle
Add the following annex note to 3.3.340.17 :

A.3.3.340.17 Examples of thermoset materials include polyurethane, polysocyanurate, fiber reinforced plastic, phenolic foam, and melamine.

Committee Statement: The Technical Committee agreed that examples would be helpful to the user. However, it is not appropriate to add the examples to the definition found in Chapter 3. Instead, these examples have been incorporated into an annex note on the definition.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 14
Vote Not Returned: 6 CLARK, HOGAN, JONES, STEVENSON, THOMAS, VEITAS

5000-217 Log #220b BLD-IND Final Action: Accept in Principle
(3.3.340.17 Thermoset Material )

Submitter: John C. Harrington, FM Global
Recommendation: Add a new sentence as follows after the existing definition of Thermoset Material:

“Examples are, polyurethane, polysocyanurate, FRP, phenolic foam, and melamine.”

Substantiation: The existing definition for Thermoset Material may not provide the code user with a clear picture of what type of plastic materials fit this category. Examples will be useful.

Committee Meeting Action: Accept in Principle
Add the following annex note to 3.3.340.17 :

A.3.3.340.17 Examples of thermoset materials include polyurethane, polysocyanurate, fiber reinforced plastic, phenolic foam, and melamine.

Committee Statement: The Technical Committee agreed that examples would be helpful to the user. However, it is not appropriate to add the examples to the definition found in Chapter 3. Instead, these examples have been incorporated into an annex note on the definition.

Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

5000-218 Log #180 BLD-IND Final Action: Reject
(3.3.340.19 Unstable (Reactive) Material )

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Revise to read as follows:

3.3.340.19* Unstable (Reactive) Material. A material that, in the pure state or as commercially produced or as a result of a reaction in a process, will vigorously polymerize, decompose or condense, become self reactive, or otherwise undergo a violent chemical change under conditions of shock, pressure, or temperature.

Substantiation: These changes make sure that commercially produced or result of a reaction in a process unstable material will be classified correctly.

Committee Meeting Action: Reject
Committee Statement: The committee does not believe that the proposed revision serves to clarify the current definition. The reactivity of a material is not dependent upon an industrial process in which the material is involved. If the submitter is concerned with specific processes, than proposals should be developed that address these processes.

Number Eligible to Vote: 30
Ballot Results: Affirmative: 26
Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

5000-219 Log #CP600 BLD-FIR Final Action: Accept
(3.3.345.1 Membrane )

Submitter: Technical Committee on Fire Protection Features
Recommendation: Add a second definition for the term "membrane" to read as follows:

"Membrane. As used in Chapter 8, a thin layer of construction material such as guspsan board, plywood, glass, fabric, etc."

Substantiation: The current definition of membrane pertains to air-supported structures. The additional definition provides a description of the term within the context of fire and smoke barriers in which it is also used.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 23

5000-220 Log #CP1200 BLD-DET Final Action: Accept
(3.3.371.4 Detention and Correctional Occupancy, 6.1.7.1 and 3.3.x Lock-up (New) )

Submitter: Technical Committee on Detention and Correctional Occupancies
Recommendation: Revise definition of Detention and Correctional Occupancy as follows:

3.3.371.4* Detention and Correctional Occupancy. An occupancy used to house one or more persons under varied degrees of restraint or security where such occupants are mostly incapable of self-preservation because of security measures not under the occupants’ control.

6.1.7.1* Definition - Detention and Correctional Occupancy. An occupancy used to house one or more persons under varied degrees of restraint or security where such occupants are mostly incapable of self-preservation because of security measures not under the occupants’ control.

To the end of annex text A.3.3.371.4 add: “See A.21.1.1.4.”

To the end of annex text A.6.1.7.1 add: “See A.21.1.1.4.”

Add a definition of Lock-up as follows:

3.3.x Lock-up. An area in other than a detention and correctional facility, where occupants are restrained and such occupants are mostly incapable of self-preservation because of security measures not under the occupants’ control.

Substantiation: The changes proposed are to support new subsection 21.4.5 on Lock-ups addressed by Committee Proposal 5000-707 (Log #CP1201). Lock-ups occur in occupancies other than detention and correctional, and the locking of 1 or more occupants is sufficient to impose protection criteria in addition to that of the predominant occupancy. The threshold for detention and correctional occupancies must be changed from 4 persons to 1 person for correlation. Lock-ups where any individual remains more than 24 hours or large lock-ups (those with more than 50 detainees) need the same protection package as required of a detention and correctional occupancy. See proposed new 21.4.5 as addressed by the referenced proposal.

Committee Meeting Action: Accept
Number Eligible to Vote: 19
Ballot Results: Affirmative: 16 Negative: 1
Vote Not Returned: 2 AMBROSE, NEALY

Explanation of Negative: ISMAN: Regarding BLD-DET, we are voting affirmatively on the ballot except for 5000-220 (Log #CP1200) and 5000-707 (Log #CP1201). Our reasons for voting negatively are as follows:
We agree that the committee needs to address the issue of “lock-ups”, but are concerned with the loopholes left by the committee proposal. As proposed by the committee, a “lock-up” can be a substantial portion of another occupancy and ignore all of the rules of the Detection and Correctional chapter as long as it holds less than 50 people. It would be fairly easy to design a series of buildings to house 49 people where 90 percent of the building was the “lock-up” and 10 percent was some other occupancy (such as offices for the staff), which would meet the definition of “lock-up” and avoid the rules of Chapter 21 completely. We believe that the provisions for a “lock-up” need to be limited to incidental uses as described in 6.2 of the Code.

5000-221 Log #CP13031 BLD-HEA Final Action: Accept (3.3.371.6.1 Ambulatory Health Care Occupancy and 6.1.6.1)

Submitter: Technical Committee on Health Care Occupancies
Recommendation: Revise 3.3.371.6.1 definition as follows: Ambulatory Health Care Occupancy. A building or portion thereof used to provide services or treatment simultaneously to four or more patients that provides, on an outpatient basis, one or more of the following:
(1) Treatment for patients that renders the patients incapable of taking action for self-preservation under emergency conditions without the assistance of others;
(2) Provides, on an outpatient basis, anesthesia that renders the patients incapable of taking action for self-preservation under emergency conditions without the assistance of others;
(3) Emergency care or emergency care for patients who, due to the nature of their injury or illness, are incapable of taking action for self-preservation under emergency conditions without the assistance of others.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 21
Vote Not Returned: 2 BROOKS, FREIRE

5000-224 Log #550a BLD-FUN Final Action: Reject (3.3.371.12 Residential Board and Care Occupancy)

Submitter: Ignatius Kapalczynski West Hartford, CT
Recommendation: Revise the definition to read as follows: Residential Board and Care/Assisted Living Facilities Occupancy. A building or portion thereof housing that is used for lodging and boarding of four or more residents, not related by blood or marriage to the owners or operators on a 24 hr basis, who because of age, mental disability or other reasons, live in a supervised residential environment which provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff.
Substantiation: This definition simply and directly identifies the minimal self preservation capabilities expected of the residents in order to be in a Board and Care occupancy. This eliminates the need to establish requirements based on evacuation capability in Chapter 26, simplifies the enforcement of the remaining Board and Care requirements, and reduces the possibility of misclassification of small health care facilities housing medically fragile residents as board and care occupancies.

Committee Meeting Action: Reject
Committee Statement: Although the committee agrees assisted living facilities fall under the scope of residential board and care occupancies (see A.3.3.371.12), it chose the term ‘residential board and care’ to cover a broad range of facilities. Occupancy classification should always be based on the purpose of a building and not on what it is called. Also, the proposed last sentence regarding evacuation capability is incorrect; residential board and care occupancies can include those in which evacuation of occupants is impractical.

Number Eligible to Vote: 12
Ballot Results: Affirmative: 10
Vote Not Returned: 2 HOFFMAN, NELSON
5000-226 Log #240  BLD-IND  Final Action: Accept in Principle
(3.3.387 Oxidizer)

Recommendation: Revise the definition to read as follows:
3.3.387 Oxidizer. Any material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials and can undergo a vigorous self-sustained decomposition due to contamination or heat exposure.
3.3.387.1 Class 1. An oxidizer that does not moderately increase the burning rate of combustible materials with which it comes into contact.
3.3.387.2 Class 2. An oxidizer that causes a moderate increase in the burning rate of combustible materials with which it comes into contact.
3.3.387.3 Class 3. An oxidizer that causes a severe increase in the burning rate of combustible materials with which it comes into contact.
Substantiation: This is a proposal of the Technical Committee on Hazardous Chemicals based on the HCS’s current ROP on NFPA 430.
Committee Meeting Action: Accept in Principle
Committee Statement: This action meets the intent of the submitter, and provides for consistent language with other parts of NFPA 5000.

5000-227 Log #604  BLD-MAT  Final Action: Reject
(3.3.412.1 Cellular or Foamed Plastic)

Submitter: Jesse J. Beitel, Hughes Assoc., Inc.
Recommendation: Delete existing 3.3.412.1 and replace with definition of Foam Plastic Insulation as currently shown in 3.3.224. Section 3.3.224 can then be deleted.
Substantiation: The primary definition of foam plastic insulation is as defined in 3.3.224 and in Chapter 48. This is the definition that the plastics industry has used for over 30 years. The definition of “Cellular or Foamed Plastic” as in 3.3.412.1 is confusing with respect to 3.3.224 and it is not used in NFPA 5000. It is a very generic definition that serves no purpose.
Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The terminology is currently used in Chapter 10, and, consequently, should not be deleted.

5000-230 Log #112  BLD-IND  Final Action: Accept in Principle
(3.3.470.6 Liquid Storage Room)

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Revise text to read as follows: 3.3.470.6 Liquid Storage Room. A room used for the storage of flammable or combustible liquids in a closed condition that satisfies the requirements of this Code for high hazard Protection Level 3 contents.
Substantiation: NFPA 5000 uses the word “protection” when they are talking about hazards.
Committee Meeting Action: Accept in Principle
Committee Statement: See Committee Proposal 5000-914 (Log #CP1601).

5000-231 Log #162  BLD-FUN  Final Action: Reject
(3.3.488.1 Shall Be Permitted (New))

Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Add a new definition to read as follows: 3.3.488.1 Shall Be Permitted. Shall be allowed.
Substantiation: The word “permitted” to the building department means that a permit is required and they need to issue one. By adding this definition one knows the intent of the phrase.
Committee Meeting Action: Reject
Committee Statement: The issue raised by the submitter has not been a problem.

5000-232 Log #241a  BLD-FUN  Final Action: Reject
(3.3.504 Soft Contained Play Equipment (New))

Recommendation: Add a new definition to read as follows: 3.3.504 soft contained play equipment - a play structure made up of one or more components where the user enters a fully enclosed play environment that utilizes pliable material(s) (for example, plastics, netting, or fabric).
Substantiation: This proposal is consistent with the proposals made to Chapter 27 of NFPA 5000 and Chapters 36 and 37 of NFPA 101 to incorporate requirements for children’s playgrounds in malls, which are normally made of soft contained play equipment. Such structures can be quite unsafe, and a Standard Safety Performance Specification for Soft Contained Play Equipment (ASTM F1918) exists and the fire safety requirements for materials in that standard should be followed, as a minimum. The definition is
added to clarify the type of structure involved. This was requested at the last cycle by the technical committees on Assembly Occupancies and Educational and Day-Care Occupancies. The three proposals made to Chapter 27 that use this definition are as follows:

Children Playground Materials Based on ASTM F 1918: 27.4.4.13 Children's Playground Structures. Structures intended as children's playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.

(5) Textiles and films complying with the fire propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


Children Playground Materials Based on ASTM F 1918, with rubber flooring:

27.4.4.13 Children's Playground Structures. Structures intended as children's playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.


(7) The floor covering placed under the children’s playground structure shall exhibit a Class I interior floor finish classification, as described in section 10.6, when tested in accordance with NFPA 253.

(8) Children Playground Materials Based on ASTM F 1918 in Annex:

27.4.4.13b Children’s Playground Structures. Structures intended as children’s playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics (including the pipe foam used in soft-contained play equipment structures) having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.

(5) Textiles and films complying with the fire propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(6) Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, window, panels, junction boxes, pipes, slides, and decks) meeting the UL 94 V-2 classification when tested in accordance with UL 94, Test for Flammability of Plastic Materials for Parts, Devices, and Appliances.

(7) Ball pool balls, used in soft-contained play equipment structures, having a maximum heat release rate not greater than 100 kW when tested in accordance with UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes. The minimum specimen test size shall be 910 mm by 910 mm (36 in. by 36 in.) by an average of 560 mm (21 in). deep and the balls shall be held in a box constructed of galvanized steel poultry netting, wire mesh

(8) Foam plastics shall be covered by a fabric, coating, or film meeting the fire propagation performance criteria of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

(9) The floor covering placed under the children’s playground structure shall exhibit a Class I interior floor finish classification, as described in section 10.6, when tested in accordance with NFPA 253.

A.27.4.4.13 Soft-contained play equipment structures are commonly present inside shopping malls. Such structures are not classified as interior finish, as decorative objects, as plastic signs, as kiosks, or as exhibit booths, for all of which there are requirements in the Life Safety Code, NFPA 101, or in the Building Construction and Safety Code, NFPA 5000. A fire test conducted on a small version of a soft-contained play equipment structure, constructed of materials complying with Section 11.5 of ASTM F 1918, Standard Safety Performance Specification for Soft Contained Play Equipment generated a very severe fire (exceeding 5 MW of heat release rate, and 1,000 m2 of smoke released, before extinction). Therefore, the materials of construction of children’s playground structures should be regulated and should also exceed the materials requirements of section 11.5 of ASTM F 1918. ASTM F 1918 requires that plastic materials used for rigid components to comply with a UL 94 HB classification when tested to UL 94, Test for Flammability of Plastic Materials for Parts, Devices, and Appliances; (2) materials used for foam padding (excluding pipe foam) to comply with the requirements of California Technical Bulletin 177, Section A, Requirements, Test Procedure and Approvals for Testing the Fire Protection of Upholstered Furniture; (3) materials used for foam padding to be covered by a fabric, coating, or film that meets the requirements of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films; (4) materials used for pipe foam padding to comply with the requirements of UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, with a peak heat release rate not exceeding 100 kW; (5) materials used for ball pool balls to comply with the requirements of UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, with a peak heat release rate not exceeding 100 kW and (6) knitted and woven fabrics, whether coated or uncoated, to comply with the requirements of NFPA 701, Standard Methods of Fire Test for Flame Resistant Textiles and Films. The requirements of section 27.4.4.13 exceed those of section 11.5 of ASTM F 1918 for both rigid plastics and textiles, and permit the use of other materials, similar to those permitted for use in kiosks and other small structures.

Note: Supporting material is available for review at NFPA Headquarters.
(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.

(5) Textiles and films complying with the fire propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


Children’s Playground Structures.

Structures intended as children’s playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following requirements:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.


The floor covering placed under the children’s playground structure shall exhibit a Class I interior floor finish classification, as described in section 10.6, when tested in accordance with NFPA 253.

Children Playground Materials Based on fire test requirements with ASTM F 1918 in Annex.

Children’s Playground Structures.

Structures intended as children’s playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following requirements:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics containing the pipe foam used in soft-contained play equipment structures having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.

(5) Textiles and films complying with the fire propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


Children’s Playground Structures.

Structures intended as children’s playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following requirements:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.

(5) Textiles and films complying with the fire propagation performance criteria contained in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.


Children’s Playground Structures.

Structures intended as children’s playgrounds shall be constructed of noncombustible or limited-combustible materials or of combustible materials that comply with the following requirements:


(2) Light-transmitting plastics complying with Chapter 48.

(3) Foam plastics having a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975.

(4) Aluminum composite material (ACM) meeting the requirements of Class A interior finish in accordance with Chapter 10 when tested as an assembly in the maximum thickness intended for use.

5000-234 Log #241c BLD-MER Final Action: Reject

3.5.304 Soft contained Play Equipment (New)


Recommendation: Add a new definition to read as follows:

3.5.304 soft contained play equipment - a play structure made up of one or more components where the user enters a fully enclosed play environment that utilizes pliable material(s) (for example, plastic, netting, or fabric).

Affirmative: 26

Ballot Results: Affirmative: 26

Vote Not Returned: 4

BACON, PERKINS, Pritchett, Wertheimer
the maximum thickness intended for use.

(5) Textiles and films complying with the fire propagation performance

criteria of NFPA 701, Standard Methods of Fire Tests for Flame Propagation

of Textiles and Films.

(6) Combustible materials complying with the material fire safety

requirements contained in Section 11.5 of ASTM F 1918, Standard Safety


(7) Fire retardant-impregnated wood complying with the requirements for fire

retardant-impregnated wood in NFPA 703, Standard for Fire Retardant

Impregnated Wood and Fire Retardant Coatings for Building Materials.

(8) Light-transmitting plastics complying with the requirements for plastic

foam pipes tested in accordance with UL 48.

(9) Foam plastics (including the pipe foam used in soft-contained play

equipment structures) having a maximum heat-release rate not greater than

100 kW when tested in accordance with UL 795.

(10) Aluminum composite material (ACM) meeting the requirements of Class

A interior finish in accordance with Chapter 10 when tested as an assembly in

the maximum thickness intended for use.

(11) Textiles and films complying with the fire propagation performance

criteria of NFPA 701, Standard Methods of Fire Tests for Flame Propagation

of Textiles and Films.

(12) Plastic materials used to construct rigid components to comply with

the materials requirements of Section 11.5 of ASTM F 1918. ASTM F 1918

requires: (1) plastic materials used for rigid components to comply with a UL

797- 27.4.4.13 Children’s Playground Structures. Structures intended as

children’s playgrounds shall be constructed of noncombustible or limited-

combustible materials or of combustible materials that comply with the

following:

(1) Fire retardant-treated wood complying with the requirements for fire

retardant-impregnated wood in NFPA 703, Standard for Fire Retardant

Impregnated Wood and Fire Retardant Coatings for Building Materials.

(2) Light-transmitting plastics complying with the requirements for plastic

foam pipes tested in accordance with UL 48.

(3) Foam plastics (including the pipe foam used in soft-contained play

equipment structures) having a maximum heat-release rate not greater than

100 kW when tested in accordance with UL 795. Fire Tests for Foamed Plastics Used for

Decorative Purposes. The minimum specimen test size shall be 910 mm by

910 mm (36 in. by 36 in.) by an average of 560 mm (22 in.) deep, and the

balls shall be held in a box constructed of galvanized steel poultry netting

wire mesh.

(5) Foam plastics shall be covered by a fabric, coating, or film meeting the,

fire propagation performance criteria of NFPA 701, Standard Methods of Fire

Tests for Flame Propagation of Textiles and Films.

(6) Plastic materials used to construct rigid components to comply with

the materials requirements of Section 11.5 of ASTM F 1918. The fire test conducted

on a small version of a soft-contained play equipment structure, constructed of

materials complying with Section 11.5 of ASTM F 1918, Standard Safety

Performance Specification for Soft Contained Play Equipment generated a

very brief period of low heat release rate, and a peak 40 kW and

smoke release, before extinction). Therefore, the materials of

construction of children’s playground structures should be regulated and should also

require high performance ratings for the fire resistance of the structure.

The materials requirements of NFPA 101 define the performance

criteria of NFPA 701, Standard Methods of Fire Tests for Flammable

Materials for Parts, Devices, and Appliances. (2) materials used for foam

padding (excluding foam pipe) to comply with the requirements of California

Technical Bulletin 217, Section A, Requirements, Test Procedure and


Used in Upholstered Furniture; (3) materials used for foam padding to be

covered by a fabric, coating, or film that meets the requirements of NFPA 701,


(4) materials used for pipe foam padding to comply with the requirements of

UL 795, Fire Tests for Foamed Plastics Used for Decorative Purposes,

with a peak heat release rate not exceeding 100 kW. The materials used for

pipe foam padding comply with the requirements of UL 795, Fire Tests for

Foamed Plastics Used for Decorative Purposes, with a peak heat release rate

not exceeding 100 kW and (6) knitted and woven fabrics, whether coated or

uncoated, to comply with the requirements of NFPA 701, Standard Methods of

Fire Tests for Flammable Materials for Parts, Devices, and Appliances.

Textile Requirements of section 27.4.4.13 exceed those of Section 11.5 of ASTM F 1918 for both rigid

plastics and textiles, and permit the use of other materials, similar to those

permitted for use in kiosks and other mall structures.

Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Reject

Committee Statement: The term is not used in the code. The committee is of

the opinion that the proposed language regarding soft contained play

equipment and children’s playground structures as submitted is incomplete and

would create enforcement problems. Additional information about the

playground structures such as that pertaining to location, size and separation of

components is not included. The committee also has concerns about the

applicability of the test methods referenced. The substantiation also lacks

sufficient details about the perceived risk to occupants. Also see Proposals

5000-797 (Log #242), 5000-799 (Log #266), and 5000-802 (Log #896).

5000-235 Log #541 BLD-AXM Final Action: Reject

3.3.516 Stage, 3.3.516.1 Legitimate Stage, and 3.3.516.2 Regular Stage )


Recommendation: Revise to read as follows:

3.3.516 Stage. A space within a building used for entertainment or

presentations, which includes overhead hanging curtains, drops, scenery or

stage effects other than lighting and sound, and utilizing drops or scenery or

stage effects.

3.3.516.1 Legitimate Stage. A stage with a height greater than 50 ft (15 m)

measured from the lowest point on the stage floor to the highest point of the

roof or floor deck above. A fixed stage in a theater or auditorium using a “two

box” design where the audience is seated in one box, and the performance

area is in another, separated by a proscenium wall. The stage area contains

drapes, drop drops, scenery, lighting devices; and other stage effects

that are retractable either horizontally or vertically and with an available

fly space. Legitimate stages consist of prosenium stages, which have the

entire stage behind the prosenium wall or thrust stages where one of third or

less the area of the stage behind the prosenium wall is continued past the

proscenium wall into the audience or auditorium.

3.3.516.2 Regular Stage. A stage with a height of 50 ft (15 m) or less

measured from the lowest point on the stage floor to the highest point of the

roof or floor deck above. A stage wherein scenery is not retractable. A valance, light,

through the main curtain, and a single backdrop can be retractable without the

stage being considered a legitimate stage.

Substantiation: The proposed definition removes prescriptive requirements and

restates the legitimate stage as one which includes prosenium stages and thrust stages. The regular stage definition is the NFPA 101 definition for regular stages that was used until 1997 when the current definition was inserted. These definitions are offered to complete content proposals for Assembly Occupancy stage requirements.

Committee Meeting Action: Reject

Committee Statement: Changes to the stage definitions have been considered during recent revision cycles of NFPA 101. The changes are to the initial development cycle for NFPA 5000, as documented in the ROPs and ROCs. The submitter has not provided any compelling evidence that changes are needed.

The word “retractable” still presents problems. The committee is unclear as to why something should be considered to be more hazardous just because it can be moved. The proposed definition would have the effect of adding “proscenium wall” requirements. The “two box” design would eliminate other possible construction types and arrangements. The deletion of the 50 ft criterion would have the effect of changing the criteria of Chapter 12 and Chapter 13. A definition change should not be used to impose new requirements.

Number Eligible to Vote: 30

Ballot Results: Affirmative: 26

Vote Not Returned: 4 BACON, PERKINS, PRITCHETT, WERTHEIMER

5000-236 Log #543 BLD-AXM Final Action: Reject

3.3.516.3 Arena Stage, 3.3.516.4 Theater-in-the-Round (New)


Recommendation: Add a new definition to 3.3.516.3 to read:

3.3.516.3 Arena Stage. A stage or platform open on at least three sides to

audience seating with the stage adjacent to the audience having more than

one third of the total stage area. An arena stage may contain overhead scene-

handling facilities.

Add a new definition to 3.3.516.4 to read:

3.3.516.4 Theater-in-the-Round. A stage that has audience seating on all

sides. A theater-in-the-round may contain overhead scene-handling facilities.

Substantiation: These definitions are offered to complete content proposals for

Assembly Occupancy stage requirements and are used in other proposals.

Committee Meeting Action: Reject

Committee Statement: The definitions are not needed given that Proposal

5000-235 (Log #541) was Rejected.

Number Eligible to Vote: 26

Ballot Results: Affirmative: 26

Vote Not Returned: 4 BACON, PERKINS, PRITCHETT, WERTHEIMER

5000-237 Log #CP19 BLD-STR Final Action: Accept

3.3.521.3 Attic Story

Submitter: Technical Committee on Structures and Construction

Recommendation: Modify 3.3.521.3 as follows:

3.3.521.3 Attic Story. The space between the ceiling of the top

habitable story and the roof that may be used for storage or

habitation.
This modification eliminates a conflict, which appears within the definition. The Technical Committee anticipates that additional modification will need to be done on this definition during the public comment period.

Committee Meeting Action: Accept
Number Eligible to Vote: 26
Ballot Results: Affirmative: 23 Abstain: 1
Vote Not Returned: 2

Explanation of Abstention: ROSSBERG: I’ve been unable to review the material so that I can cast a knowledgeable vote.

5000-238 Log #CP903 BLD-BLC Final Action: Accept (3.3.530.12 Roof Structure)

Submitter: Technical Committee on Building Construction
Recommendation: Change the term from ‘roof structure’ to ‘roof components’
Substantiation: The Technical Committee modified the terminology to coordinate with language found in Section 38.12.
Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4

5000-239 Log #CP713 BLD-BSF Final Action: Accept (3.3.536 Automatic Fire Extinguishing System)

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BSF requesting that the TCC:
Review this action and determine if a further change is necessary to add the preferred definition from NFPA 1141.
Submitter: Technical Committee on Building Service and Fire Protection Equipment
Recommendation: Delete the definition of ‘Automatic Fire Extinguishing System.’
Substantiation: The NFPA 5000 definition conflicts with the preferred NFPA 1141 definition, and the term should be readily understandable by users of the Code.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

5000-240 Log #513a BLD-FIR Final Action: Reject (3.3.553, 3.3.554 Two-Family Dwelling, Transparent Composite Panels (New))

Submitter: Kate D. Steel, O’Keeffe’s, Inc.
Recommendation: 3.3.553 Two-Family Dwelling becomes 3.3.554. New 3.3.553 Transparent Composite Panel... Add a new definition as follows: 3.3.553 Transparent Composite Panels, Transparent Composite Panels that limit the temperature rise on the unexposed surface and withstand the impact of the hose stream test as required for wall for the required duration in accordance with NFPA 251, Standard for Tests of Fire Endurance of Building Construction and Materials, and subsequently tested in accordance with NFPA 252, Standard Methods of Fire Tests of Door Assemblies, or NFPA 257, Standard on Fire Test for Window and Glass Block Assemblies, shall be limited to the maximum area tested in doors or windows having a fire protection rating of 1 1/2 - hours or less.
Substantiation: The definition of a Transparent Composite Panel should be included in NFPA 5000 as it is also a new definition in NFPA 80. These materials need to be defined in both documents for ease of coordination and code enforcement.
Committee Meeting Action: Reject
Committee Statement: The proposed term is not used in NFPA 5000 or in NFPA 80. Additionally, the committee notes that the submitter proposes a requirement in a definition which is not permitted per NFPA’s Manual of Substantiation:

5000-241 Log #513b BLD-MAT Final Action: Reject (3.3.553, 3.3.554 Two-Family Dwelling, Transparent Composite Panels (New))

Submitter: Kate D. Steel, O’Keeffe’s, Inc.
Recommendation: 3.3.553 Two-Family Dwelling becomes 3.3.554. New 3.3.553 Transparent Composite Panel... Add a new definition as follows: 3.3.553 Transparent Composite Panels, Transparent Composite Panels that limit the temperature rise on the unexposed surface and withstand the impact of the hose stream test as required for wall for the required duration in accordance with NFPA 251, Standard for Tests of Fire Endurance of Building Construction and Materials, and subsequently tested in accordance with NFPA 252, Standard Methods of Fire Tests of Door Assemblies, or NFPA 257, Standard on Fire Test for Window and Glass Block Assemblies, shall be limited to the maximum area tested in doors or windows having a fire protection rating of 1 1/2 - hours or less.
Substantiation: The definition of a Transparent Composite Panel should be included in NFPA 5000 as it is also a new definition in NFPA 80. These materials need to be defined in both documents for ease of coordination and code enforcement.
Committee Meeting Action: Reject
Committee Statement: The proposed term is not used in NFPA 5000 or in NFPA 80. Additionally, the committee notes that the submitter proposes a requirement in a definition which is not permitted per NFPA’s Manual of Substantiation:

5000-242 Log #571 BLD-FUN Final Action: Reject (4.1 through 4.4)

Submitter: Sarah A. Rice, Schirmer Engineering Corp.
Recommendation: 1. Delete Section 4.1, 4.2 and 4.4 without substitution: 4.1 Goals and Objectives; 4.2 Assumption – Single Fire Source. The fire protection methods of this Code are based on the multiple fire scenario assumption. This assumption shall not preclude the evaluation of multiple design fire scenarios as required by Section 5.5 for performance-based designs. 4.4 Fundamental Fire and Life Safety Requirements.
Committee Meeting Action: Reject
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18 Negative: 1
Vote Not Returned: 4

5000-243 Log #294c BLD-BLC Final Action: Reject (3.3.566.4 Fire Wall)

Submitter: Mark Kluver, Portland Cement Association
Recommendation: Revise the definition to read as follows: 3.3.566.4 Fire Wall. A wall separating buildings or subdividing a building to prevent the spread of fire and having a fire resistance rating and structural stability. [221.3]
Substantiation: The phrase being recommended for deletion is redundant and therefore is not necessary.
Committee Meeting Action: Reject
Committee Statement: As indicated in Section 8.3, fire walls are not only used to separate adjacent buildings but can also be used to subdivide spaces or portions of a building into separate fire areas.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 21 Negative: 2
Explanations of Negative:
FRANCIS: The submitter is correct. The notion that fire walls subdivide buildings is a functional notion of economic importance. It is used to limit loss and reduce economic exposure. These are not building code concepts but should be negotiated between building owner, occupant, and insurer. The code definition should reflect the code importance of the word or phrase. The submitter has cleared up that “error” and I agree it should be in the code as proposed.
KLEIN: Please register my vote as negative on this code proposal based on Sam Francis’ ballot comment.

5000-244 Log #571 BLD-FUN Final Action: Reject (4.1 through 4.4)

Submitter: Sarah A. Rice, Schirmer Engineering Corp.
Recommendation: 1. Delete Section 4.1, 4.2 and 4.4 without substitution: 4.1 Goals and Objectives; 4.2 Assumption – Single Fire Source. The fire protection methods of this Code are based on the multiple fire scenario assumption. This assumption shall not preclude the evaluation of multiple design fire scenarios as required by Section 5.5 for performance-based designs. 4.4 Fundamental Fire and Life Safety Requirements.
Committee Meeting Action: Reject
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18 Negative: 1
Vote Not Returned: 4

5000-245 Log #571 BLD-FUN Final Action: Reject (4.1 through 4.4)

Submitter: Sarah A. Rice, Schirmer Engineering Corp.
Recommendation: 1. Delete Section 4.1, 4.2 and 4.4 without substitution: 4.1 Goals and Objectives; 4.2 Assumption – Single Fire Source. The fire protection methods of this Code are based on the multiple fire scenario assumption. This assumption shall not preclude the evaluation of multiple design fire scenarios as required by Section 5.5 for performance-based designs. 4.4 Fundamental Fire and Life Safety Requirements.
The design of every building or structure intended for human occupancy shall be such that reliance for property protection and safety to life does not depend solely on any single safeguard. Any compartment, room, or space shall thereafter be maintained, unless the Code exempts such maintenance.

2. Proposal Recommends to revise 4.3 as follows:

4.1.6.2.4 Property Protection Goal. The property protection goal of this Code shall be satisfied assumes an ability to absolutely control any action that might undermine the goals and objectives, which is unreasonable.

Substantiation: The sentence contains no object for the statement of the objectives, making it an incomplete sentence. The prescription that the goals shall be satisfied assumes an ability to absolutely control any action that might undermine the goals and objectives, which is unreasonable.

Committee Meeting Action: Reject

Committee Statement: The Submitter’s text does not improve the Code.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

Committee Meeting Action: Reject

Committee Statement: The Committee agrees that it is necessary to make NFPA 1 and NFPA 5000 as consistent as possible. However, there appears to be a basic philosophical difference regarding how property protection is best handled within these codes. The action of creating a committee proposal and rejecting it assures the subject will be open for additional action at the next preparation stage. Representatives of the BLD-AAC Fundamentals committee have offered to meet in a task group with representatives of the NFPA 1 UCC committee. The BLD-FUN committee would welcome the formal establishment of such a task group by the BLD-AAC Building Code Technical Committee meeting.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

Comment on Affirmative Vote:

THORNBERY: I noted a typographical error in the proposed revisions to 4.1.1 Goals. The term "property protection" should be underlined instead of lined through.

4.3.2.2 Electromagnetic Compatibility. The building shall be designed to provide a reasonable level of protection to the occupants of a building from electromagnetic interference, including lightning and electrical disturbances from sources outside the building.

4.3.2.3 Electrical Safety. The building shall be designed to provide a reasonable level of protection to the occupants of a building from electrical hazards, including those arising from electrical equipment, appliances, and wiring. The design shall provide for the safe installation, use, and maintenance of electrical equipment and systems.

4.3.2.4 Air Quality. The building shall be designed to provide a reasonable level of protection to the occupants of a building from indoor air quality hazards, including those arising from materials, equipment, and processes that contribute to indoor air quality issues.
Committee Meeting Action: Accept in Principle in Part

Do not relocate any text. Insert a new 4.3.2.2 (and renumber current 4.3.2.3) as follows:

4.3.2.2 Prescriptive-based designs meeting the requirements of Chapter 1 through Chapter 5 of this Code shall be deemed to satisfy the provisions of Section 4.3.2.

Committee Statement: The submitter’s relocation of text confuses rather than clarifies. The goals and objectives can be construed as applying in addition to the prescriptive provisions, increasing the inconsistency in code enforcement from jurisdiction to jurisdiction.

Without this revision, code officials, designers, product manufacturers and all in the construction industry will be held to a higher standard of care because of the nonspecific nature of the goals and objectives. This minimizes the liability exposure to all involved in the construction industry. References to this section located in Chapter 5 should be revised.

Committee Meeting Action: Accept

Committee Meeting Action: Accept

Recommendation: Correlation with NFPA 1, Uniform Fire Code. The new text is appropriate for NFPA 5000.

Committee Meeting Action: Accept

Submitter: Ignatius Kapalczynski West Hartford, CT

Recommendation: Add new text as follows:

Multiple Safeguards. Multiple safeguards shall be both passive features as identified in Chapter 8 and active features as identified in Chapter 9 used in combination together, without placing total reliance on either one.

Substantiation:

The concept of multiple safeguards using a combination of passive and active fire protection features and systems is a fundamental concept of balanced fire protection design. This concept has been minimized in recent code cycles by a greater reliance on active systems in place of, rather than, in combination with passive features. Active systems are permitted to be out of service for 4 hours (9.7.6.1) where the passive features will leave the building without any safeguards at all.

Committee Meeting Action: Accept in Principle

Add annex text as follows:

A.4.4.1 Multiple safeguards shall be both passive features as identified in Chapter 8 and active features as identified in Chapter 55 used in combination, without placing total reliance on either one.

Committee Statement: The submitter’s language makes for good advice via the Annex, but should not be mandated. The current provisions are adequate without specifying that both active and passive features must be used.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2  CARSON, LANDMESSER

Submitter: Kenneth E. Bush, Office of the Maryland State Fire Marshal

Recommendation: Delete the second sentence of this paragraph.

Substantiation: The provisions of this sentence are outdated and no longer applicable to all acceptable egress arrangements. Other current sections of the Code permit the installation of locking hardware or delayed egress hardware in other than health care or detention facilities when other acceptable arrangements are in place. In addition, there are acceptable arrangements for key operated deadbolts and other fastening devices to be installed under limited circumstances. The other provisions of this paragraph adequately address the fundamental requirements of the Code, and this second sentence should be deleted in order to eliminate conflict with other Code requirements.

Committee Meeting Action: Accept

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2  CARSON, LANDMESSER

Submitter: Technical Committee on Fundamentals

Recommendation: Revise as follows:

4.4.4* Occupant Notification. In every building or structure of such size, arrangement, or occupancy that a fire itself might not provide adequate occupant warning, fire alarm systems shall be provided where necessary to warn occupants of the existence of fire.

Substantiation: "Fire alarm facilities" is an undefined term, unlike "fire alarm systems". The proposed text matches corresponding NFPA 1, Uniform Fire Code text.

Committee Meeting Action: Accept

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2  CARSON, LANDMESSER
the goals of this Code for fire and life safety shall be designed, installed, and approved in accordance with applicable NFPA codes and standards.

**Substantiation:** These systems may be provided for purposes other than fire and life safety. The scope of this requirement has been expanded accordingly, and is consistent with an NFPA 1, Uniform Fire Code, committee-generated proposal for its next edition.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER

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5000-253 Log #695 BLD-FUN (4.4.7.4) Final Action: Reject

**Submitter:** Rick Thornberry, The Code Consortium, Inc. / Rep. Alliance for Fire and Smoke Containment and Control

**Recommendation:** Add a new section to read as follows:

4.4.7.4 Exterior Envelope Integrity. The building’s exterior envelope shall restrict the spread of fire, hot gases, and smoke to adjacent buildings and property, resist the effects of fire, hot gases, and smoke resulting from an exterior exposure fire, and limit the spread of fire across its exterior surfaces and the generation of burning debris that could ignite combustible materials nearby.

**Substantiation:** Section 4.4.7 Limited Fire Spread is lacking a fundamental fire safety requirement for the integrity of the exterior envelope of a building for the purpose of limiting fire spread either from the building to an adjacent building or from an adjacent building to the building in question. This proposal addresses that issue by providing criteria to implement the safety from fire objective specified in 4.1.3.1.2.3 which states: Buildings shall be designed and constructed to reasonably protect adjacent...buildings from...substantial damage as a result of a fire.

**Committee Meeting Action:** Reject

**Committee Statement:** The submitter’s text should not be applicable to all conditions. Some buildings do not have an exterior wall and, thus, no envelope. For wildland/urban interface the subject might be applicable; but, for a shrub planted in the ground outside a suburban home is should not. The text needs to be made more generic re: exterior fire spread.

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER

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5000-254 Log #498 BLD-FUN (5.1.1) Final Action: Accept in Principle

**Submitter:** Sai DiCristina, Rutgers, The State University of New Jersey / Rep. Building Code Development Committee

**Recommendation:** NOTE: This comment was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

**5.1.1 Application.** The requirements of this chapter shall apply to buildings, portions of buildings or building systems designed to the performance-based option permitted by Section 4.3.

**Substantiation:** Section 4.3 allows a combination of both performance based and prescriptive based design in a given building or structure. Adding this language merely reinforces this fact and prevents an AHJ from disallowing performance based design in existing buildings.

**Committee Meeting Action:** Accept in Principle

Revise to read as follows:

**5.1.1 Application.** The requirements of this chapter shall apply to buildings or structures, portions of buildings or structures, or building systems designed to the performance-based option permitted by Section 4.3.

**Committee Statement:** The action does what the submitter requested, but also performs editorial fixes for completeness and uniformity in use of terms.

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER

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5000-255 Log #439 BLD-FUN (5.1.4) Final Action: Reject

**Submitter:** John F. Hogan, Town of Manchester, Connecticut / Rep. Building Code Development Committee

**Recommendation:** Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

5.1.4 Sources of Data. Data sources shall be identified and documented for each input data requirement that must be met using a source other than

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5000-256 Log #438 BLD-FUN (5.1.6.2) Final Action: Accept

**Submitter:** John F. Hogan, Town of Manchester, Connecticut / Rep. Building Code Development Committee

**Recommendation:** Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

5.1.6.2 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or other feature is required to meet the goals, objectives, or performance criteria of this Code, approved procedures for the operation and maintenance of such device, equipment, system, condition, arrangement, level of protection, or other feature shall be prepared, and an approved system of inspection, maintenance, and testing shall be included in an operations and maintenance manual developed as part of the performance-based design, or directed by the authority having jurisdiction.

**Substantiation:** The function of the AHJ is to review for compliance rather than to be involved in the design. The term “approved” ensures that the AHJ will have an opportunity to input in these provisions.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER

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5000-257 Log #494 BLD-FUN (5.2.2) Final Action: Reject

**Submitter:** Vickie J. Lovell, InterCode Incorporates / Rep. 3M Company and Air Movement Control Assn.

**Recommendation:** Revise to read as follows:

5.2.2 Safety from Fire and Smoke

5.2.2.2 Buildings shall be designed and constructed to reasonably prevent the spread of fire and smoke beyond the compartment of fire origin.

**Substantiation:** A recent study by the Fire Protection Research Foundation of the NFPA has advanced an international effort to make certain that people can escape a burning building before being overcome by smoke. The work is part of a revolution in fire safety in which codes and standards are beginning to address how much smoke will incapacitate people, rather than how much will kill them.

Rick Mulhaupt, NFPA Research Foundation president states, “For most of the history of fire science and fire safety, our efforts have focused on how much smoke would kill a person. Now, we’re recognizing that many people die in fires – not because smoke killed them on the spot – but because smoke or heat prevented them from getting out of the building.”

Work is underway in the international community (ISO) on a new standard calling attention to the “sublethal” effects of smoke – when the heat, the third hand of smoke, and the toxic gases in smoke will block vision, make a person choke or tear up, or render a person unconscious. Because of this new ISO standard, these effects of smoke are supposed to be taken into account when regulating the size and placement of exits and the types of materials allowed in buildings.

Successful activation of a properly designed, well maintained sprinkler system reduces the probability of flash-over. However, a sprinklered fire that is not completely extinguished can continue to produce vast amounts of smoke, particularly in the fire is shielded from the water spray of the sprinkler

**Committee Meeting Action:** Reject

**Committee Statement:** The subject is adequately covered in 5.2.2.4. The proposed text would require something that is both too difficult to meet and unreasonable.

**Number Eligible to Vote:** 20

**Ballot Results:** Affirmative: 18

**Vote Not Returned:** 2 CARSON, LANDMESSER
Method 2. For each design fire scenario and the design specifications, conditions, and assumptions, the design team can demonstrate that each room or area will be fully evacuated before the smoke and toxic gas layer in that room descends to a level lower than 1830 mm (72 in.) above the floor. The timing of such an evacuation means that no occupant is exposed to fire effects. Such an evacuation requires calculation of the locations, movement, and behavior of occupants, because fire effects and occupants are kept separate by moving the occupants. A level of 1525 mm (60 in.) is often used in fire codes, but at that level a large fraction of the population is not able to stand, walk, or run normally and still avoid inhalation of toxic gases. They would have to bend over or otherwise move their heads closer to the floor.

Method 3. For each design fire scenario and the design specifications and assumptions, the design team can demonstrate that the smoke and toxic gases will not descend to a level lower than 1830 mm (72 in.) above the floor in any occupied room. The advantage of this procedure is that it conservatively requires that no occupant need be exposed to fire effects, regardless of where occupants are or where they move. This removes the need to know how any fire effects, movement locations, pre-fire characteristics, and reactions to fire effects. This procedure is even more conservative and simpler than the procedure in Method 2, because it does not allow fire effects in occupied rooms to develop to a point where people could be affected at any time during the fire.

For each fire scenario and the design specifications and assumptions, the design team can demonstrate that no fire effects will reach any occupied room. The advantage of this procedure is that it removes the need to make any calculations regarding occupants, including their behavior, movement locations, pre-fire characteristics, and reactions to fire effects. A further advantage is that it also removes the need for some of the modeling of fire effects, because it is not necessary to model the filling of rooms, only the spread of fire effects to those rooms. This procedure is even more conservative and simpler than the procedures in Methods 2 and 3, because it does not allow how any fire effects may affect those rooms to be calculated.

A.5.2.5 This criterion might be met by the provisions of 5.2.2.3 in some cases. In others, the time necessary for establishing safety for emergency responders might be greater than for occupant evacuation, and additional measures might need to be taken.

A.5.2.6 The SFPE Engineering Guide to Design Performance-Based Fire Protection Analysis and Design of Buildings contains performance criteria associated with reducing the probability of fire spread. Also add:

NFPA 555, Guide on Methods for Evaluating Potential for Room Flashover to the list of referenced NFPA publications in section 2.2 and in section D1.1. and add the following publications to the list of referenced additional publications in D1.2.13:

- Purser, D.A., “Toxicity Assessment of Combustion Products”, Chapter 2/6 in SFPE Handbook of Fire Protection Engineering, Third Edition, National Fire Protection Association, Quincy, MA 2002, which offers and that will be very helpful for use in the performance-based option, namely NFPA 555. It will help in assessing whether their flashover (or spread of fire beyond the compartment of fire origin) will occur.

The NFPA Technical Committee on Hazard and Risk of Contents and 5000-69
Furnishings has the following scope: “This Committee shall have primary responsibility for documents on fire hazard calculation procedures for use by other Committees in writing provisions to control the fire hazards of contents and furnishings. This Committee shall also provide guidance and recommendations for fire prevention associated with the use of fire hazards of contents and furnishings. It shall establish classification and rating systems, request the development and standardization of appropriate fire tests, and identify and encourage necessary research as it relates to the fire hazards of contents and furnishings. It shall act in a liaison capacity between NFPA and the Committees of other organizations - with respect to the hazard of contents and furnishings.”

That committee issued NFPA 555, Guide on Methods for Evaluating Potential for Room Flashover, which states as follows, in its scope: “This guide addresses methods for evaluating the potential for room flashover from fire involving the furnishings, occupant behavior, and fire size. The methods addressed by this guide include prevention of ignition, installation of automatic fire suppression systems, control of ventilation factors, and limitation of the heat release rate of individual and grouped room contents, furnishings, and interior finish.”

I have been a member of the NFPA Technical Committee on Hazard and Risk of Contents and Furnishings since its formation, and currently serve as its chairman. Thus, I believe that the work conducted to develop NFPA 555 and the information contained in it is very valuable for use in assessment of the fire safety associated with furnishings and contents. Committee Meeting Action: Accept in Part

Revise A.5.2.2.2 as follows:

A.5.2.2.2 NFPA 555, Guide on Methods for Evaluating Potential for Room Flashover, includes both testing methods and modeling techniques that help in preserving human life beyond the critical thresholds of exposure, which is one of the criteria for flashover. Many of the performance criteria related to safety from fire can also be found in NFPA 101, Life Safety Code. One of the following methods can be used to avoid exposing occupants to untenable conditions.

**Method 1.** The design team can set detailed performance criteria that ensure that occupants are not incapacitated by fire effects. The SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings describes a process of establishing tenability limits. The guide references D. A. Purser, “Toxicity Assessment of Combustion Products,” Chapter 2/6, SFPE Handbook of Fire Protection Engineering, Third Edition, National Fire Protection Association, Quincy, MA, 2002, which describes a fractional effective dose (FED) calculation approach, which is also contained in NFPA 209, Standard Test Method for Developing Toxic Potency Data for Use in Fire Hazard Modeling. FED addresses carbon monoxide, hydrogen cyanide, hydrogen chloride, hydrogen bromide, and anoxia effects. It is possible to use the test data, combined with laboratory experience, to estimate the FED value that leads to the survival of virtually all people. This value is about 0.8.

There is a relationship between exposures leading to death and those leading to incapacitation. Hirschler et al., Journal of Fire Science, 2,286–305 (1984) found that rodent susceptibility is similar to that of humans and that the narcotic gases, CO and HCN, incapacitation is estimated to occur at one-third to one-half of the lethal exposure. A set of very large statistical studies, associated with carbon monoxide, is completed involving almost 5,000 fatalities (Hirschler et al., Carbon Monoxide and Human Lethality, Fire and Non-Fire Studies, Elsevier, 1993) showed that the vast majority of fire deaths are attributable to carbon monoxide poisoning, which results in lethality at levels as low as 25% carboxyhemoglobin (much lower than previously believed) without requiring the effect of additional toxicants. This work was also confirmed by Gann (Gann et al., Fire and Materials 18: 193 (1994)), who also found that carbon monoxide dominates the lethality of fire smoke, since most fire deaths occur remote from the fire room, in fires that have proceeded past flashover. Thus, if an FED value of 0.8 were used for a non-incapacitative exposure, an FED of 0.3 would be reasonable for a non-incapacitative exposure. If the authority having jurisdiction or the design professional is concerned with potential toxic fire effects other than those addressed by the FED procedure as documented, the calculation procedure can be expanded by adding additional terms to the FED equation, with each term expressing a component ratio. The numerator of the component ratio is the exposure to that fire effect, measured as an integral of the product of instantaneous exposure (concentration for toxic products) and time. The denominator of the ratio is the quantity of cumulative exposure for which FED equals the chosen threshold value (that is, 0.8 or 0.3) based on that fire effect. A. A. Gann, “Analysis of tenability requires consideration of tenability criteria for thermal effects (converged heat and radiated heat) and smoke obscuration, as well as those for smoke toxicity, and an example of the application of such criteria is shown in ASTM E 2280, Standard Guide for Fire Hazard Assessment of the Effect of Upholstered Seating Furniture Within Room Occupancy,” Journal of Fire Protection Engineering, 12 (2002), 15-29.

For buildings where an unusually large fraction of the occupants are especially vulnerable, the calculation procedure for the smoke toxicity incapacitating criterion should be modified to use FED values lower than 0.8 or 0.3.

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**Method 2.** For each design fire scenario and the design specifications, conditions, and assumptions, the design team can demonstrate that each room or area will be fully evacuated before the smoke and toxic gas layer in that room descends to a level lower than 1830 mm (72 in.) above the floor. The timing of such an evacuation means that no occupant is exposed to fire effects. Such an evacuation requires calculation of the locations, movement, and behavior of occupants, because fire effects and occupants are kept separate by moving the occupants. A level of 1525 mm (60 in.) is often used in calculations, but at that level, a large fraction of the population would not be able to stand, walk, or run normally and still avoid inhalation of toxic gases. They would have to bend over or otherwise move their heads closer to the floor level.

**Method 3.** For each design fire scenario and the design specifications and assumptions, the design team can demonstrate that the smoke and toxic gas layer will not descend to a level lower than 1830 mm (72 in.) above the floor in any occupied room. The advantage of this procedure is that it conservatively requires that no occupant need be exposed to fire effects, regardless of where occupants are or where they move. This removes the need to make any calculations regarding occupants, including their behavior, movement locations, pre-fire characteristics, and reactions to fire effects. This procedure is even more conservative and simpler than the procedure in Method 2, because it does not allow fire effects in occupied rooms to develop to a point where people could be affected at any time during the fire.

**Method 4.** For each design fire scenario and the design specifications and assumptions, the design team can demonstrate that no fire effects will reach any occupied room. The advantage of this procedure is that it removes the need to make any calculations regarding occupants, including their behavior, movement locations, pre-fire characteristics, and reactions to fire effects. A fully developed fire will produce the most intense set of fire effects, because it is not necessary to model the filling of rooms, only the spread of fire effects to those rooms. This procedure is even more conservative and simpler than the procedures in Methods 2 and 3, because it does not allow any fire effects in occupied rooms.
Substantiation: This is a totally subjective standard. Only after the building is completed and occupied is the standard applicable. The first occupants of a building may not be "troubled”. One new occupant, a few years after completion, which is "troubled" creates a retroactive violation.

Committee Meeting Action: Accept
Number Eligible to Vote: 20
Vote Not Returned: 2 CARSON, LANDMESSER

Vote Not Returned: 2 CARSON, LANDMESSER

Explanation of Negative: BACHMAN: I think the current wording is fine. There is existing structural engineering criteria for floor vibrations and lateral displacements where it can be determined when such movements are annoying. This provision is a design criteria and not a subjective condition for occupants to decide who will later occupy the building.

5000-260 Log #461 BLD-FUN Final Action: Accept
(5.2.4.1)

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.
Delete the following text:
5.2.4.1 Measures shall be provided to prevent falls in locations where an occupant could fall 20 in. (760 mm) or more during normal use of a building.
Substantiation: This item is covered in 5.3.2 Means of Egress in code language.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-261 Log #462 BLD-FUN Final Action: Accept
(5.2.4.2)

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.
Delete the following text:
5.2.4.2 Stairs shall be designed and constructed in such a manner as to reasonably prevent falls by occupants.
Substantiation: This item is covered in 5.3.2 Means of Egress in code language.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-262 Log #459 BLD-FUN Final Action: Accept
(5.2.4.6)

Recommendation: Note: This comment was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the Committee's endorsement.
Revise to read as follows:
5.2.4.6 Signs shall be provided inside and outside buildings to identify means of egress, exits, emergency safety features, potential hazards, and features intended for the safety and for the amenity of occupants with physical or sensory limitations.
Substantiation: The text is unnecessary to convey the intent of the section. Since this requirement is in the performance based options chapter of the code, the AHJ already has the authority to require necessary signage where appropriate under 5.1.5. To leave this language in, the code would now require exit signs on the outside of an exit door as well as on the inside.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-263 Log #458 BLD-FUN Final Action: Accept
(5.2.6.1)

Recommendation: Note: This comment was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the Committee's endorsement.
Revise to read as follows:
5.2.6.1 Buildings shall limit, or shall be provided with systems to reduce, concentrations in the building of contaminants, unwanted odors, and excess moisture, to quantities that do not unreasonably affect the health and safety of the occupants during normal use of the building.
Substantiation: The deleted text is not necessary to convey the intent of the section. Furthermore, if allowed to remain, it begs the question: what would be a "substantial portion” of the occupants in a two person office vs. a 50 or 100 person open plan office? Is a simple majority sufficient? It would also be difficult to establish a criteria and threshold for "irritating" conditions. ASHRAE has established indoor air quality standards upon which most mechanically ventilated spaces are currently designed. The current language is an open invitation to an "in my town" mentality and would preclude many states from adopting the code statewide since uniform enforcement of the code would be impossible. In addition, the potential for litigation is greatly enhanced when such vague terms are relied on so heavily.
Committee Meeting Action: Accept
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-264 Log #456 BLD-FUN Final Action: Reject
(5.2.8)

Submitter: Donald LeBrun, County of Steuben, IN / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.
Revise to read as follows:
5.2.6 Cultural Historic Heritage.
5.2.8.1 Additions, alterations, and renovations in culturally historically significant buildings and structures shall be undertaken so as to preserve their original quality or character and so that, if the additions, alterations, or renovations were removed in the future, the essential form and integrity of the original building or structure would be essentially unchanged.
5.2.8.2 For historic buildings or structures located in whole or in part in flood hazard areas established by 39.4.2, work on the building or structure shall be permitted, provided the following provisions are met: (1) The proposed work does not preclude the continued designation as a historic building or structure.
2 A variance to the flood provisions of this Code is granted by the board of appeals.
Substantiation: It is our understanding that the term cultural heritage was meant to apply to historic structures. This proposal is being submitted to allow the committee to either use the correct terminology or to further explain (define) the meaning of "cultural heritage". The deletion of 5.2.8.2(2) is because it would be in violation of the NFIP. The word essential is too vague and open to many varied interpretations.
Committee Meeting Action: Reject
Committee Statement: Cultural heritage is the Chapter 4 goal. The word “Cultural” is a broader term than “Historic.” The word “essentially” needs to be retained; otherwise, any alteration would become a change. The NFIP provisions are not violated by current 5.2.8.2(2).
Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2 CARSON, LANDMESSER

5000-265 Log #455 BLD-FUN Final Action: Reject
(5.2.8.2)

Submitter: David J. Martinez, City of Santa Rosa / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.
Section 5.2.8.2 Delete item(2) under Cultural Heritage.
Substantiation: This section appears to be in direct violation of FEMA and that it is not allowed by FEMA. Additionally if this section were to be allowed then there is a great possibility that the jurisdiction could exempt themselves from any flood insurance reimbursements from FEMA.

Committee Meeting Action: Reject

Committee Statement: Paragraph 2 of 5.2.9 does not violate the FEMA NFIP.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 17 Abstain: 1
Vote Not Returned: 2

Explanation of Abstention:

BACHMAN: I do not feel that I have the expertise to comment on this item.

Recommendation: Revise to read as follows:

(5.2.9) Buildings that perform a community public welfare role designated as essential facilities shall incorporate means appropriate to their function and importance to ensure their continued operation following a fire or other natural or man-made disaster. Essential facilities shall include, but not be limited to:

1. Hospitals and other health care facilities having surgery or emergency treatment facilities
2. Fire, rescue, and police stations and emergency vehicle garages
3. Designated earthquake, hurricane, or other emergency shelters
4. Designated emergency preparedness, communications, and operations centers and other facilities required for emergency response
5. Power-generating stations and other public utility facilities required in an emergency
6. Auxiliary structures (including, but not limited to, communications towers, fuel storage tanks, cooling towers, electrical substation structures, fire water storage tanks, or other structures housing or supporting water or other fire suppression material or equipment) required for operation of Category IV structures during an emergency
7. Aviation control towers, air traffic control centers, and emergency aircraft hangars
8. Water storage facilities and pump structures required to maintain water pressure for fire suppression
9. Buildings and other structures having critical national defense functions

Substantiation: The phrase “buildings that perform a community public welfare role” is too broad-based to be enforceable. There will be too many cases where additional protective measures will be required on buildings other than those that actually require said additional protection.

The added ‘laundry list’ is the same as the one used in Chapter 35 for protection of essential facilities in structural design. By adding wording “including but not limited to”, we feel that the laundry list serves to guide the AHJ in his determination as to what is actually “essential”.

Committee Meeting Action: Reject

Committee Statement: The mission continuity performance criterion related to public welfare needs to permit the inclusion of more than just essential facilities. “Laundry lists” should be avoided within the Code text.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 17 Negative: 1
Vote Not Returned: 2

Explanation of Negative: BACHMAN: I think its quite appropriate to list the type of buildings which are deemed to require Mission Continuity. I think the current wording is anything the current word “and” doesn’t already address.

Is the word “both” intended? The words “in conjunction” don’t seem to fix anything the current word “and” doesn’t already address.

Recommendation: Add new sections 5.9, 5.10 and 5.11 to read as follows.

Add new sections 5.9, 5.10, and 5.11.

5.9 Goals and Objectives

5.9.1 Goals. The primary goals of this Code are safety, health, building usability, and public welfare, including property protection as it relates to the primary goals...

5.10 Assumption — Single Fire Source. The fire protection methods of this Code assume that multiple simultaneous fire incidents will not occur. This assumption shall not preclude the evaluation of multiple design fire scenarios as required by Section 5.5 for performance-based designs.

5.11 Fundamental Fire and Life Safety Requirements

5.11.4.4 Multiple Safeguards. The design of every building or structure intended for human occupancy shall be such that reliance for property protection and safety to life does not depend solely on any single safeguard.

An… protection, or other feature shall thereafter be maintained, unless the Code exempts such maintenance.

Substantiation: The content of Section 4.1, 4.2 and 4.4 are being proposed for inclusion in Chapter 5 as new Section 5.9, 5.10 and 5.11. As these are a fundamental part of any performance based design, it is more appropriate to locate them there.

Committee Meeting Action: Reject

Committee Statement: See committee statement for the rejection of Proposal 5000-244 (Log #571) on Section 4.1 through Section 4.4.

Number Eligible to Vote: 20
Ballot Results: Affirmative: 18
Vote Not Returned: 2

Committee Meeting Action: Reject

Proposal 5000-269 Log #205a BLD-FUN (Chapter 6 )

Final Action: Reject

Substantiation: This revision more closely represents the original intent of this section. The original language for the performance based design scenario 8 was introduced into the 2000 edition of NFPA 101 (F99 ROC: 101-141) and was copied into the 2003 edition of NFPA 5000. Three additional comments were also “accepted in principal” (F99 ROC: 101-139, 101-140, 101-142) which addressed the intent of this design scenario to include an analysis of the reliability of a system to be in conjunction with the design performance. This revision will also coordinate the intent of this section as described in the annex A 5.5.2.8, which allows the AHJ to evaluate the design scenario based on reliability in conjunction with performance.

Committee Meeting Action: Reject

Committee Statement: The submitter’s revised text does not read correctly. Is the word “both” intended? The words “in conjunction” don’t seem to fix anything the current word “and” doesn’t already address.

Vote Not Returned: 2}

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be added to NFPA 251 to describe the exposure conditions and provide interpretation of the resistance factors for fire safe design.

Substantiation: The ratings of structural elements in standard fire resistance tests are based upon the maximum amount of time that the test article remains below the threshold temperature or the threshold limit of deformation. It is expected that a 2-hour rated wall would withstand an actual fire for a longer period of time than a 1-hour rated wall, and this is invariably the case. What can not be expected, however, is that a structure composed of elements that are 2-hour rated would necessarily withstand an actual fire for two hours, nor that it would necessarily fail after two hours. The inability of the current system of fire resistance rating to act as an absolute predictor of performance in an actual fire was recognized from the beginning when the forerunner of ASTM E119 (and NFPA 251) was published in 1918. Over the years, however, the reference to fire resistance ratings in common time units has become interpreted to relate closely (or at least conservatively) to the actual expected time that a structure or element would be expected to resist a fire. This problem of misinterpreting a fire rating is unique to fire resistance tests because the use of time as the rating unit is easy to apply in a manner not reflected in the standard. A common flame spread test, ASTM E84, rates material on a scale normalized by the distance that a flame will spread over red oak in a defined configuration, which is given a rating of 100. If another material is rated 45, one expects flame spread to occur at a lower rate than red oak, but there is no way to extrapolate the rating to a specific performance criteria in an actual fire. In fire resistance tests, however the end point (i.e., time to failure due to a certain temperature or deformation limit) is prone to misconception by a lay person.

It is critical that any change to a long-established system of fire resistance ratings allow existing materials and the vast historical record to be directly related to the new rating. The method proposed does that.

Committee Meeting Action: Reject

Proposal 5000-270 Log #205b BLD-FIR

Committee Statement: The submitter provided no suggested code text.
Number Eligible to Vote: 20
Ballot Results: Affirmative: 17 Abstain: 1
Vote Not Returned: 2 CARSON, LANDMESSER
Explanatory Abstention: BACHMAN: I do not feel that I have the expertise to comment on this item.

Committee Meeting Action: Reject

Proposal 5000-272 Log #465b BLD-HEA

Committee Statement: The submitter does not provide specific wording in his proposal, and the committee believes that the concept introduced would not eliminate confusion as suggested. Additionally, the substantiation lacks sufficient information to support the concept proposed by the submitter which would likely have far reaching implications.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 23

Proposal 5000-273 Log #463a BLD-FUN

Committee Meeting Action: Accept

Committee Statement: The Technical Correlating Committee (TCC) directs that the action on this proposal be changed from REJECT to ACCEPT. The TCC notes that the action taken on Proposal 5000-274 was to Accept the change.


Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

Definition-Business Occupancy. An occupancy used for the account and record keeping of the transaction of business other than mercantile.

Substantiation: The original definition is too restrictive. These types of business occupancies are listed in the annex where it is appropriate.

Committee Meeting Action: Reject
not technically judge the recommendation. The action of “Reject” reflects that in the absence of concurrence by the Mercantile/Business Occupancies (BLD-MER) committee, the change should not be made. The subject should be decided by the BLD-MER committee under whose jurisdiction the subject falls. BLD-FUN requests that if BLD-MER takes an action other than Reject, the Technical Correlating Committee act so as to show the BLD-MER action as overruling that of BLD-FUN.

The proposed change clarifies how telecommunications facilities are classified in NFPA 5000.

Committee Meeting Action: Reject

Committee Statement: The Fundamentals Committee (BLD-FUN) did not technically judge the recommendation. The action of "Reject" reflects that in the absence of concurrence by the Industrial/Storage Occupancies (BLD-IND) committee, the change should not be made. The subject should be decided by the BLD-IND committee under whose jurisdiction the subject falls. BLD-FUN requests that if BLD-IND takes an action other than Reject, the Technical Correlating Committee act so as to show the BLD-IND action as overruling that of BLD-FUN.

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

5000-275 Log #802a Final Action: Accept in Principle (6.1.12.1)

TCC Action: The Technical Correlating Committee (TCC) directs that the action on this proposal be submitted in the TCC's name to BLD-MER requesting that the TC:

Make a similar, correlative change to the definition of Business Occupancy in 3.3.x.


Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.

Revise to read as follows:

Definition-Business Occupancy. An occupancy used for account and recordkeeping transaction of business other than mercantile.

Substantiation: The original definition is too restrictive. These types of business occupancies are listed in the annex where it is appropriate.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 19

Vote Not Returned: 1 MOON

5000-276 Log #802b Final Action: Accept in Principle (6.1.12.1)

Submitter: Technical Committee on Telecommunications

Recommendation: Revise to read as follows:

6.1.12.1* Definition - Industrial Occupancy. An occupancy in which products are manufactured or in which processing, assembling, mixing, packaging, finishing, decorating, or repair operations, or telecommunications signal processing are conducted.

Substantiation: The proposed change clarifies how telecommunications facilities are classified in NFPA 5000.

Committee Meeting Action: Accept in Principle

Committee Statement: This meets the intent of the submitter and complies with the format of NFPA 5000 to identify examples of occupancies in the annex.

Number Eligible to Vote: 30

Ballot Results: Affirmative: 26

Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

5000-277 Log #CP100 Final Action: Accept (6.2.1.2)

Submitter: Technical Committee on Fundamentals

Recommendation: Insert a new 6.2.1.2 (and renumber 6.2.1.2 through 6.2.1.5) as follows:

6.2.1.2 Where exit access from an occupancy traverses another occupancy, the multiple occupancy shall be treated as a mixed occupancy.

Substantiation: Traditionally, in NFPA 101 whenever the egress system was mixed, it was always treated as a mixed occupancy. The shared egress system does not make it possible to apply the separated occupancies form of protection. The 2003 edition of NFPA 101 lost that concept. It is being reintroduced into both NFPA 101 and NFPA 5000. See Proposal 101-85 (Log #366).

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

5000-278 Log #CP109 Final Action: Accept (6.2.1.5)

Submitter: Technical Committee on Fundamentals

Recommendation: Delete 6.2.1.5 in entirety as follows:

(1) Administrative, clerical, or other office rooms that, in the aggregate, are not more than 25 percent of the principal occupancy, where not accessible to an occupancy with high hazard contents, but are not more than the basic area permitted for the occupancy and type of construction.

(2) A private garage separated from and family dwelling units by a minimum 1/2 in. (13 mm) gypsum board applied to the garage side that complies with the following:

— (a) Door openings between the garage and the dwelling unit shall be equipped with either solid wood doors not less than 1 3/8 in. (35 mm) thick or solid or honeycomb core steel doors not less than 1 1/8 inches (35 mm) thick;

— (b) Ducts penetrating the walls or ceilings separating the garage from the dwelling shall be constructed of a minimum No. 26 gauge (0.18 mm) steel and shall have no openings into the garage.

Substantiation: The current text incorrectly permits use of the separated occupancies option without requiring any separation. Paragraph 6.2.1.4 adequately addresses the issue with respect to construction type. Paragraph 6.2.1.2 can be used to address the related egress issues for incidental uses. Also, 6.2.1.1 allows the option of protecting the multiple occupancy as a mixed occupancy, so “separated occupancies” is not the only possibility.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

5000-279 Log #875 Final Action: Accept (6.2.3 and 6.2.4)

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

Recommendation: Modify Section 6.2.3 accordingly:

6.2.3 Mixed Occupancies.

6.2.3.1 Each portion of the building shall be classified as to its use in accordance with Section 6.1.

6.2.3.2 The means of egress facilities, type of construction, protection, and other safeguards in the building shall comply with the most restrictive fire and life safety requirements of the occupancies involved.

6.2.3.3 The type of construction required for the building shall be determined by applying the in accordance with Section 7.4 height and area limitations for each of the occupancies to the entire building.

6.2.3.4 The most restrictive type of construction determined in 6.2.3.3 shall apply to the entire building.

6.2.3.5 The most restrictive, applicable, high-rise building provisions and fire protection system requirements shall apply to all portions of the building.

6.2.4 Separated Occupancies.
6.2.4.1 Where separated occupancies are provided, each part of the building comprising a distinct occupancy, as described in this chapter, shall be completely separated from other occupancies by fire-resistive assemblies as specified in 6.2.4.2 through 6.2.4.4 and Table 6.2.4.1.

6.2.4.2 Occupancy separations shall meet the requirements of Chapter 8.

6.2.4.3 Occupancy separations shall be vertical, horizontal, or both or, when necessary, of such other form as required to provide complete separation between occupancy divisions in the building.

6.2.4.4 Where the occupancy separation is horizontal, structural members supporting the separation shall be protected by an equivalent fire-resistive construction.

6.2.4.5 The type of construction required for the building shall be determined in accordance with Section 7.4.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification to ensure consistency between Chapter 6 and Chapter 7 in the use of separated and mixed occupancies.

Committee Meeting Action: Accept

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

5000-280 Log #193  BLD-FUN  Final Action: Reject

( 6.2.3.2 )

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Revise to read as follows:

6.2.3.2 The means of egress facilities, type of construction, protection, and other safeguards in the building shall comply with the most restrictive fire and life safety requirements of the occupancies, use and contents involved. NFPA 1 and Chapter 34 of this code shall apply.

Substantiation: This will ensure that the use and content of material are protected per NFPA 1 and Chapter 34. This new text will ensure that NFPA 1 and Chapter 34 are also reviewed and complied with. This method requires one to ensure that the most restrictive fire and life safety requirements are met.

Committee Meeting Action: Reject

Committee Statement: Chapter 34 of the Code already applies - there is no need to restate it. The submitter’s proposed reference to NFPA 1 does not improve the Code.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

5000-281 Log #192  BLD-FUN  Final Action: Reject

( 6.2.3.3 )

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Revise to read as follows:

6.2.3.3 The type of construction required for the building shall be determined by applying the Section 7.4 height and area limitations for each of the occupancies, use and content to the entire building. NFPA 1 and Chapter 34 of this code shall apply.

Substantiation: By adding NFPA 1 and Chapter 34 one is ensured that the most restrictive height and area requirements are met. For both of these items have some special requirements for some materials.

Committee Meeting Action: Reject

Committee Statement: Chapter 34 of the Code already applies - there is no need to restate it. The submitter’s proposed reference to NFPA 1 does not improve the Code.

Number Eligible to Vote: 20

Ballot Results: Affirmative: 18

Vote Not Returned: 2 CARSON, LANDMESSER

5000-282 Log #451  BLD-FUN  Final Action: Reject

( 6.2.3.5 )

Submitter: Derek Horn, City of Phoenix, Development Services / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

In high-rise buildings, the most restrictive, applicable, high-rise building provisions and fire protection system requirements shall apply in all portions of the building.

Substantiation: This clarifies the intent of this section. The current wording implies that the most restrictive high-rise building provisions and fire protection system requirements apply to all mixed occupancy buildings.
Presently the code will permit the fire resistance rating to be reduced by 1 hour, but in no case less than 1 hour, where the building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13, NFPA 13R, or NFPA 13D. Systems installed in accordance with NFPA 13R or NFPA 13D permit the sprinkler protection coverage to be eliminated from concealed combustible spaces such as floor/ceiling assemblies and roof/ceiling assemblies (like attics). The premise of reducing the fire resistance rating of an occupancy separation is that the sprinkler protection provides added protection to the building that warrants the reduction. Occupancy separations protected in this way are supposed to be extended through concealed spaces in accordance with 8.4.5 permitting the fire resistance rating of these walls to be reduced where extending through spaces that are constructed of combustible materials and not sprinklered is inconsistent with the basis of the reduction.

In addition, this reduction is only permitted for residential occupancies four stories or less in height which is consistent with the scope of NFPA 13R. Portions of buildings containing occupancies other than residential, require sprinklers in the concealed combustible spaces per NFPA 13 in order to reduce the fire rating of the occupancy separation assembly. Permitting this reduction for only residential occupancies, which have one of the higher incidences of fires, is also illogical and inconsistent.

Recommendation: Revise to read as follows:

6.3.1.2 Hazard of contents shall be determined provided by the RDP or owner and reviewed by the authority having jurisdiction on the basis of the character of the contents and the processes or operations conducted in the building or structure.

Committee Meeting Action: Accept in Principle

Revise to read as follows:

6.3.1.2 Hazard of contents shall be determined classified by the registered design professional (RDP) or owner and submitted to the authority having jurisdiction for review and approval on the basis of the character of the contents and the processes or operations conducted in the building or structure.

Comment on Affirmative:

LATHROP: Although I agree with the technical content, I disagree with the direct reference to NFPA 13. As originally drafted by the submitter of the proposal this should reference 55.3.1.1.

5000-287 Log #191 BLD-FUN Final Action: Accept in Principle

(6.3.1.2)

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Revise to read as follows:

6.4.1.1 In addition to the requirements in this Code and NFPA 1, buildings or structures in which the operations specified in 6.4.2 are conducted, or in which materials are manufactured, stored, sold, or handled, shall also comply with applicable construction requirements in the standards and codes in 6.4.2.

Substantiation: NFPA 1 has construction requirements within it. One cannot use NFPA 5000 without NFPA 1. As I remember, this type of exception originally went into BOCA's National Building Code over a decade ago. It was based upon data collected by building and fire code officials on building fires primarily from Virginia and Maryland. Both are densely inhabited areas. The data showed that NFPA 13R systems significantly reduced fire loss and practically eliminated life loss in residential fires. Thus, the exception was inserted into the Code. The original decision was based upon real data collected by real people in states which had allowed the very system being proposed to be eliminated to be used for the rating reduction. The submitter's contention that NFPA 13 requires all concealed spaces to be sprinklered is inaccurate. NFPA 13, Section 8.14.1.2 entitled, "Concealed Spaces Not Requiring Sprinkler Protection," has 15 subsections which permit unsprinklered spaces and many of the exceptions are for combustible construction.

"8.14.1.1 Concealed Spaces Not Requiring Sprinkler Protection. All concealed spaces enclosed wholly or partly by exposed combustible construction shall be protected by sprinklers except in concealed spaces where sprinklers are not required to be installed by 8.14.1.2.1 through 8.14.1.2.15."

Finally, I would like to note that the focus of Fundamentals was on replacement of numbered code sections with the use of "NFPA 13" designations. Fundamentals did not discuss in detail the elimination of NFPA 13R and NFPA 13D systems. I thought NFPA code development procedures usually require that a proponent offer evidence of need. The proponent offers no evidence, just speculation; his proposal is based upon an appeal for logic. But the logic of the existing section seems to be misunderstood by the proponent. It would appear that this item really involves the continuing controversy between active and passive fire resistance. Which is safer: a building sprinklered with a NFPA 13R system with reduced occupancy separations or one with higher rated occupancy separations but no sprinklers? From my perspective and review of national fire data, the answer is the one with sprinklers, even one with a NFPA 13R system. Therefore, I suggest Fundamentals modify its decision as follows:

The fire resistance rating shall be permitted to be reduced by 1 hour, but in no case less than 1 hour, where the building is protected throughout by an approved automatic sprinkler system in accordance with NFPA 13, NFPA 13R, or NFPA 13D.

Committee Meeting Action: Reject

Committee Statement: The words "construction required chapters" confuse the language. Not all the documents listed in Section 6.4 have their own...
This proposal is the result of a TCC note that was developed.

NFPA 76 provides minimum requirements for the protection of telecommunications facilities. The 2002 edition of NFPA 76 appears to be included in NFPA 5000, Chapter 32.

Why not, if we cannot get the reference documents and the expertise of the referenced documents will be incorporated into NFPA 5000 during future revision cycles.

Committee Meeting Action: Accept in Principle
Committee Statement: The intent of Section 6.4 is to address building construction requirements for cultural resource properties shall be in compliance with NFPA 110, Standard for Emergency and Standby Power Systems.

Committee Meeting Action: Reject
Committee Statement: The intent of Section 6.4 is to address building construction requirements for cultural resource properties shall be in compliance with NFPA 110, Standard for Emergency and Standby Power Systems.

Committee Meeting Action: Reject
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Committee Meeting Action: Reject
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Committee Meeting Action: Reject
Committee Statement: The intent of Section 6.4 is to address building construction requirements for cultural resource properties shall be in compliance with NFPA 110, Standard for Emergency and Standby Power Systems.
7.1 General.

7.1.1 Occupancy Compartments. Occupancy compartments or parts of occupancy compartments classified in a specific occupancy group or groups because of their use shall be limited to the types of construction specified in Section 7.2 and shall comply with the height and area requirements specified in Section 7.4 through Section 7.6.

7.1.2 Mechanical, Plumbing, and Electrical Components. Combustible mechanical, plumbing, and electrical components installed in accordance with the applicable code shall be permitted in all types of construction.

7.1.3 Location and Property. Exterior walls of occupancy compartments shall be subject to the requirements of Chapter 37 for protection of exterior walls and Section 7.3 for openings in exterior walls as determined by location on property.

7.1.4 Terminology. Where the term limited-combustible is used in this Code, it shall also include noncombustible.

7.1.5 Fire Department Access. (Excerpt from NFPA 1)

7.2 Construction Types.
**Table 7.2.2 Fire Resistance Ratings for Type I through Type V Construction (hr)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
<th>Type V</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>442</td>
<td>332</td>
<td>222</td>
<td>111</td>
<td>000</td>
</tr>
<tr>
<td>Exterior Bearing Walls(^a)</td>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>Supporting one floor only</td>
<td>Supporting a roof only</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Interior Bearing Walls</td>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>Supporting one floor only</td>
<td>Supporting roofs only</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Columns</td>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>Supporting one floor only</td>
<td>Supporting roofs only</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Beams, Girders, Trusses, and Arches</td>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>Supporting one floor only</td>
<td>Supporting roofs only</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Floor Construction</td>
<td>2</td>
<td>1/2</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Interior Nonbearing Walls</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Exterior Nonbearing Walls(^c)</td>
<td>0(^b)</td>
<td>0(^b)</td>
<td>0(^b)</td>
<td>0(^b)</td>
<td>0(^b)</td>
</tr>
</tbody>
</table>

Note: H = heavy timber members (see text for requirements).
\(^a\)See 7.2.3.2.9.
\(^b\)See 7.3.2.1.
\(^c\)See 7.2.3.2.13, 7.2.4.2.3, and 7.2.5.6.8.

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7.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In all occupancies except hazardous mercantile, industrial, or storage occupancies with ordinary contents or high hazard contents, and any other occupancies with high hazard contents exceeding the maximum allowable quantities per control as set forth in 34.1.3, the fire protection of structural members shall not be required for the roof construction, including protection of roof framing and decking, when all parts of the roof construction are 20 ft (6 m) or more above any floor immediately below.

7.2.3.2.10 Fire Retardant–Treated Wood Roof.

7.2.3.2.10.1 Fire retardant–treated wood members shall be permitted to be used for unprotected members specified in 7.2.3.2.9.

7.2.3.2.10.2 Fire retardant–treated wood shall be permitted for roof construction, including girders and trusses, under the following conditions:

1. In Type II structures
2. In Type I structures of two stories or less
3. In Type I structures over two stories when the vertical distance from the floor to the roof is 20 ft (6 m) or more

7.2.3.2.11 Heavy Timber Structural Members. In all occupancies, heavy timber structural members shall be permitted to be used for the roof construction where a 1-hour or less fire resistance rating is required.

7.2.3.2.12 Interior Nonbearing Walls. Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

7.2.3.2.12.1 Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

7.2.3.2.12.2 Interior nonbearing walls required to have a fire resistance rating of 2 hours or less shall be permitted to be fire retardant–treated wood enclosed within noncombustible or limited-combustible materials, provided such walls are not used as shaft enclosures.

7.2.3.2.13 Exterior Nonbearing Walls. Nonbearing exterior walls shall be constructed of noncombustible materials, limited-combustible materials, or materials specified in 7.2.3.2.13.1 or 7.2.3.2.13.2.

7.2.3.2.13.1 Fire retardant-treated wood shall be permitted in exterior nonbearing walls when such walls are not required to have fire resistance ratings.

7.2.3.2.13.2 Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.3.2.14 Combustible Materials. Combustible materials shall be permitted in accordance with the following:

1. Foam plastic insulation complying with Section 48.4
2. Aluminum composite material complying with Section 37.4
3. Thermal and acoustical insulation, other than foam plastic, complying with Chapter 51
4. Interior floor finish and interior finish, trim, and millwork such as doors, door frames, window sashes, and window frames
5. Light-transmitting plastic complying with Section 48.7 and Section 38.14
6. Class A, Class B, or Class C roof coverings
7. Blocking

7.2.3.2.15 Ceiling Plenum. The space between the top of the finished ceiling and the underside of the floor or roof above shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the conditions of 7.2.3.2.16 through 7.2.3.2.21 are met.

7.2.3.2.16 Plenum Materials Combustibility. All materials exposed to the airflow shall be noncombustible, limited-combustible, or fire retardant–treated wood and have a maximum smoke developed index of 50, unless otherwise permitted by the following:

1. The following materials shall be permitted in the plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread of 5 ft (1.5 m) or less when tested in accordance with the specified test method:
   a. Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces
   b. Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics
   c. Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics
   d. Optical-fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway

2. Smoke detectors shall not be required to comply with 7.2.3.2.16.
3. Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less,
Certain concealed spaces shall be permitted in
the space between the top of the finished
wood columns and arches conforming to heavy
timber construction, provided they are protected to provide a fire
resistance rating of not less than 1 hour.

7.2.5.4 Concealed Space. Certain concealed spaces shall be permitted in
accordance with 7.2.5.5.3(D).

7.2.5.5 Type IV (2HH) Allowable Dimensions. All dimensions in 7.2.5.5
shall be considered nominal.

7.2.5.5.1 Columns. (A) Wood columns supporting floor loads shall be not less than 8 in. (200 mm)
in any dimension.
(B) Wood columns supporting only roof loads shall be not less than 6 in. (150 mm)
in width and not less than 8 in. (200 mm) in depth.

7.2.5.5.2 Beams. (A) Wood beams and girders supporting floor loads shall be not less than 6 in. (150 mm)
in width and not less than 10 in. (250 mm) in depth.
(B) Wood beams and girders and other roof framing supporting roof loads shall not be less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.3 Arches. (A) Framed or glued laminated arches that spring from grade or the floor line
and timber trusses that support floor loads shall be not less than 8 in. (200 mm)
in width or depth.
(B) Framed or glued laminated arches for roof construction that spring from grade or the floor line and do not support floor loads shall have members not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth for the lower half of the member height and not less than 6 in. (150 mm) in depth for the upper half of the member height.
(C) Framed or glued laminated arches for roof construction that spring from the top of walls or wall abutments, and timber trusses that do not support floor loads, shall have members not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.4 Splice Plates. Splice plates shall be not less than 3 in. (75 mm) in thickness.

7.2.5.5.5 Floors. Floors shall be constructed of spline or tongue-and-groove plank not less than 3 in. (75 mm) in thickness that is covered with 1-in. (25-
mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel; or they shall be constructed of laminated planks not less than 4 in. (100 mm) in width, set close together on edge, spliced at intervals of 18 in. (460 mm), and covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel.

7.2.5.5.6 Roof Decks. Roof decks shall be constructed of spline or tongue-
and-groove plank not less than 2 in. (50 mm) in thickness; or of laminated planks not less than 3 in. (75 mm) in width, set close together on edge, and laid as required for floors; or of 1 1/8-in. (28.5-mm) thick interior wood structural panel (exterior glue); or of approved noncombustible or limited-combustible materials of equivalent fire durability.

7.2.5.6 Special Requirements—Type IV Construction. The special
requirements in 7.2.5.6.1 through 7.2.5.6.8 shall apply to Type IV construction.

7.2.5.6.1 Structural Elements. Structural elements shall be of heavy timber
members (sawn or glued-laminated) or of approved noncombustible or limited-combustible materials other than wood shall be provided, provided they are protected to provide a fire
resistance rating of not less than 1 hour.

7.2.5.6.2 Columns, Arches, Beams, and Roof Decking. Where horizontal
separation of 20 ft (6 m) or more is provided, wood columns, arches, beams, and
roof decking conforming to the requirements for heavy timber in 7.2.5.5 shall be permitted to be used on the exterior.
7.2.5.6.3 Partitions. Permanent partitions shall be permitted to be of solid wood construction formed by not less than two layers of matched boards of 1-in. (25-mm) nominal thickness or of 1-hour fire resistance–rated construction as set forth in Table 7.2.2.

7.2.5.6.4 Floors. Floors shall be permitted to be of heavy timber, masonry, concrete, wood, or steel and shall be constructed as required in Chapter 8.

7.2.5.6.5 Roofs. Roofs of 1-hour fire resistance–rated construction shall be permitted.

7.2.5.6.6 Stairways.

7.2.5.6.6.1 Stairways shall be permitted to be constructed with wood treads and risers of not less than 2-in. (50-mm) nominal thickness.

7.2.5.6.6.2 Where built-on, laminated or plank inclines are required for floors, stairways shall be permitted to be 1-in. (25-mm) nominal thickness or shall be permitted to be constructed as required for Type I or Type II construction.

7.2.5.6.7 Exterior Walls. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.5.6.8 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285 shall be permitted.

7.2.5.6.9 Type V (111 or 000) Construction. Type V (111 or 000) construction shall be that type in which exterior walls, bearing walls, columns, beams, girders, trusses, arches, floors, and roofs are entirely or partially of wood or other approved material.

7.2.7 Fire Resistance Rating Requirements for Structural Elements.

7.2.7.1 Fire resistance protection shall be provided for structural elements as set forth in Chapter 7 and other chapters of this Code.

7.2.7.2 Structural elements shall meet the requirements of 7.2.7.2.1 and 7.2.7.2.2.

7.2.7.2.1 Structural elements including floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support.

7.2.7.2.2 Structural elements shall be required to have only the fire resistance rating required for the construction classification, provided both of the following are met:

(1) Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less

(2) Structural elements do not serve as exit enclosures or protection for vertical openings.

7.2.7.2.3 Structural elements required to have a fire resistance rating and that support more than two floors, one floor and roof, a bearing wall, or a nonbearing wall more than two stories high shall be individually protected on all sides for their full length with materials providing the required fire resistance rating.

7.2.7.2.4 Structural members, other than those specified in 7.2.7.3, required to have a fire resistance rating shall be protected by individual encasement, membrane or ceiling protection in accordance with Section 8.6 or a combination of both.

7.2.7.2.5 In addition to the requirements of 7.2.7.3 and 7.2.7.4, columns shall meet the following requirements:

(1) Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected.

(2) Where the column extends through a ceiling, the fire-resistant protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

7.2.7.6 The required thickness and construction of fire-resistive materials or assemblies enclosing trusses shall be based on one of the following:

(1) The results of full-scale tests or combinations of tests on truss components

(2) Approved calculations based on such tests to verify that the assembly is provided with the required fire resistance rating.

7.2.7.7 The fire resistance rating required for external structural members, defined as columns, trusses, girders, and beams located beyond the perimeter of the structure floor area, shall be permitted to be calculated by using analytical methods in accordance with the provisions set forth in 8.2.3.

7.2.7.8 Structural elements within exterior walls or located along the exterior perimeter shall have a fire resistance rating as required by Table 7.2.2 for exterior bearing walls based on the type of construction.

7.2.7.9 Structural elements within an exterior wall located where openings are not permitted, or where protection of openings is required in accordance with 7.3.5, shall have a fire resistance rating based on protection against exterior fire exposure as required for exterior bearing walls or the structural element, whichever requires the greater fire resistance rating.

7.2.7.10 The edges of lugs, brackets, rivets, and bolt heads attached to structural elements shall be permitted to extend to within 1 in. (25.4 mm) of the surface of the fire-resistive protection.

7.2.7.11 Conduits, pipes, ducts, or other construction elements shall not be embedded within required fire-resistive protection of any structural member requiring individual encasement to achieve the required fire resistance rating.

7.2.7.12 Fire-resistive materials covering columns required to have a fire resistance rating, where exposed to impact damage by moving vehicles, handling of merchandise, or by other means, shall be protected from damage.

7.3 Exterior Walls.

7.3.1 General. Exterior walls shall be designed and constructed in accordance with Chapter 37 and Section 7.3.

7.3.2 Fire Resistance Rating of Exterior Walls.

7.3.2.1 Exterior walls shall have a fire resistance rating based on Table 7.2.2 and Table 7.3.2.1, whichever is greater.

7.3.2.2 The fire resistance rating requirements of Table 7.3.2.1 shall not apply to exterior walls of one- and two-family dwellings having a horizontal separation of more than 5 ft (1.5 m).

7.3.3 Continuity. Exterior walls required to be fire rated by Table 7.3.2.1 because of horizontal separation shall be continuous from the foundation to not less than 30 in. (760 mm) above the roof, except where otherwise permitted by 37.1.3.1.

7.3.4 Horizontal Separation.

7.3.4.1 Horizontal separation shall be measured at a 90-degree angle to the exterior wall.

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### Table 7.3.2.1 Fire Resistance Ratings for Exterior Walls (hr)

<table>
<thead>
<tr>
<th>Occupancy Classification</th>
<th>Horizontal Separation ft (m)</th>
<th>Opening Protectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 to ≤1.5</td>
<td>&gt;5 to ≤10</td>
</tr>
<tr>
<td>Assembly, educational, day care, health care, ambulatory healthcare, detection and correctional, residential, residential board and care, business, industrial, and storage occupancies with low hazard contents</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Mercantile and industrial and storage occupancies with ordinary hazard contents</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Industrial and storage occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3</td>
<td>See Chapter 34 for minimum requirements</td>
<td></td>
</tr>
</tbody>
</table>

---

5000-81
Where an exterior wall is required to have a 100,000 (9,300) 100,000 (9,300) 1
100,000 (9,300)
100,000 (9,300)
100,000 (9,300)
1

The area of unprotected openings permitted by Table 7.3.5(a) and
Table 7.3.5(b) shall be permitted to be doubled under either of the following conditions:

(1) Where the structure is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, NFPA 13D and NFPA 13R.

(2) Where the openings are protected with fire window assembly or other listed opening protectives having a fire protection rating in accordance with Table 7.3.5(b).

Table 7.3.5(b) Minimum Fire Protection Ratings for Exterior Opening Protectives

<table>
<thead>
<tr>
<th>Wall Fire Resistance Rating (hr)</th>
<th>Fire Protection Rating (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>1</td>
<td>3/4</td>
</tr>
</tbody>
</table>

7.4 Occupancy Compartment.

7.4.1 General. All structures shall be constructed as a single occupancy compartment or shall be separated into more than one occupancy compartment.

7.4.1.1 Height. The height of structures and size of occupancy compartments, based on their intended occupancy and type of construction classification, shall not exceed the limits set forth in Tables 7.4.1(a), 7.4.1(b), 7.4.1(c) and 7.4.1(d), except as modified in 7.4.3. The most restrictive height so determined shall apply to the entire occupancy compartment.

7.4.1.2 Towers, spires, steeples, and similar structures shall not be limited in height when constructed entirely of noncombustible materials.

7.4.1.2 Towers, spires, steeples, and similar structures shall extend not more than 20 ft (6 m) above the height limit permitted in Tables 7.4.2(a) or 7.4.2(c) when constructed of combustible materials.

7.4.1.2 Area. The maximum area of each occupancy compartment shall be determined by applying the area limits in Tables 7.4.1(b) or 7.4.1(d) for each of the occupancies within the occupancy compartment. The most restrictive area so determined shall apply to the entire occupancy compartment. Table 7.4.1(b) shall only be applied where the occupancy compartment is protected throughout with an approved, supervised automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

7.4.1.2 Unlimited Area Occupancy Compartment. The area of a two-story structure containing a single occupancy compartment shall not be limited where an approved, electrically supervised automatic sprinkler system is provided in accordance with NFPA 13 and the structure is surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

Table 7.4.1(b) Area and Separation Requirements for Sprinklered Occupancy Compartments

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>Max Compartment Area(^{a,b})</th>
<th>Fire Resistant Rating</th>
<th>Hourly Separation (^{1,2})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly &gt; 1000</td>
<td>100,000 (9,300)</td>
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<tr>
<td>Assembly &gt; 300</td>
<td>100,000 (9,300)</td>
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<td>1</td>
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<tr>
<td>Assembly &lt; 300</td>
<td>100,000 (9,300)</td>
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<td>1</td>
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<tr>
<td>Assembly, Outdoor</td>
<td>NL</td>
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<tr>
<td>Educational</td>
<td>100,000 (9,300)</td>
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<tr>
<td>Day care</td>
<td>100,000 (9,300)</td>
<td>1</td>
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</tr>
<tr>
<td>Day care homes</td>
<td>100,000 (9,300)</td>
<td>1</td>
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</tr>
<tr>
<td>Health care</td>
<td>100,000 (9,300)</td>
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<td>1</td>
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<tr>
<td>Ambulatory health care</td>
<td>100,000 (9,300)</td>
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<td>1</td>
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<tr>
<td>Detention/correctional</td>
<td>100,000 (9,300)</td>
<td>1</td>
<td>1</td>
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<tr>
<td>One- and two-family</td>
<td>100,000 (9,300)</td>
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<td>1</td>
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<tr>
<td>Lodging/rooming houses</td>
<td>100,000 (9,300)</td>
<td>1</td>
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<tr>
<td>Hotels/dormitories</td>
<td>100,000 (9,300)</td>
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<td>Apartment</td>
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<tr>
<td>Residential board and care — small</td>
<td>100,000 (9,300)</td>
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<tr>
<td>Residential board and care — large</td>
<td>100,000 (9,300)</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Assisted living</td>
<td>100,000 (9,300)</td>
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<td>1</td>
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<tr>
<td>Mercantile:</td>
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</tr>
<tr>
<td>Ordinary hazard content</td>
<td>100,000 (9,300)</td>
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<td>Bulk merchandising retail</td>
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<td>Business</td>
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<tr>
<td>Low hazard content</td>
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<tr>
<td>Ordinary hazard content</td>
<td>100,000 (9,300)</td>
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<tr>
<td>High hazard content</td>
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<tr>
<td>Low hazard content</td>
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<td>Ordinary hazard content</td>
<td>100,000 (9,300)</td>
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<td>High hazard content</td>
<td>100,000 (9,300)</td>
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</table>

NL - Not Limited; NP - Not Permitted

7.5 Occupancy Barriers. Occupancy barriers used to separate a structure into different occupancy compartments shall comply with sections 7.5.1 through 7.5.4.

7.5.1 Vertical Occupancy Barrier - Walls. Barriers used to create occupancy compartments shall comply with the requirements of fire barriers in Chapter 8 and 7.4.3.1.3.1 through 7.4.3.1.3.4.

7.5.1.1 Glazed Openings. Glazed openings shall be limited to those in fire doors complying with 7.4.3.1.3.2.

7.5.1.2 Fire Doors.

7.5.1.2.1 Fire doors in 1-hour occupancy barriers shall have a fire protection rating of at least 1 hour.

7.5.1.2.2 All fire doors shall limit temperature rise to 450°F (250°C) when tested in accordance with NFPA 252, Standard Methods of Fire Tests of Door Assemblies.

7.5.2 Horizontal Occupancy Barrier - Floor/Ceiling Assembly. Barriers used to create occupancy compartments shall comply with the requirements of horizontal assemblies in Chapter 8 and 7.4.3.1.3.1 through 7.4.3.1.3.4.
### Table 7.3.5(a) Maximum Allowable Area of Unprotected Openings (percentage of exterior walls)

<table>
<thead>
<tr>
<th>Horizontal Separation (ft)</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
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</table>

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².

### Table 7.3.5(b) Maximum Allowable Area of Unprotected Openings (percentage of exterior wall)

<table>
<thead>
<tr>
<th>Horizontal Separation (ft)</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
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Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².
### Table 7.4.1(a) Allowable Height in Feet and Stories - Sprinklered

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>I (443)</th>
<th>II (332)</th>
<th>III (222)</th>
<th>I (111)</th>
<th>II (000)</th>
<th>III (211)</th>
<th>III (200)</th>
<th>IV (2HH)</th>
<th>V (111)</th>
<th>V (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Height (ft)</td>
<td>NL</td>
<td>NL</td>
<td>180</td>
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<td>85</td>
<td>75</td>
<td>85</td>
<td>70</td>
<td>60</td>
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<tr>
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<td>NP</td>
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</tr>
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<td>Ambulatory health care</td>
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</table>

Educational
- One- and two-family
- Day care homes
- Lodging/rooming houses
- Hotels/dormitories
- Apartment
- Residential board and care — small
- Assisted living
- Mercantile: (All types)
- Business
- Industrial: : (All types)
- Storage: : (All types)

NL — Not Limited; NP — Not permitted.

### Table 7.4.1(c) Allowable Height in Feet and Stories - Nonsprinklered

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>I (443)</th>
<th>II (332)</th>
<th>II (222)</th>
<th>II (111)</th>
<th>II (000)</th>
<th>II (211)</th>
<th>II (200)</th>
<th>IV (2HH)</th>
<th>V (111)</th>
<th>V (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Height (ft)</td>
<td>NL</td>
<td>NL</td>
<td>160*</td>
<td>65</td>
<td>55</td>
<td>65</td>
<td>55</td>
<td>65</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Assembly &gt; 1000*</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>NP</td>
<td>2</td>
<td>NP</td>
<td>2</td>
<td>2</td>
<td>NP</td>
</tr>
<tr>
<td>Assembly &gt; 300*</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Assembly &lt; 300</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Assembly outdoor</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Day care</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Health care</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>Ambulatory health care</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Detention/correctional</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>NP</td>
<td>2</td>
<td>NP</td>
<td>2</td>
<td>2</td>
<td>NP</td>
</tr>
<tr>
<td>Residential board and care — large</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
</tbody>
</table>

Educational
- Day care homes
- One- and two-family
- Lodging/rooming houses
- Hotels/dormitories
- Apartment
- Residential board and care — small
- Assisted living
- Mercantile: (All types)
- Business
- Industrial: : (All types)
- Storage: : (All types)

NL — Not Limited; NP — Not permitted.
Table 7.4.1(d) Area and Separation Requirements for Nonsprinklered Compartments

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>Max Compartment Area&lt;sup&gt;1,4&lt;/sup&gt;</th>
<th>Fire Resistant Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ft² (m²)</td>
<td>Hourly Separation&lt;sup&gt;1,2&lt;/sup&gt;</td>
</tr>
<tr>
<td>Assembly &gt; 1000&lt;sup&gt;5&lt;/sup&gt;</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly &gt; 300&lt;sup&gt;5&lt;/sup&gt;</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly &lt; 300</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly, Outdoor</td>
<td>NL</td>
<td>-</td>
</tr>
<tr>
<td>Educational</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Day care</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Day care homes</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Health care</td>
<td>NP</td>
<td>2</td>
</tr>
<tr>
<td>Ambulatory health care</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Detention/correctional</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>One- and two-family</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Lodging/rooming houses</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Hotels/dormitories</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Apartment</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Residential board and care — small</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Residential board and care — large</td>
<td>NP</td>
<td>2</td>
</tr>
<tr>
<td>Assisted living</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Mercantile:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordinary hazard content</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Bulk merchandising retail</td>
<td>12,000 (1,116)</td>
<td>3</td>
</tr>
<tr>
<td>Business</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Industrial:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low hazard content</td>
<td>20,000 (1,860)</td>
<td>1</td>
</tr>
<tr>
<td>Ordinary hazard content</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>High hazard content</td>
<td>12,000 (1,116)</td>
<td>3</td>
</tr>
<tr>
<td>Storage:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low hazard content</td>
<td>20,000 (1,860)</td>
<td>1</td>
</tr>
<tr>
<td>Ordinary hazard content</td>
<td>12,000 (1,116)</td>
<td>3</td>
</tr>
<tr>
<td>High hazard content</td>
<td>12,000 (1,116)</td>
<td>4</td>
</tr>
</tbody>
</table>

NL – Not Limited; NP-Not Permitted

7.5.3 Ductwork in One-Hour Barriers. Openings in 1-hour occupancy barriers for air-handling ductwork or air movement shall be protected with fire dampers having a fire protection rating of 1 hour.

7.5.4 Continuity.

7.5.4.1 In Type II (000), III (200) and V (000) construction, the fire resistance of supporting construction required of Chapter 8 shall not be required where supporting horizontal occupancy barriers have a 1-hour fire resistance rating, provided that all structural elements supporting the horizontal occupancy barriers are protected by construction having a 20-minute finish rating.

7.5.4.2 In sprinklered structures of Type II (000), III (200) and V (000) construction containing assembly uses other than exhibition or display, ambulatory health care, apartment, hotel/dormitory, and business occupancies, the fire resistance of supporting construction required of Chapter 8 shall not be required where supporting horizontal occupancy barriers have a 1-hour fire resistance rating.

Substantiation: After three years of exhaustive examination of various limiting elements on the height and area of buildings, the task group that was assigned the responsibility to examine the subject has not succeeded in divining the rationale behind the need for such limits. The only fundamental conclusion is that there is no data that connects a building type to its ability to respond to incidents.

Current limits and even the complex matrix created by the task group are an artificial mechanism to justify market segments for building materials and fire protection systems. The compromises that are included in the current codes are not based on rational processes that reflect safety, but a series of wild guesses and fragments of research designed to deal with the needs of a specific application. Sections in the current Chapter 7 provide special exceptions for:

- mixed occupancies,
- malls,
- open parking structures, small board and care,
- airport traffic control towers, basements,
- underground buildings, steeples,
- towers, aircraft hangers,
- low-hazard industrial processes,
- rack storage buildings,
- enclosed parking structures with other occupancies above,
- enclosed parking structures with open parking structure above,
- open parking structure beneath occupancies other than assembly and health care, detention and correctional, and ambulatory health care occupancies,
- open parking structures beneath other occupancies,
- residential sprinkler increase,
- frontage increase,
- unlimited area one-story,
- unlimited area sprinklered one-story,
- unlimited area sprinklered, one- or two-story storage,
- unlimited area two-story,
- unlimited area, reduced open space,
- high hazard uses in storage and industrial occupancies,
- educational buildings,
- motion picture theaters, and sprinklered one-story assembly.

The task force created a concept for building limits which included no limits for the height or area of buildings. The type of construction required is based on the location of the occupancy in a building as was required by NFPA 101. Limits on compartments is based on research and testing that established 12,000 sf as the maximum area that a typical fire department could be expected to be able to control for moderate fire loads.

An increase based on research in Great Britain determined that a factor could be applied that increased the area of a compartment that is protected by an automatic sprinkler system. The original analysis determined the factor to be 8, which boosted the area of the compartment to 100,000 sf. Although the original factor may be debated, an independent analysis using NFIRS data established that the factor could be somewhere between 2 and 9.

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>Category</th>
<th>Description</th>
<th>Proposed Modifier (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly</td>
<td>1</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Educational</td>
<td>2</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Day Care</td>
<td>25</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Health Care</td>
<td>5</td>
<td>Institutional 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Ambulatory Health Care</td>
<td></td>
</tr>
<tr>
<td>1 &amp; 2 Family</td>
<td>41</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Lodging/Rooming House</td>
<td>43</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hotels</td>
<td>44</td>
<td>Transient</td>
<td>7.5</td>
</tr>
<tr>
<td>Apartments</td>
<td>42</td>
<td>Multi-family 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>Apartments 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>52</td>
<td>Condos 5</td>
<td></td>
</tr>
<tr>
<td>Residential Board/Care</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercantile</td>
<td>51</td>
<td>Stores 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>52</td>
<td>Malls 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>53</td>
<td>55,58</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>58</td>
<td>With residential 9</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>Offices 63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>62</td>
<td>Multi-story offices</td>
<td></td>
</tr>
<tr>
<td>Industrial/ Manufacturing</td>
<td>70's</td>
<td>Manufacturing 3.5</td>
<td></td>
</tr>
<tr>
<td>Special Purpose Industrial (2)</td>
<td>6</td>
<td>Basic Industry 2x3.5 = 7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

(1) Occupancies not specifically found in NFPA 901 are italicized.

(2) As defined in Chapter 29 in NFPA 5000
There is nothing to tie the data sets using NFPA 900 directly to the need for control because of the confusion in data collection, analysis and application. In a report on the number of deaths and number of fires in buildings, the NFPA researchers indicate that the number of deaths are so low in hotels, motels, stores and office buildings that they are statistically insignificant. This is also true of nonsprinklered schools, mercantile and office buildings. Based on the data, or the lack of significant data to base a decision upon, I am proposing a simple system of areas within which the vast majority of losses will be controlled and will remain insignificant. Although this system will not control the building size, it will limit building compartments to the point that the losses will be acceptable.

7.1.3 Location and Property. Buildings or parts of buildings shall be subject to the requirements of Chapter 37 for protection of exterior walls and Section 7.3 for openings in exterior walls as determined by location on property.

7.1.4 Terminology. Where the term limited-combustible is used in this Code, it shall also include noncombustible.

7.1.5 Fire Department Access.

7.1.5.1 General. Fire department access roads shall be provided and maintained in accordance with 7.1.5.

### Table 7. Estimated Reduction in Civilian Deaths per Thousand Fires Due to Sprinklers, in Selected Property Classes

<table>
<thead>
<tr>
<th>Property Use</th>
<th>Without Sprinklers</th>
<th>Civilian Deaths per Thousand Fires</th>
<th>With Sprinklers</th>
<th>Percent Reduction</th>
<th>Average Number of Fires per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public assembly properties</td>
<td>0.8</td>
<td>0.0*</td>
<td>100%</td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td>Eating and drinking facilities</td>
<td>0.8</td>
<td>0.0*</td>
<td>100%</td>
<td></td>
<td>6,200</td>
</tr>
<tr>
<td>Educational properties</td>
<td>0.0*</td>
<td>0.0*</td>
<td>100%</td>
<td></td>
<td>4,200</td>
</tr>
<tr>
<td>Health care facilities**</td>
<td>4.9</td>
<td>1.7</td>
<td>75%</td>
<td></td>
<td>1,400</td>
</tr>
<tr>
<td>Care of aged facilities</td>
<td>2.1</td>
<td>0.7</td>
<td>74%</td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>Residential properties</td>
<td>9.4</td>
<td>2.1</td>
<td>78%</td>
<td></td>
<td>326,900</td>
</tr>
<tr>
<td>One- and two-family dwellings</td>
<td>9.7</td>
<td>4.7</td>
<td>71%</td>
<td></td>
<td>248,600</td>
</tr>
<tr>
<td>Apartments</td>
<td>8.2</td>
<td>1.6</td>
<td>81%</td>
<td></td>
<td>71,000</td>
</tr>
<tr>
<td>Rooming, boarding and lodging</td>
<td>22.4</td>
<td>6.8</td>
<td>57%</td>
<td></td>
<td>1,900</td>
</tr>
<tr>
<td>Hotels and motels</td>
<td>22.1</td>
<td>0.5*</td>
<td>97%</td>
<td></td>
<td>1,900</td>
</tr>
<tr>
<td>Dormitories and barracks</td>
<td>1.5</td>
<td>0.5*</td>
<td>94%</td>
<td></td>
<td>1,300</td>
</tr>
<tr>
<td>Food or beverage store</td>
<td>1.4</td>
<td>0.3</td>
<td>74%</td>
<td></td>
<td>15,100</td>
</tr>
<tr>
<td>General office building</td>
<td>1.4</td>
<td>0.3</td>
<td>74%</td>
<td></td>
<td>15,100</td>
</tr>
<tr>
<td>Industrial facilities</td>
<td>1.1</td>
<td>0.0*</td>
<td>100%</td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>Manufacturing facilities</td>
<td>2.9</td>
<td>0.8</td>
<td>60%</td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td>Storage facilities</td>
<td>1.0</td>
<td>0.0*</td>
<td>100%</td>
<td></td>
<td>25,000</td>
</tr>
</tbody>
</table>

*Based on fewer than two deaths per year in the entire ten-year period. Results may not be significant.

**Refers to care-of-aged and care-of-sick facilities only.

***Percent reductions calculated before death rates are rounded.

Note: These are fires reported to U.S. municipal fire departments and so exclude fire reported only to Federal or state agencies or industrial fire brigades.

Fire statistics do not include proportional shares of fires with sprinkler status unknown or unreported. Fires are estimated to the nearest hundred. Sums may not equal total due to rounding errors.

Fire apparatus access roads shall be designed and provided such reduction does not impair access by fire apparatus and approved signs are installed and maintained indicating the established vertical clearance.

Vertical clearances or widths shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus.

Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface so as to provide all-weather driving capabilities.

The turning radius of a fire apparatus access road shall be as approved.

Dead-end fire apparatus access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for turning fire apparatus around.

When a bridge is required to be used as part of a fire apparatus access road, it shall be constructed and maintained in accordance with nationally recognized standards.

The bridge shall be designed for a live load sufficient to carry the imposed loads of fire apparatus.

Vehicle load limits shall be posted at both entrances to bridges when required by the authority having jurisdiction.

The gradient for a fire apparatus access road shall not exceed the maximum approved.

The angle of approach and departure for any means of fire lane access shall not exceed 1 ft (0.3 m) drop in 20 ft (6 m) and the design limitations of the fire apparatus of the fire department subject to approval by the authority having jurisdiction.

When required by the authority having jurisdiction, approved signs or other approved notices shall be provided and maintained for fire apparatus access roads or fire lanes to identify such roads or prohibit the obstruction thereof, or both.

7.2 Construction Types.

7.2.1 General.

7.2.1.1 All buildings and parts of buildings hereafter constructed shall conform to the requirements for the specific types of construction as provided in this chapter and shall comply with the applicable requirements of other chapters and sections of this Code.

7.2.1.2 Except as permitted by other provisions of this Code, wherever two or more types of construction are used in the same building, the entire building shall be classified as the least type of construction in the building and shall be subject to the requirements for that type.

7.2.1.3 Requirements for specific materials, types of construction, and fire protection shall be minimum requirements, and any material, type of construction, or fire protection affording safety or a fire resistance rating equal to or greater than that provided in this Code shall be permitted. Materials shall be in accordance with all of the following except as modified by any special requirements in 7.2.3:

(A) Chapter 41, Concrete
(B) Chapter 42, Aluminum
(C) Chapter 43, Masonry
(D) Chapter 44, Steel
(E) Chapter 45, Wood
(F) Chapter 46, Glass and Glazing
(G) Chapter 47, Gypsum Board, Lath, and Plaster
(H) Chapter 48, Plastics

7.2.2 Types of Building Construction. All buildings and structures shall be classified according to their type of construction, which shall be based upon one of five basic types of construction designated by roman numerals as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table 7.2.2 and 7.2.3 through 7.2.6 and with fire resistance ratings meeting the requirements of 7.2.7.

### Table 7.2.2 Fire Resistance Ratings for Types I Through V Construction (hr)

<table>
<thead>
<tr>
<th></th>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
<th>Type V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exterior Bearing Walls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>4 3</td>
<td>2 1</td>
<td>0b</td>
<td>2 2</td>
<td>2 1</td>
</tr>
<tr>
<td>Supporting one floor only</td>
<td>4 3</td>
<td>2 1</td>
<td>0b</td>
<td>2 2</td>
<td>2 1</td>
</tr>
<tr>
<td>Supporting a roof only</td>
<td>4 3</td>
<td>1 1</td>
<td>0b</td>
<td>2 2</td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Interior Bearing Walls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>4 3</td>
<td>2 1</td>
<td>0</td>
<td>1 0</td>
<td>2 1</td>
</tr>
<tr>
<td>Supporting one floor only</td>
<td>3 2</td>
<td>2 1</td>
<td>0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
<tr>
<td>Supporting roofs only</td>
<td>3 2</td>
<td>2 1</td>
<td>0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
<tr>
<td><strong>Columns</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>4 3</td>
<td>2 1</td>
<td>0</td>
<td>1 0</td>
<td>H 1</td>
</tr>
<tr>
<td>Supporting one floor only</td>
<td>3 2</td>
<td>2 1</td>
<td>0</td>
<td>1 0</td>
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Note: H = heavy timber members (see text for requirements).

See 7.3.2.1.

See 7.2.3.2.13, 7.2.4.2.3, and 7.2.5.6.8.
7.2.3 Type I (442 or 332) and Type II (222, 111, or 000) Construction.

7.2.3.1 Type I and Type II Construction. Type I (442 or 332) and Type II (222, 111, or 000) construction shall be those types in which the structural members, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are of approved noncombustible or limited-combustible materials.

7.2.3.2 Special Requirements—Type I and Type II Construction. The special requirements in 7.2.3.2.1 through 7.2.3.2.22 shall apply to Type I and Type II construction.

7.2.3.2.1 Wood Sleepers. Where wood sleepers are used for laying wood flooring on noncombustible floors, the furring space shall be filled with noncombustible or limited-combustible material or shall be fireblocked so that there will be no open space over 100 ft² (9 m²) in area under the flooring.

7.2.3.2.2 Sleeper Space. The furring spaces created by sleepers in 7.2.3.2.1 shall be filled solidly under all permanent partitions to prevent spread of fire under the flooring.

7.2.3.2.3 Mezzanine Floors. Mezzanine floors shall be of noncombustible or limited-combustible construction with a 1-hour fire resistance rating.

7.2.3.2.4 Mezzanine Floors in Type II (000) Construction. Mezzanine floors in Type II (000) construction shall be permitted to be of nonrated construction.

7.2.3.2.5 Platforms. Permanent platforms shall be permitted to be constructed of noncombustible or limited-combustible materials.

7.2.3.2.6 Space Beneath Platforms. When the space beneath any permanent platform is used for storage or any other purpose other than equipment, wiring, or plumbing, the floor construction shall not be less than 1-hour fire resistance-rated construction.

7.2.3.2.7 Fire Retardant–Treated Wood Platforms. Fire retardant–treated wood shall be permitted for permanent platforms that are not more than 30 in. (760 mm) above the floor and do not occupy more than 50 percent of the floor area.

7.2.3.2.8 Fire Retardant–Treated Wood Platform Area. The maximum area of a platform constructed with fire retardant–treated wood shall be not more than 3000 ft² (278 m²).

7.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In all occupancies except hazardous mercantile, industrial, or storage occupancies with ordinary contents or high hazard contents, and any other occupancies with high hazard contents exceeding the maximum allowable quantities per control as set forth in 34.1.3, the fire protection of structural members shall not be required for the roof construction, including protection of roof framing and decking, when all parts of the roof construction are 20 ft (6 m) or more above any floor immediately below.

7.2.3.2.10 Fire Retardant–Treated Wood Roof.

7.2.3.2.10.1 Fire retardant–treated wood members shall be permitted to be used for unprotected members specified in 7.2.3.2.9.

7.2.3.2.10.2 Fire retardant–treated wood shall be permitted for roof construction, including girders and trusses, under the following conditions:

(1) In Type II buildings
(2) In Type I buildings of two stories or less
(3) In Type I buildings over two stories when the vertical distance from the floor to the roof is 20 ft (6 m) or more

7.2.3.2.11 Heavy Timber Structural Members. In all occupancies, heavy timber structural members shall be permitted to be used for the roof construction where a 1-hour or less fire resistance rating is required.

7.2.3.2.12 Interior Nonbearing Walls.

7.2.3.2.12.1 Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

7.2.3.2.12.2 Interior nonbearing walls required to have a fire resistance rating of 2 hours or less shall be permitted to be fire retardant–treated wood enclosed within noncombustible or limited-combustible materials, provided such walls are not used as shaft enclosures.

7.2.3.2.13 Exterior Nonbearing Walls. Nonbearing exterior walls shall be constructed of noncombustible materials, limited-combustible materials, or materials specified in 7.2.3.2.13.1 or 7.2.3.2.13.2.

7.2.3.2.13.1 Fire retardant-treated wood shall be permitted in exterior nonbearing walls when such walls are not required to have fire resistance ratings.

7.2.3.2.13.2 Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.3.2.14 Combustible Materials. Combustible materials shall be permitted in accordance with the following:

1. Foam plastic insulation complying with Section 48.4
2. Aluminum composite material complying with Section 37.4
3. Thermal and acoustical insulation, other than foam plastic, complying with Chapter 51
4. Interior floor finish and interior finish, trim, and millwork such as doors, door frames, window sashes, and window frames
5. Light-transmitting plastic complying with Section 48.7 and Section 38.14
6. Class A, Class B, or Class C roof coverings
7. Blocking

7.2.3.2.15 Ceiling Plenum. The space between the top of the finished ceiling and the underside of the floor or roof above shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the conditions of 7.2.3.2.16 through 7.2.3.2.21 are met.

7.2.3.2.16 Plenum Materials Combustibility. All materials exposed to the airflow shall be noncombustible, limited-combustible, or fire retardant–treated wood and have a maximum smoke developed index of 50, unless otherwise permitted by the following:

1. The following materials shall be permitted in the plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread of 5 ft (1.5 m) or less when tested in accordance with the specified test method:

(a) Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces
(b) Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics
(c) Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics
(d) Optical-fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway

2. Smoke detectors shall not be required to comply with 7.2.3.2.16.

3. Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

4. Pipe insulation and coverings, duct coverings, duct linings, vapor-retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and duct silencers used in duct systems shall be permitted, provided that the following criteria are met:

(a) The products specified in 7.2.3.2.16(4) shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50.

(b) Where the products specified in 7.2.3.2.16(4) are to be applied with adhesives, they shall be tested with such adhesives applied, and the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state.

7.2.3.2.17 Plenum Fire Stopping. The integrity of the fire stopping for penetrations shall be maintained.
7.2.3.18 Plenum Light Diffusers. Light diffusers, other than those made of metal or glass, used in air-handling light fixtures shall be listed and marked as follows:

Fixture Light Diffusers for Air-Handling Fixtures

7.2.3.19 Plenum Air Temperature. The temperature of air delivered to plenums shall not exceed 250°F (121°C).

7.2.3.20 Plenum Materials Exposure. Materials used in the construction of a plenum shall be suitable for continuous exposure to the temperature and humidity conditions of the environmental air in the plenum.

7.2.3.21 Ceiling Plenum Tested Assembly. Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform in design with the fire resistance–rated assembly, as tested in accordance with NFPA 251, Standard Method of Tests of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials.

7.2.3.22 Raised Floor Plenum. The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return and exhaust air from the occupied area, provided that the conditions in 7.2.3.2.16 through 7.2.3.2.21 are met.

7.2.4 Type III (211 or 200) Construction.

7.2.4.1 Type III Construction. Type III (211 or 200) construction shall be that type in which exterior walls and structural members that are portions of exterior walls are of approved noncombustible or limited-combustible materials, and in which interior structural members, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are entirely or partially of wood of smaller dimensions than required for Type IV construction or are of approved noncombustible, limited-combustible, or other approved combustible materials.

7.2.4.2 Special Requirements—Type III Construction. The special requirements in 7.2.4.2.1 through 7.2.4.2.3 shall apply to Type III construction.

7.2.4.2.1 Fire Retardant–Treated Wood. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.4.2.2 Heavy Timber. Wood columns and arches conforming to heavy timber sizes shall be permitted where exterior walls are required to have a 1-hour fire resistance rating or less.

7.2.4.2.3 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of acceptance of, NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.5 Type IV (2HH) Construction.

7.2.5.1 Type IV Construction. Type IV (2HH) construction shall be that type in which exterior walls, and interior bearing walls and structural members that are portions of such walls, are of approved noncombustible or limited-combustible materials. Other interior structural members, including columns, beams, girders, trusses, arches, floors, and roofs, shall be of solid or laminated wood without concealed spaces and shall comply with the allowable dimensions of 7.2.5.5.

7.2.5.2 Exterior Wall Separation. Exterior walls greater than 30 ft (9.1 m) from the property line shall be permitted to be of heavy timber construction, provided the 2-hour rating as required by Table 7.2.2 is maintained and such walls contain no combustible concealed spaces.

7.2.5.3 Interior Columns, Arches, Beams, Girders, and Trusses. Interior columns, arches, beams, girders, and trusses of approved materials other than wood shall be permitted, provided they are protected to provide a fire resistance rating of not less than 1 hour.

7.2.5.4 Concealed Space. Certain concealed spaces shall be permitted in accordance with 7.2.5.5.3(D).

7.2.5.5 Type IV (2HH) Allowable Dimensions. All dimensions in 7.2.5.5 shall be considered nominal.

7.2.5.5.1 Columns.

(A) Wood columns supporting floor loads shall be not less than 8 in. (200 mm) in any dimension.

(B) Wood columns supporting only roof loads shall be not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth.

7.2.5.5.2 Beams.

(A) Wood beams and girders supporting floor loads shall be not less than 6 in. (150 mm) in width and not less than 10 in. (250 mm) in depth.

(B) Wood beams and girders and other roof framing supporting roof loads only shall be not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.3 Arches.

(A) Framed or glued laminated arches that spring from grade or the floor line and timber trusses that support floor loads shall be not less than 8 in. (200 mm) in width or depth.

(B) Framed or glued laminated arches for roof construction that spring from grade or the floor line and do not support floor loads shall have members not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth for the lower half of the member height and not less than 6 in. (150 mm) in depth for the upper half of the member height.

(C) Framed or glued laminated arches for roof construction that spring from the top of walls or wall abutments, and timber trusses that do not support floor loads, shall have members not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

(D) Spaced members shall be permitted to be composed of two or more pieces not less than 3 in. (75 mm) in thickness where blocked solidly throughout their intervening spaces or where such spaces are tightly closed by a continuous wood cover plate not less than 2 in. (50 mm) in thickness that is secured to the underside of the members.

7.2.5.5.4 Splice Plates. Splice plates shall be not less than 3 in. (75 mm) in thickness.

7.2.5.5.5 Floors. Floors shall be constructed of spline or tongue-and-groove plank not less than 3 in. (75 mm) in thickness that is covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel; or they shall be constructed of laminated planks not less than 4 in. (100 mm) in width, set close together on edge, spiked at intervals of 18 in. (460 mm), and covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel.

7.2.5.5.6 Roof Decks. Roof decks shall be constructed of spline or tongue-and-groove plank not less than 2 in. (50 mm) in thickness; or of laminated planks not less than 3 in. (75 mm) in width, set close together on edge, and laid as required for floors; or of 1 1/8-in. (28.5-mm) thick interior wood structural panel (exterior glue); or of approved noncombustible or limited-combustible materials of equivalent fire durability.

7.2.5.6 Special Requirements—Type IV Construction. The special requirements in 7.2.5.6.1 through 7.2.5.6.8 shall apply to Type IV construction.

7.2.5.6.1 Structural Elements. Structural elements shall be of heavy timber members (sawn or glued-laminated) or of fire resistance-rated construction as set forth in Table 7.2.2 when materials other than heavy timber are used.

7.2.5.6.2 Columns, Arches, Beams, and Roof Decking. Where horizontal separation of 20 ft (6 m) or more is provided, wood columns, arches, beams, and roof decking conforming to the requirements for heavy timber in 7.2.5.5 shall be permitted to be used on the exterior of the building.

7.2.5.6.3 Partitions. Permanent partitions shall be permitted to be of solid wood construction formed by not less than two layers of matched boards of 1-in. (25-mm) nominal thickness or of 1-hour fire resistance–rated construction as set forth in Table 7.2.2.

7.2.5.6.4 Floors. Floors shall be permitted to be of heavy timber, masonry, concrete, wood, or steel and shall be constructed as required in Chapter 8.

7.2.5.6.5 Roofs. Roofs of 1-hour fire resistance–rated construction shall be permitted.
### 7.2.5.6.6 Stairways.

7.2.5.6.6.1 Stairways shall be permitted to be constructed with wood treads and risers of not less than 2 in. (50-mm) nominal thickness.

7.2.5.6.6.2 Where built-on, laminated or plank inlines are required for floors, stairways shall be permitted to be 1 in. (25-mm) nominal thickness or shall be permitted to be constructed as required for buildings of Type I or Type II construction.

#### 7.2.5.6.7 Exterior Walls

Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.5.6.8 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285 shall be permitted.

7.2.5.6.9 Type V (111 or 000) Construction. Type V (111 or 000) construction shall be that type in which exterior walls, bearing walls, columns, beams, girders, trusses, arches, floors, and roofs are entirely or partially of wood or other approved material.

#### 7.2.5.6.10 Fire Resistance Rating Requirements for Structural Elements.

7.2.5.6.10.1 Fire resistance protection shall be provided for structural elements as set forth in Chapter 7 and other chapters of this Code.

7.2.5.6.10.2 Structural elements shall meet the requirements of 7.2.7.2.1 and 7.2.7.2.2.

7.2.5.6.10.2.1 Structural elements including floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support.

7.2.5.6.10.2.2 Structural elements shall be required to have only the fire resistance rating required for the construction classification of the building. Provided both of the following are met:

1. Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less
2. Structural elements do not serve as exit enclosures or protection for vertical openings.

7.2.5.6.10.2.3 Structural elements required to have a fire resistance rating and that support more than two floors, one floor and roof, a bearing wall, or a nonbearing wall more than two stories high shall be individually protected on all sides for their full length with materials providing the required fire resistance rating.

7.2.5.6.10.2.4 Structural members, other than those specified in 7.2.7.3, required to have a fire resistance rating shall be protected by individual encasement, membrane or ceiling protection in accordance with Section 8.6 or a combination of both.

7.2.5.6.10.2.5 In addition to the requirements of 7.2.7.3 and 7.2.7.4, columns shall meet the following requirements:

1. Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected.
2. Where the columns extend through a ceiling, the fire-resistant protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

### Table 7.3.2.1 Fire Resistance Ratings for Exterior Walls (hr)

<table>
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<tr>
<th>Occupancy Classification</th>
<th>Horizontal Separation (ft)</th>
<th>Opening Protectives</th>
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<td>0 to 5 (0 to 1.5)</td>
<td>&gt;5 to ≤10 (1.5 to 3)</td>
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<td>Assembly, educational, day care, health care, ambulatory health care, detection and correctional, residential, residential board and care, business, industrial, and storage occupancies with low hazard contents</td>
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<td>Mercantile and industrial and storage occupancies with ordinary hazard contents</td>
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<td>Industrial and storage occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3</td>
<td>See Chapter 34 for minimum requirements</td>
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</table>
7.3.4.3 Where the exterior wall of a building is an irregular vertical shape, the following criteria shall be met:

(1) The horizontal separation shall be determined by measuring from a vertical plane that is located so that no portion of the exterior wall of the building is between such vertical plane and the line to which the horizontal separation is measured.

(2) The area of openings shall be determined from the projection of the openings in the exterior wall onto the vertical plane.

7.3.5 Opening Protectives. Where an exterior wall is required to have a fire resistance rating as determined by Table 7.3.2.1, the area of openings in exterior walls shall not exceed that permitted by this section and Table 7.3.5(a) or Table 7.3.5(b).

7.3.5.1 The area of unprotected openings in an exterior wall shall be the aggregate of unprotected openings expressed as a percentage of the area of the exterior wall.

7.3.5.2 When required by Table 7.3.2.1 to have a fire protection rating, penetrations shall comply with the requirements of Section 8.8.

7.3.5.3 The area of an exterior wall shall be calculated as the length, edge to edge, of the exterior wall multiplied by the measurement from the finished ground level to the uppermost ceiling.

7.3.5.4 The area of unprotected openings permitted by Table 7.3.5(a) and Table 7.3.5(b) shall be permitted to be doubled under either of the following conditions:

(1) Where the building is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with 55.3.1.1

(2) Where the openings are protected with fire window assembly or other listed opening protectives having a fire protection rating in accordance with Table 7.3.5.4.

Table 7.3.5.4 Minimum Fire Protection Ratings for Exterior Opening Protectives

<table>
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<th>Wall Fire Resistance Rating (hr)</th>
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7.3.6 Light-transmitting Plastics. Light-transmitting plastics used in exterior walls shall be in accordance with Section 48.7.

7.3.7 Lintels. Fire protection to the bottom flange of lintels, shelf angles, or plates shall not be required, provided that one of the following conditions is met:

(1) The span is 6 ft (1.8 m) or less.

(2) The lintels, shelf angles, or plates support only masonry veneer.

7.3.8 Parapets. Parapet walls shall be provided on the exterior of all buildings, where exterior walls are required to have a fire resistance rating by Table 7.3.2.1, unless otherwise permitted by 37.1.3.1.

7.3.8.1 Parapets not Required. Parapets shall not be required where any of the following conditions exist:

(1) Where unprotected openings are permitted

(2) Where the roof slopes up more than 4 in. in 12 in. (100 mm in 300 mm) from the back of the exterior wall of the building, and the roof covering has a Class A rating

(3) Where the exterior wall of the building is located 20 ft (6.1 m) from the property line or on an alley or public way 20 ft (6.1 m) or more wide

(4) Where the entire building is protected by an automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems

(5) Where the roof is constructed of noncombustible or limited-combustible materials and the joint between the wall, and the roof is sealed using an approved fire penetration seal or fireblock

(6) In Type III (211), Type IV, and Type V (111) construction where all of the following conditions are met:

(a) The joint between the wall and the roof is sealed using an approved penetration seal or fireblock

(b) The roof deck meets one of the following criteria:

i. For a distance of at least 4 ft (1.2 m) from the wall, the roof deck has no openings and is of noncombustible or limited-combustible materials or fire retardant–treated wood.

ii. For a distance of at least 4 ft (1.2 m) from the wall, the roof deck has no openings and 5/8-in. (15.9-mm) Type X gypsum board is directly beneath the underside of the roof deck, or is supported by a minimum 2-in. (51-mm) ledger at the roof deck, and is attached to the roof framing members.

(c) The entire roof covering has a minimum rating of Class B.

(d) Roof framing elements that are within 5 ft (1.5 m) of the exterior wall are parallel to the exterior wall and are protected to the same fire resistance rating required for the exterior wall.

(e) Roof framing elements that are perpendicular to the wall and all supporting elements of the roof are protected to the same fire resistance rating required for the exterior wall for their full span (roof frame) or height (supporting elements).

(7) Where the building has an area of not more than 1000 ft² (93 m²) on any floor

7.3.8.2 Fire Resistance of Parapets. Parapets shall have the same degree of fire resistance as is required for the wall on which they are erected.

7.3.8.3 Parapet Height. Parapets shall extend not less than 30 in. (760 mm) above any part of the roof that is within 10 ft (3.0 m) of the parapet wall.

7.3.8.4 Coping of Parapets. All parapet walls shall have coping of approved materials

7.3.9 Vertical Separation of Exterior Openings.

7.3.9.1 Where buildings are over three stories in height, and are not protected throughout with a fire sprinkler system in accordance with NFPA 13, or NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and including Four Stories in Height, openings in exterior walls that expose openings in the next story above shall be separated or protected in accordance with 7.3.9.2 where the openings in the next story above are located within a 5-ft (1.5-m) radius.

7.3.9.2 Protection of openings shall comply with at least one of the following:

(1) Either opening is protected in accordance with Section 7.3.

(2) Protection is provided to separate the openings with a spandrel panel not less than 3 ft (0.9 m) high or a wall with a 1-hour fire resistance rating.

(3) Protection is provided between the openings with a 30-in. (760-mm) horizontally projecting barrier with a 1-hour fire resistance rating.

7.3.10 Projections.

7.3.10.1 Cornices. Cornices, architectural appendages, eave overhangs, and other projections extending beyond the exterior wall shall be supported by the building and shall be permitted to be constructed of exterior fire retardant–treated wood or materials required by the type of construction in accordance with Chapter 7.

7.3.10.2 Bays, Oriels, Porches, Decks, and Balconies. Bay windows, oriel windows, porches, decks, balconies, and similar projections shall conform to the fire resistance rating requirements for exterior walls and floors in Chapter 7 for the type of construction of the building, except as permitted by 57.2.2.1 through 57.2.2.3.

7.3.10.2.1 Bay and Oriel Windows. Bay windows and oriel windows in buildings 40 ft (12.2 m) in height or less shall be permitted to be constructed of fire retardant–treated wood.

7.3.10.2.2 Porches, Decks, and Balconies. Porches, balconies, decks, and similar projections from buildings shall be permitted to be constructed of fire retardant–treated wood where attached to buildings less than 40 ft (12.2 m) in height.

7.3.10.2.3 Combustible Construction. Balconies and similar projections on buildings of Type III, Type IV, and Type V construction shall be permitted to be of combustible construction and shall not be required to have a fire resistance rating where the building is protected by automatic sprinklers in accordance with 55.3.1.1 and where automatic sprinkler protection is extended to such balconies and projections.
### Table 7.3.5(a) Maximum Allowable Area of Unprotected Openings (percentage of exterior walls)

<table>
<thead>
<tr>
<th>Horizontal Separation (s)</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
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<td>171</td>
<td>180</td>
<td>189</td>
<td>198</td>
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</table>
| Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².

### Table 7.3.5(b) Maximum Allowable Area of Unprotected Openings (percentage of exterior wall)

<table>
<thead>
<tr>
<th>Horizontal Separation (s)</th>
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<td>198</td>
<td>207</td>
<td>216</td>
</tr>
</tbody>
</table>
| Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².
### 7.3.11 Aluminum Composite Materials

**7.3.11.1** The requirements of Section 37.4 shall apply to aluminum composite materials (ACM) having a minimum exterior skin in thickness of 0.019 in. (0.5 mm), a minimum interior skin in thickness of 0.010 in. (0.25 mm), and a maximum panel thickness of 1⁄4 in. (6 mm) where installed on exterior walls.

**7.3.11.2** ACM shall be permitted to be installed on the exterior of buildings classified as Type I, Type II, Type III, or Type IV construction, as specified in 37.4.4, without changing the construction classification of the building.

**7.3.11.3** ACM shall not reduce the required fire resistance rating of the exterior wall to which the ACM are attached.

**7.3.11.4** ACM installed on the exterior of buildings classified as Type I, Type II, Type III, or Type IV construction shall comply with each of the following conditions:

1. ACM that are part of the exterior wall assembly shall be tested in accordance with NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, using the maximum panel thickness intended for use and shall meet the conditions of acceptance specified therein.

2. ACM shall have a Class A rating as specified in Chapter 10, based on the maximum thickness intended for use.

3. ACM shall be completely separated from the building interior by a thermal barrier meeting the requirements in 48.3.3.

**7.3.11.4.1** The thermal barrier specified in 37.4.4(2) shall not be required where ACM meet either of the following conditions:

1. ACM are installed as part of a balcony or similar architectural appendage or as exterior trim.

2. ACM are approved for the specific installation, based on tests conducted using the maximum thickness intended for use in accordance with one of the following:

   a. NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth

   b. UL 1040, Standard for Fire Test of Insulated Wall Construction

   c. FM 4880, Approval Standard for Class I Insulated Wall or Wall & Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems

   d. UL 1715, Standard for Safety for Fire Test of Interior Finish Material

**7.3.11.4.2** ACM tested in accordance with 37.4.4(1)(2) shall be tested as an assembly in the manner intended for use that shall include joints, seams, fasteners, and other construction details typical of the intended installation.

**7.3.11.4.3** ACM shall not be required to comply with 37.4.4, provided that one of the following conditions is met:

1. ACM shall be permitted to be installed to a maximum height of 40 ft (12.2 m) above grade where either 37.4.5.1(a) or 37.4.5.1(b) and 37.4.5.1(c) are met as follows:

   a. Where the exterior wall is located not more than 5 ft (1.5 m) from a property line, the ACM shall not cover more than 10 percent of the exterior wall.

   b. Where the exterior wall is located more than 5 ft (1.5 m) from a property line, the area of the exterior wall covered by the ACM shall not be limited.

2. ACM shall have a Class B rating, as specified in Chapter 10, based on the maximum thickness intended for use.

3. ACM shall be permitted to be installed to a maximum height of 50 ft (15.2 m) above grade, provided that all of the following conditions are met:

   a. ACM shall be installed on the exterior wall so that the aggregate area of contiguous panels bounded by vertical joints and a vertical separation of not less than 4 ft (1.2 m) as measured to adjacent ACM, does not exceed 300 ft² (27.9 m²).

**7.3.11.4.4** ACM installed on the exterior walls of buildings classified as Type I, Type II, Type III, or Type IV construction shall have a Class B rating, as specified in Chapter 10, based on the maximum thickness intended for use.

**7.3.11.4.5** ACM shall be labeled.

**7.3.12 Exterior Insulation and Finish Systems (EIFS).**

**7.3.12.1 General.** The provisions of Section 37.5 shall govern the materials, construction, and quality of exterior insulation and finish systems (EIFS) for use as non-load-bearing barrier walls and exterior cladding systems.


**7.3.12.3 Expansion Joints.** Expansion joints shall be provided in EIFS in the following locations:

1. Where EIFS adjoin dissimilar construction

2. Where building expansion joints occur

3. Where prefabricated panels abut one another

4. Where the substrate changes

5. Where significant structural movement occurs due to changes in roofline, building shape, or structural system

6. In the floor lines in multilevel wood frame construction

**7.3.12.4 Quality Assurance.**

**7.3.12.4.1 Manufacturer.** The manufacturer shall furnish a report certifying that the materials are in conformance with EIMA 99A, this Code, and the contract documents.

**7.3.12.4.2 Contractor.** The installing contractor shall have a certificate of instruction from the respective EIFS manufacturer’s applicator training program.

### 7.4 Height and Area Limitations

**7.4.1 General.** Except as modified in Section 7.4 through Section 7.6, the heights and areas of buildings, based on their intended occupancy and type of construction classification, shall not exceed the limits set forth in Table 7.4.1 where the values in Table 7.4.1 for sprinklered buildings apply to buildings protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with 55.3.1.1(1).

**7.4.1.1 Mixed Occupancies.** Buildings with mixed occupancies complying with 6.2.3 shall have their required type of construction determined by applying the most restrictive type of construction to the entire building in accordance with Section 7.4 through Section 7.6 for each of the occupancies.

**7.4.1.2 Separated Occupancies.** Buildings with separated occupancies complying with 6.2.4 shall have their required type of construction determined in accordance with 7.4.1.2.1 and 7.4.1.2.2.

**7.4.1.2.1** Each separated occupancy shall comply with the story and height limitations of Section 7.4 through Section 7.6 based on the location of the occupancy in the building.

**7.4.1.2.2** For each story in the building, the sum of the ratios of the floor area of each separated occupancy divided by the allowable floor area as determined by Table 7.4.1, and as modified by 7.6.2, shall not exceed 1.0.

**7.4.1.3 Special Requirements.**

**7.4.1.3.1 Mall Buildings.** The height and area of mall buildings shall comply with Section 27.4.4.

**7.4.1.3.2 Open Parking Structures.** The height and area of open parking structures of Type I and Type II construction shall be governed by NFPA 88A, Standard for Parking Structures, and 30.8.1.6.6.
<table>
<thead>
<tr>
<th>Construction Type</th>
<th>TYPE I</th>
<th>TYPE II</th>
<th>TYPE III</th>
<th>TYPE IV</th>
<th>TYPE V</th>
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</thead>
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<tr>
<td>Maximum building height (ft)</td>
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<td>332</td>
<td>222</td>
<td>111</td>
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<td>UL 1</td>
<td>UL 1</td>
<td>S 1</td>
<td>NP 1</td>
</tr>
</tbody>
</table>

Notes:
1. For SI units, 1 ft = 0.3048 m and 1 ft² = 0.093 m².
2. Within each occupancy category, the top row refers to the allowable number of stories above grade, and the bottom row refers to allowable area per floor.
3. S = sprinklered maximum building height in feet and maximum number of stories above grade.
4. NP = non-sprinklered maximum building height in and maximum allowable number of stories above grade.
5. UL = unlimited.
6. NP = not permitted.
For board and care occupancies, the values in Table 7.4.1 for sprinklered buildings shall also apply to buildings, four stories or less in height, protected throughout with an approved, electrically supervised sprinkler system in accordance with 55.3.1.1(2).

7.4.1.3.4 Airport Traffic Control Towers.

7.4.1.3.4.1 Airport traffic control towers, with cab areas not exceeding 1500 ft² (140 m²) per floor, shall be permitted to be constructed in accordance with Table 7.4.1.3.4.1.

Table 7.4.1.3.4.1 Height and Area Requirements for Airport Traffic Control Tower

<table>
<thead>
<tr>
<th>Type of Construction</th>
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<tr>
<td>I (442)</td>
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<td>II (352)</td>
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<td>140</td>
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<td>II (222)</td>
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<td>1500</td>
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<td>II (111)</td>
<td>30</td>
<td>1500</td>
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<tr>
<td>III (211)</td>
<td>26</td>
<td>1500</td>
</tr>
</tbody>
</table>

Note: UL = unlimited.

7.4.1.3.4.2 Height shall be measured from grade to cab floor.

7.4.2 Areas.

7.4.2.1 Maximum Allowable Area. The allowable area per floor (A_f) for any individual story in a building shall not exceed the area permitted by Table 7.4.1, as modified by applicable increases in accordance with 7.6.2.

7.4.2.2 Basements. Basements shall not be required to be included in the total allowable building area, provided they do not exceed the area permitted for a one-story building based on the occupancy and type of construction.

7.4.2.3 Multiple Types of Construction. Where two or more types of construction not separated by fire walls exist in the same building, the area of the entire building shall not exceed the area permitted, based on occupancy for the types of construction used in the building.

7.4.3 Height and Number of Stories.

7.4.3.1 Maximum Height and Number of Stories. The maximum height and number of stories of a building shall depend on the use and occupancy of the building and on the type of construction and shall not exceed the limits specified in Table 7.4.1, except as provided in 7.4.3.4 and as modified by Section 7.5.

7.4.3.2 Building Height. The height of a building shall be measured from grade to the highest finish roof surface in the case of flat roofs or to the average height of the highest sloped roof.

7.4.3.3 Number of Stories. The number of stories shall be counted starting with the first story above grade and ending with the highest occupiable story containing the occupancy considered.

7.4.3.3.1 Interstitial spaces used solely for building or process systems directly related to the level above or below shall not be considered a separate story.

7.4.3.3.2 A mezzanine shall not be counted as a story for the purpose of determining the allowable number of stories.

7.4.3.4 Multiple Types of Construction. Where two or more types of construction exist in the same building, the height of the entire building shall not exceed the least height permitted, based on the occupancy for the types of construction used in the building, except as modified by 7.4.3.6.5, 7.4.3.6.6, 7.4.3.6.7, or 7.4.3.6.8.

7.4.3.5 Underground Buildings. All structural members up to and including the floor of the lowest level of discharge of underground buildings more than 30 ft (9 m) below or more than one level below the lowest level of exit discharge shall be Type I or Type II (222) construction.

7.4.3.6 Special Height Requirements.

7.4.3.6.1 Towers, Spires, Steeples, and Other Roof Structures. Towers, spires, steeples, and other roof structures erected as part of a building and not used for habitation or storage shall be consistent with the required type of construction for the building and shall meet the requirements of 7.4.3.6.1.1 and 7.4.3.6.1.2.

7.4.3.6.1.1 Towers, spires, steeples, and other roof structures shall not be limited in height when constructed entirely of noncombustible materials.

7.4.3.6.1.2 Towers, spires, steeples, and other roof structures shall extend not more than 20 ft (6 m) above the height limit permitted in Table 7.4.1 when constructed of combustible materials.

7.4.3.6.2 Aircraft Hangars. The height of one-story aircraft hangars shall not be limited when the building is surrounded by public space, streets, or permanent open yards not less in width than 1½ times the height of the building and the building is protected with an approved, electrically supervised sprinkler system in accordance with NFPA 13. (See Chapter 29 and Chapter 30 for special occupancy requirements.)

7.4.3.6.3* Low-Hazard Industrial Processes Requiring Unusual Heights. Buildings and structures of Type I or Type II construction, or buildings and structures protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, that are designed to house low-hazard industrial processes that require unusual heights to accommodate craneways or special machinery and equipment, shall be permitted to be unlimited in height.

7.4.3.6.4 Rack Storage Buildings. One-story buildings and structures used for rack storage shall not be limited in height, provided that all of the following requirements are met:

1. The building shall be of Type II construction.
2. The building shall not be open to the public.
3. The building shall conform to the requirements of 7.6.3.3.

7.4.3.6.5 Enclosed Parking Structures with Occupancies Above. A basement or first story above grade plane of a building shall be considered as a separate and distinct building for the purpose of determining the limitation on number of stories and type of construction, provided all of the following conditions are met:

1. The basement or first story above grade plane shall be of Type I construction and shall be separated from the building above with a horizontal assembly having a minimum 3-hour fire resistance rating.
2. Shaft, stairway, ramp, or elevator enclosures through the horizontal assembly shall have not less than a 2-hour fire resistance rating with opening protective in accordance with Table 8.7.2.
3. Where the walls below the horizontal assembly have a minimum 3-hour fire resistance rating with opening protective as required for walls forming a 3-hour fire barrier, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire resistance rating, provided that all the following conditions are met:
   a. The building above the horizontal assembly is not required to be of Type I construction.
   b. The enclosure connects less than four stories.
   c. The enclosure opening protective above the horizontal assembly are a minimum 1-hour fire protection rating.
4. The building above the horizontal assembly shall contain only business, mercantile, or residential occupancies or assembly occupancies having an assembly room with an occupant load of less than 300.
5. The building below the horizontal assembly shall be an enclosed parking structure used for the parking and storage of private motor vehicles, unless otherwise permitted by the following:
   a. Entry lobbies, mechanical rooms, and similar uses incidental to the operation of the building shall be permitted.
   b. Business, mercantile occupancies, and assembly occupancies having an assembly room with an occupant load of less than 300 shall be permitted in addition to those uses incidental to the operation of the building (including storage areas), provided that the entire structure below the horizontal assembly is protected throughout by an approved, electrically supervised automatic sprinkler system.
6. The maximum building height in feet shall not exceed the heights set forth in Table 7.4.1 for the least restrictive type of construction involved.

7.4.3.6.6 Enclosed Parking Structure with Open Parking Structure Above. An enclosed parking structure located in the basement or first story below an open parking structure shall be classified as a separate and distinct
Means of egress for the upper occupancy shall be of Type I or Type II construction and shall have a fire resistance rating at least equal to the fire resistance rating of the open parking structure.

(2) The height and the number of the floors above the basement shall be limited as specified in 30.8.6.1.5.

(3) The floor assembly between the enclosed parking structure and open parking structure shall be protected as required for the floor assembly of the enclosed parking structure.

(4) Openings in the floor assembly between the enclosed parking structure and open parking structure, except exit openings, shall not be required to be protected.

(5) The enclosed parking structure shall be used for the parking or storage of private motor vehicles, but shall be permitted to contain an office, a waiting room, and a toilet room having a total area of not more than 1000 ft² (93 m²) and mechanical equipment rooms incidental to the operation of the building.

7.4.3.6.7 Open Parking Structure Beneath Occupancies Other than Assembly and Health Care, Detention and Correctional, and Ambulatory Health Care Occupancies.

7.4.3.6.7.1 Where a maximum one-story abovegrade parking structure, enclosed or open or a combination thereof, of Type I or Type II (222) construction or open Type IV construction, with grade entrance, is provided under a building of occupancies other than assembly and health care, detention and correctional, and ambulatory health care occupancies, the number of stories to be used in determining the minimum type of construction shall be permitted to be measured from the floor above such a parking area.

7.4.3.6.7.2 The floor assembly between the parking structure and occupancies other than assembly and health care, detention and correctional, and ambulatory health care occupancies above shall comply with the following:

(1) The floor assembly shall be of type of construction required for the parking structure.

(2) The floor assembly shall provide a fire resistance rating not less than the mixed occupancy separation required in Table 6.2.4.1.

7.4.3.6.8 Open Parking Structure Beneath Other Occupancies.

7.4.3.6.8.1 Limitations.

(A) Open parking structures constructed under other occupancies shall not exceed the height and area limitations permitted under 30.8.1.6.

(B) The height of the portion of the building above the open parking structure shall not exceed the limitations in Section 7.4 for the upper occupancy.

(C) The height, in both feet and stories, of the portion of the building above the open parking structure shall be measured from grade and shall include both the open parking structure and the portion of the building above the parking structure.

7.4.3.6.8.2 Fire Separation. Fire separation assemblies between the parking occupancy and the upper occupancy shall correspond to the required fire resistance rating prescribed in Table 6.2.4.1 for the uses involved.

7.4.3.6.8.3 Type of Construction. The type of construction shall apply to each occupancy individually, except that structural members, including main bracing within the open parking structure, that are necessary to support the upper occupancy shall be provided with the more restrictive fire resistance ratings of the use groups involved, as shown in Table 7.2.2.

7.4.3.6.8.4 Means of Egress. Means of egress for the upper occupancy shall conform to Chapter 11 and shall be separated from the parking occupancy by fire barriers having at least a 2-hour fire resistance rating, with self-closing doors.

7.5 Height Increases Permitted.

7.5.1 General. The allowable building heights and allowable number of stories shall be as shown in Table 7.4.1, as modified in 7.4.3.6.

7.5.2 Residential Sprinkler Increase. For residential occupancies provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13R, the maximum overall height shall be increased by 20 ft (6 m) and the maximum number of stories shall be increased by one story, provided the overall building height does not exceed 60 ft (18 m) and the maximum number of stories does not exceed four stories.

7.6 Area Increases Permitted.

7.6.1 General. The floor areas specified in Table 7.4.1 shall be permitted to be increased in accordance with 7.6.2. Unlimited area buildings shall be in accordance with 7.6.3.

7.6.2 Area Increase. The floor areas specified in Table 7.4.1 shall be permitted to be increased to account for frontage (f) and automatic sprinkler protection (lₙ) in accordance with the following equation:

\[ A_f = A_i \left[ 1 + \left( \frac{l_f}{100} \right) + \left( \frac{l_n}{100} \right) \right] \]  \hspace{1cm} (7.1)

where:

- \( A_f \) = allowable area per floor (ft² or m²)
- \( A_i \) = area per floor (ft² or m²) in accordance with Table 7.4.1
- \( l_f \) = frontage area increase (percent), as determined per 7.6.2.1
- \( l_n \) = sprinkler area increase (percent), as determined per 7.6.2.2

7.6.2.1* Frontage Increase. When a building has more than 25 percent of its perimeter fronting or facing on a public way or open space having a minimum width of 20 ft (6 m), the frontage increase shall be determined in accordance with the following equations:

\[ l_f = \left( 100 \right) \left[ \left( \frac{F_f}{P} \right) - 0.25 \right] W_w \] \hspace{1cm} (7.2)

\[ l_f = \left( 100 \right) \left[ \left( \frac{F_f}{P} \right) - 0.25 \right] W_w \div 9 \] \hspace{1cm} (7.3)

where:

- \( l_f \) = frontage area increase (percent)
- \( F_f \) = a sum of the building perimeter with a constant width (W_w) (ft or m) that is at least 20 ft (6 m)
- \( P \) = building perimeter (ft or m)
- \( W_w \) = weighted width (ft or m) = \( \sum \left[ \left( F_{f_i} \right) / W_i \right] \)
- \( N \) = a number of sections of open space with a discretely different constant width (W_i) from other sections of open space
- \( F_{f_i} \) = section of building perimeter fronting or facing a public way or open space with a constant width (W_i) (ft or m) that is at least 20 ft (6 m)
- \( W_w \) = width of any section of public way or open space with a constant dimension (ft or m), as measured in accordance with 7.6.2.1.1, 7.6.2.1.2, and 7.6.2.1.3

7.6.2.1.1 The dimension W_w shall be the distance, measured horizontally, between a building exterior wall and the adjacent property line or between a building exterior wall and the property line on the opposite side of a street, alley, or public way.

7.6.2.1.1.1 The dimension W_w shall be measured perpendicular from the building exterior wall.

7.6.2.1.1.2 Where walls of a building creating a court face each other, W_w shall be measured between facing exterior walls.

7.6.2.1.1.3 Where two or more buildings are located on the same lot, W_w shall be the distance, measured horizontally, between the facing exterior walls of the adjacent buildings.

7.6.2.1.2 The width limit (W_w) shall be a minimum of 20 ft (6 m), and the quantity (W_w) divided by 30 ft (9 m) shall not exceed 1.0 for all occupancies other than those specified in 7.6.2.1.3.

7.6.2.1.3 The width limit (W_w) shall be a minimum of 20 ft (6 m), and the quantity (W_w) divided by 30 ft (9 m) shall not exceed 2.0 for business, industrial, mercantile, and storage occupancies and assembly occupancies intended for viewing of indoor sporting events with spectator seating.

7.6.2.1.4 Frontage open space shall be in compliance with 7.6.2.1.4.1 and 7.6.2.1.4.2.

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Buildings protected with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 shall be permitted to have the following sprinkler \( \Delta_f \) area increases:

1. 200 percent \( (\Delta_f = 200) \) for buildings of two stories or more
2. 300 percent \( (\Delta_f = 300) \) for single-story buildings

7.6.2.3 Maximum Area. The maximum area of a building shall be determined by multiplying the allowable area per floor \( A_f \) by the number of stories up to a maximum of three stories.

7.6.2.3.1 The maximum floor area of a building more than three stories in height shall not exceed that permitted for a three-story building.

7.6.2.3.2 Buildings protected in accordance with NFPA 13R shall not be required to meet the requirement of 7.6.2.3.1.

7.6.3 Unlimited Area Buildings.

7.6.3.1 One-Story Building. The area of a one-story building used for business, industrial occupancies with ordinary hazard contents, or as a storage occupancy with low hazard contents, shall not be limited when the building is surrounded and adjointed by public ways or yards not less than 60 ft (18 m) in width.

7.6.3.2 Sprinklered One-Story Building.

7.6.3.2.1 The area of a one-story building used for business, industrial occupancies with ordinary hazard contents, or mercantile occupancies, and assembly uses intended for viewing of indoor sporting events with spectator seating shall not be limited when the building is provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 and is surrounded and adjointed by public ways or yards not less than 60 ft (18 m) in width.

7.6.3.2.2 The electrically supervised automatic sprinkler system specified in 7.6.3.2.1 shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming, and equestrian activities, provided that the following conditions are met:

1. Exit doors directly to the outside are provided for occupants of the participant sports areas.
2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 55.2.

7.6.3.3 Sprinklered, One- or Two-Story Storage Building. The total area of a one- or two-story structure used for storage of ordinary hazard contents shall not be limited, provided all the following requirements are met:

1. The entire structure is protected throughout with an approved, electrically supervised automatic sprinkler systems installed in accordance with NFPA 13.
2. The exterior walls face public ways or yards not less than 60 ft (18 m) in width.

7.6.3.4 Two-Story Building. The area of a two-story building used for business, industrial, or mercantile occupancies shall not be limited when the building is provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 and is surrounded and adjointed by public ways or yards not less than 60 ft (18 m) in width.

7.6.3.5 Reduced Open Space. The permanent open space of 60 ft (18 m) required in 7.6.3.1, 7.6.3.2, 7.6.3.3, and 7.6.3.4 shall be permitted to be reduced to not less than 40 ft (12 m), provided the following requirements are met:

1. The reduced open space shall not be permitted for more than 75 percent of the perimeter of the building.
2. The exterior wall facing the reduced open space shall have a minimum fire resistance rating of 3 hours.
3. Openings in the exterior wall, facing the reduced open space, shall have opening protectives with a fire protection rating of 3 hours.

7.6.3.6 High Hazard Uses in Storage and Industrial Occupancies. High hazard contents, other than detonation or deflagration hazards, that are required to be stored in detached buildings and that are in compliance with Chapter 34 shall be permitted in unlimited area buildings of industrial and storage occupancies in accordance with the limitations of 7.6.3.6.3.

7.6.3.6.1 Fire areas located at the perimeter of the unlimited area building shall not exceed 10 percent of the area of the building nor the area limitations specified in Table 7.4.1, as modified by Section 7.6, based on the percentage of the perimeter of the fire area that fronts on a street or other unoccupied space.

7.6.3.6.2 Fire areas other than those specified in 7.6.3.6.1 shall not exceed 25 percent of the area limitations specified in Table 7.4.1.

7.6.3.6.3 Fire resistance rating requirements of fire barrier assemblies shall be in accordance with Table 6.2.4.1.

7.6.3.7 Educational Buildings. The area of one-story buildings of Type II (111), Type II (000), Type III (211), or Type IV construction used for educational occupancies shall not be limited when the following criteria are met:

1. Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building.
2. The building shall be equipped throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.
3. The building shall be surrounded and adjointed by public ways or yards not less than 60 ft (18 m) in width.

7.6.3.8 Motion Picture Theaters. In buildings of Type II construction, the area of one-story motion picture theaters shall not be limited when the building is provided with an approved, electrically supervised automatic sprinkler system throughout in accordance with NFPA 13 and is surrounded and adjointed by public ways or yards not less than 60 ft (18 m) in width.

7.6.3.9 Sprinklered One-Story Building. The area of a one-story building used as an auditorium, church, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool, or tennis court of Type II construction shall not be limited when all the following criteria are met:

1. The building shall not have a theatrical stage other than a raised platform.
2. The building shall be equipped with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.
3. The assembly floor shall be located at, or within 21 in. (530 mm) of, street or grade level.
4. All exits shall be provided with ramps to the street or grade level.
5. The building shall be surrounded and adjointed by public ways or yards not less than 60 ft (18 m) in width.

Substantiation: The technical committee for Chapter 7 has the responsibility for the fire performance of exterior walls. The fire performance requirements for exterior walls is split between Chapters 7 and 37. The relocation of all fire-related regulations to Chapter 7 will make the code easier to use and will allow coordination and maintenance of these related regulations under the pervue of one technical committee.

Committee Meeting Action: Accept in Principle

See committee action on Proposal 5000-345 (Log #574).

Committee Statement: This proposal is a duplicate of Proposal 5000-345 (Log #574).

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4

BARBADORO, FOSTER, GEMENY, WESSEL

5000-300 Log #867 BLD-BLC Final Action: Accept

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

Recommendation: Modify to read as follows:

7.1.1 Buildings. Buildings or parts of buildings classified in a specific occupancy group because of their use shall be limited to the types of construction specified in Section 7.2 and shall not exceed comply with the height or area requirements specified in Section 7.4 through Section 7.6.
This proposal was developed by the Height and Area Task Group as an editorial clarification.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4  BARBADORO, FOSTER, GEMENY, WESSEL

X.1 General.

X.1.1 Enhanced Fire (EF) Compartments. Enhanced fire (EF) compartments or parts of EF compartments classified in a specific occupancy group or groups because of their use shall be limited to the types of construction specified in Section X.2 and shall comply with the height and area requirements specified in Section X.4 through Section X.7.

X.1.2 Mechanical, Plumbing, and Electrical Components. Combustible mechanical, plumbing, and electrical components installed in accordance with the applicable code shall be permitted in all types of construction.

X.1.3 Location and Property. Buildings or parts of buildings shall be subject to the requirements of Chapter 37 for protection of exterior walls and Section X.3 for openings in exterior walls as determined by location on property.

X.1.4 Terminology. Where the term limited-combustible is used in this Code, it shall also include noncombustible.

X.1.5 Fire Department Access. [1:18.2]

X.1.5.1 Fire department access roads shall be provided and maintained in accordance with Section X.1.5.1 [1:18.2.1]

X.1.5.2 Fire Department Access Roads. [1:18.2.2]

X.1.5.2.1 Required Access. Fire department access roads shall be provided in accordance with Section X.1.5 for every facility, building, or portion of a building hereafter constructed or relocated. [1:18.2.2.1]

X.1.5.2.1.1 When there are not more than two one- and two-family dwellings or private garages, carports, sheds, and agricultural buildings, the requirements of X.1.5.2.1 and X.1.5.2.2 shall be permitted to be modified by the AHJ. [1:18.2.2.1.1]

X.1.5.2.1.2 When access roads cannot be installed due to location on property, topography, waterways, nonnegotiable grades, or other similar conditions, the AHJ shall be authorized to require additional fire protection. [1:18.2.2.1.2]

X.1.5.2.2 Access to Building. A fire department access road shall extend to within 50 ft (15 m) of a single exterior door providing access to the interior of the building. [1:18.2.2.2]

X.1.5.2.3 Additional Requirements. [1:18.2.2.3]

X.1.5.2.3.1 Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 ft (46 m) from fire department access roads as measured by an approved route around the exterior of the building or facility. [1:18.2.2.3.1]

X.1.5.2.3.2 When buildings are protected with an approved automatic fire sprinkler system that is installed in accordance with NFPA 13, NFPA 13D, or NFPA 13R, the distance shall be permitted to be increased to 450 ft (137 m). [1:18.2.2.3.2]

X.1.5.2.4 Multiple Access Roads. More than one fire department access road shall be provided when it is determined by the AHJ that access by a single road could be impaired by vehicle congestion, condition of terrain, climatic conditions, or other factors that could limit access. [1:18.2.2.4]

X.1.5.2.5 Specifications. [1:18.2.2.5]

X.1.5.2.5.1 Dimensions. [1:18.2.2.5.1]

X.1.5.2.5.1.1 Fire department access roads shall have an unobstructed width of not less than 20 ft (6.1 m) and an unobstructed vertical clearance of not less than 13 ft 6 in. (4.1 m). [1:18.2.2.5.1.1]

X.1.5.2.5.1.2 Vertical clearance shall be permitted to be reduced, provided such reduction does not impair access by fire apparatus, and approved signs are installed and maintained indicating the established vertical clearance when approved. [1:18.2.2.5.1.2]

X.1.5.2.5.1.3 Vertical clearances or widths shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus. [1:18.2.2.5.1.3]

X.1.5.2.5.2 Surface. Fire department access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be provided with a surface suitable for all-weather driving capabilities. [1:18.2.2.5.2]

X.1.5.2.5.3 Turning Radius. The turning radius of a fire department access road shall be as approved by the AHJ. [1:18.2.2.5.3]

X.1.5.2.5.4 Dead Ends. Dead-end fire department access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for the turning around of fire apparatus. [1:18.2.2.5.4]

X.1.5.2.5.5 Bridges. [1:18.2.2.5.5]

X.1.5.2.5.5.1 When a bridge is required to be used as part of a fire department access road, it shall be constructed and maintained in accordance with nationally recognized standards. [1:18.2.2.5.5.1]

X.1.5.2.5.5.2 The bridge shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. [1:18.2.2.5.5.2]

X.1.5.2.5.5.3 Vehicle load limits shall be posted at both entrances to bridges where required by the AHJ. [1:18.2.2.5.5.3]

X.1.5.2.5.6 Grade. [1:18.2.2.5.6]

X.1.5.2.5.6.1 The gradient for a fire department access road shall not exceed the maximum approved. [1:18.2.2.5.6.1]

X.1.5.2.5.6.2* The angle of approach and departure for any means of fire department access shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m), and the design limitations of the fire apparatus of the fire department shall subject to approval by the AHJ. [1:18.2.2.5.6.2]

X.1.5.2.5.6.2 The design limitations of fire department apparatus should take into account mutual aid companies and other response agencies that might respond to emergencies. [1:18.2.2.5.6.2]

X.1.5.2.5.7 Marking of Fire Apparatus Access Road. Where required by the AHJ, approved signs or other approved notices shall be provided and maintained for fire department access roads to identify such roads, or prohibit the obstruction thereof, or both. [1:18.2.2.5.7]

X.2 Construction Types.

X.2.1 General.

X.2.1.1* EF compartments shall be classified according to their type of construction, which shall be based upon one of five basic types of construction designated as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table X.2.1.1 and X.2.3 through X.2.6 and with fire resistance ratings meeting the requirements of X.2.7.
Type II construction.

X.2.3.2 Special Requirements—Type I and Type II Construction. The special requirements in X.2.3.2.1 through X.2.3.2.2 shall apply to Type I and Type II construction.

X.2.3.2.1 Wood Sleepers. Where wood sleepers are used for laying wood flooring on noncombustible floors, the furring space shall be filled with noncombustible or limited-combustible material or shall be fireblocked so that there will be no open space over 100 ft² (9 m²) in area under the flooring.

The system of designating types of construction also includes a specific breakdown of the types of construction through the use of Arabic numbers. These Arabic numbers follow the Roman numeral notation where identifying a type of construction [for example, Type I(442), Type II(111), Type III(200)] and indicate the fire resistance rating requirements for certain structural elements as follows:

1. First Arabic Number. Exterior bearing walls
2. Second Arabic Number. Columns, beams, girders, trusses and arches, supporting bearing walls, columns, or loads from more than one floor
3. Third Arabic Number. Floor construction

Table A.X.2.1.1 provides a comparison of the types of construction for various model building codes.

### Table A.X.2.1.1 Cross-Reference of Building Construction Types

<table>
<thead>
<tr>
<th>Type II</th>
<th>220</th>
<th>I(442)</th>
<th>I(332)</th>
<th>I(222)</th>
<th>I(111)</th>
<th>II(000)</th>
<th>III(211)</th>
<th>III(200)</th>
<th>IV(2HH)</th>
<th>V(111)</th>
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<td>IV 1-hr</td>
<td>IV 1-hr</td>
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<td>IV(2HH)</td>
<td>V(111)</td>
<td>V(000)</td>
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</table>

The furring spaces created by sleepers in X.2.3.2.1 shall be filled solidly under all permanent partitions to prevent spread of fire under the flooring.

X.2.3.3 Mezzanine Floors in Type I, Type II (222, 111) Construction. Mezzanine floors in Type I, Type II (222, 111) construction shall have a fire resistance rating of not less than 1-hour.

X.2.3.4 Mezzanine Floors in Type II (000) Construction. Mezzanine floors in Type II(000) construction shall not be required to have a fire-resistance rating.

X.2.3.5 Platforms. Permanent platforms shall be constructed of noncombustible or limited-combustible materials.

X.2.3.6 Space Beneath Platforms. When the space beneath any permanent platform is used for storage or any other purpose other than equipment, wiring, or plumbing, the floor construction shall have a fire resistance rating not less than 1-hour.

X.2.3.7 Fire Retardant–Treated Wood Platforms. Fire retardant–treated wood shall be permitted for permanent platforms that are not more than 30 in. (760 mm) above the floor and do not occupy more than 50 percent of the floor area.

X.2.3.8 Fire Retardant–Treated Wood Platform Area. The maximum area of a platform constructed with fire retardant–treated wood shall be not more than 3000 ft² (278 m²).

### Table X.2.1.1 Fire Resistance Ratings for Type I through Type V Construction (hr)

<table>
<thead>
<tr>
<th>Type</th>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
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</table>

**Interior Nonbearing Walls**

- Type I: 0
- Type II: 0
- Type III: 0
- Type IV: 0
- Type V: 0

**Exterior Nonbearing Walls**

- Type I: 0
- Type II: 0
- Type III: 0
- Type IV: 0
- Type V: 0

**Note:** H = heavy timber members (see text for requirements).

a See X.3.2.2.1.

b See Section X.3.

c See X.2.3.2.13, X.2.4.2.3, and X.2.5.6.8.
X.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In occupancies other than mercantile, industrial, or storage occupancies with ordinary or high hazard contents, or other occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3, the fire resistive protection of the roof-ceiling assembly required by Table X.2.1.1 shall not be required where every part of the roof-ceiling assembly is 20 ft (6 m) or more above any floor immediately below.

X.2.3.2.10 Fire Retardant–Treated Wood Roof.

X.2.3.2.10.1 Fire retardant–treated wood members shall be permitted to be used for unprotected members specified in X.2.3.2.9.

X.2.3.2.10.2 Fire retardant–treated wood shall be permitted for roof construction, including girders and trusses, under the following conditions:

1. In Type II buildings
2. In Type I buildings of two stories or less
3. In Type I buildings over two stories when the vertical distance from the floor to the roof is 20 ft (6 m) or more

X.2.3.2.11 Heavy Timber Structural Members. In all occupancies, heavy timber structural members shall be permitted to be used for the roof construction where a 1-hour or less fire resistance rating is required.

X.2.3.2.12 Interior Nonbearing Walls.

X.2.3.2.12.1 Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

X.2.3.2.12.2 Interior nonbearing walls required to have a fire resistance rating of 2 hours or less shall be permitted to be fire retardant–treated wood enclosed within noncombustible or limited-combustible materials, provided such walls are not used as shaft enclosures.

X.2.3.2.13 Exterior Nonbearing Walls. Nonbearing exterior walls shall be constructed of noncombustible materials, limited-combustible materials, or materials specified in X.2.3.2.13.1 or X.2.3.2.13.2.

X.2.3.2.13.1 Fire retardant-treated wood shall be permitted in exterior nonbearing walls when such walls are not required to have fire resistance ratings.

X.2.3.2.13.2 Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Maltistory Test Apparatus, shall be permitted.

X.2.3.2.14 Combustible Materials. Combustible materials shall be permitted in accordance with the following:

1. Foam plastic insulation complying with Section 48.4
2. Aluminum composite material complying with Section 37.4
3. Thermal and acoustical insulation, other than foam plastic, complying with Section 8.16
4. Interior floor finish and interior finish, trim, and millwork such as doors, door frames, window sashes, and window frames
5. Light-transmitting plastic complying with Section 48.7 and Section 38.14
6. Class A, Class B, or Class C roof coverings
7. Blocking

X.2.3.2.15 Ceiling Plenum. The space between the top of the finished ceiling and the underside of the floor or roof above shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the conditions of X.2.3.2.16 through X.2.3.2.21 are met.

X.2.3.2.16 Plenum Materials Comatability. All materials exposed to the airflow shall be noncombustible, limited-combustible, or fire retardant–treated wood and have a maximum smoke developed index of 50, unless otherwise permitted by the following:

1. The following materials shall be permitted in the plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread of 5 ft (1.5 m) or less when tested in accordance with the specified test method:

   a. Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces
   b. Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics
   c. Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics
   d. Optical fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway
   e. Smoke detectors shall not be required to comply with X.2.3.2.16.

   f. Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, on average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

   g. Pipe insulation and coverings, duct coverings, duct linings, vapor-retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and ductsilencers used in duct systems shall be permitted, provided that the following criteria are met:

   a. The products specified in X.2.3.2.16(4) shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50.

   b. Where the products specified in X.2.3.2.16(4) are to be applied with adhesives, they shall be tested with such adhesives applied, or the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state.

X.2.3.2.17 Plenum Fire Stopping. The integrity of the fire stopping for penetrations shall be maintained.

X.2.3.2.18 Plenum Light Diffusers. Light diffusers, other than those made of metal or glass, used in air-handling light fixtures shall be listed and marked as follows:

   a. Fixture Light Diffusers for Air-Handling Fixtures

X.2.3.2.19 Plenum Air Temperature. The temperature of air delivered to plenums shall not exceed 250°F (121°C).

X.2.3.2.20 Plenum Materials Exposure. Materials used in the construction of a plenum shall be suitable for continuous exposure to the temperature and humidity conditions of the environmental air in the plenum.

X.2.3.2.21 Ceiling Plenum Tested Assembly. Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested or investigated and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform with the design of the fire resistance–rated assembly, as tested in accordance with NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials.

X.2.3.2.22 Raised Floor Plenum. The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return and exhaust air from the occupied area, provided that the conditions in X.2.3.2.16 through X.2.3.2.21 are met.

X.2.4 Type III (211 or 200) Construction.

X.2.4.1 Type III Construction. Type III (211 or 200) construction shall be that type in which exterior walls and structural members that are portions of exterior walls are of approved noncombustible or limited-combustible materials, and in which interior structural elements, walls, arches, floors, and roofs, are entirely or partially of wood of smaller dimensions than required for Type IV construction or are of approved noncombustible, limited-combustible, or other approved combustible materials.
X.2.4.2 Special Requirements—Type III Construction. The special requirements in X.2.4.2.1 through X.2.4.2.3 shall apply to Type III construction.

X.2.4.2.1 Fire Retardant–Treated Wood. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

X.2.4.2.2 Heavy Timber. Wood columns and arches conforming to heavy timber sizes shall be permitted where exterior walls are required to have a 1-hour fire resistance rating or less.

X.2.4.2.3 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of acceptance of, NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

X.2.5 Type IV (2HH) Construction.

X.2.5.1 Type IV Construction. Type IV (2HH) construction shall be that type in which exterior walls, and interior bearing walls and structural elements that are portions of such walls, are of approved noncombustible or limited-combustible materials. Other interior structural elements, arches, floors, and roofs, shall be of solid or laminated wood without concealed spaces and shall comply with the allowable dimensions of X.2.5.5.

X.2.5.2 Exterior Wall Separation. Exterior walls greater than 30 ft (9.1 m) from the property line shall be permitted to be of heavy timber construction, provided the 2-hour rating as required by Table X.2.1.1 is maintained and such walls contain no combustible concealed spaces.

X.2.5.3 Interior Columns, Arches, Beams, Girders, and Trusses. Interior columns, arches, beams, girders, and trusses of approved materials other than wood shall be permitted, provided they are protected to provide a fire resistance rating of not less than 1 hour.

X.2.5.4 Concealed Space. Certain concealed spaces shall be permitted in accordance with X.2.5.5.3(D).

X.2.5.5 Type IV (2HH) Allowable Dimensions. All dimensions in X.2.5.5 shall be considered nominal.

X.2.5.5.1 Columns.

(A) Wood columns supporting floor loads shall be not less than 8 in. (200 mm) in any dimension.

(B) Wood columns supporting only roof loads shall be not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth.

X.2.5.5.2 Beams.

(A) Wood beams and girders supporting floor loads shall be not less than 6 in. (150 mm) in width and not less than 10 in. (250 mm) in depth.

(B) Wood beams and girders and other roof framing supporting roof loads only shall be not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

X.2.5.5.3 Arches.

(A) Framed or glued laminated arches that spring from grade or the floor line and timber trusses that support floor loads shall be not less than 8 in. (200 mm) in width and depth.

(B) Framed or glued laminated arches for roof construction that spring from grade or the floor line and do not support floor loads shall have members not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth for the lower half of the member height and not less than 6 in. (150 mm) in depth for the upper half of the member height.

(C) Framed or glued laminated arches for roof construction that spring from the top of walls or wall abutments, and timber trusses that do not support floor loads, shall have members not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

(D) Spaced members shall be permitted to be composed of two or more pieces not less than 3 in. (75 mm) in thickness where blocked solidly throughout their intervening spaces or where such spaces are tightly closed by a continuous wood cover plate not less than 2 in. (50 mm) in thickness that is secured to the underside of the members.

X.2.5.5.4 Splice Plates. Splice plates shall be not less than 3 in. (75 mm) in thickness.

X.2.5.5.5 Floors. Floors shall be constructed of spline or tongue-and-groove plank not less than 3 in. (75 mm) in thickness that is covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel, and they shall be constructed of laminated planks not less than 4 in. (100 mm) in width, set close together on edge, spiked at intervals of 18 in. (460 mm), and covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel.

X.2.5.5.6 Roof Decks. Roof decks shall be constructed of spline or tongue-and-groove plank not less than 2 in. (50 mm) in thickness; or of laminated planks not less than 3 in. (75 mm) in width, set close together on edge, and laid as required for floors; or of 1 1/8-in. (28.5-mm) thick interior wood structural panel (exterior glue); or of approved noncombustible or limited-combustible materials of equivalent fire durability.

X.2.5.6 Special Requirements—Type IV Construction. The special requirements in X.2.5.6.1 through X.2.5.6.8 shall apply to Type IV construction.

X.2.5.6.1 Structural Elements. Structural elements shall be of heavy timber members (sawn or glued-laminated) or of fire resistance-rated construction as set forth in Table X.2.1.1 when materials other than heavy timber are used.

X.2.5.6.2 Columns, Arches, Beams, and Roof Decking. Where horizontal separation of 20 ft (6 m) or more is provided, wood columns, arches, beams, and roof deck conforming to the requirements for heavy timber in X.2.5.5 shall be permitted to be used on the exterior of the building.

X.2.5.6.3 Partitions. Permanent partitions shall be permitted to be of solid wood construction formed by not less than two layers of matched boards of 1-in. (25-mm) nominal thickness or of 1-hour fire resistance-rated construction as set forth in Table X.2.1.1.

X.2.5.6.4 Floors. Floors shall be permitted to be of heavy timber, masonry, concrete, wood, or steel and shall be constructed as required in Chapter 8.

X.2.5.6.5 Roofs. Roofs of 1-hour fire resistance–rated construction shall be permitted.

X.2.5.6.6 Stairways.

X.2.5.6.6.1 Stairways shall be permitted to be constructed with wood treads and risers of not less than 2-in. (50-mm) nominal thickness.

X.2.5.6.6.2 Where built-on, laminated or plank inclines are required for floors, stairways shall be permitted to be 1-in. (25-mm) nominal thickness or shall be permitted to be constructed as required for buildings of Type I or Type II construction.

X.2.5.6.7 Exterior Walls. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

X.2.5.6.8 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285 shall be permitted.

X.2.6 Type V (111 or 000) Construction. Type V (111 or 000) construction shall be that type in which structural elements, walls, arches, floors, and roofs are entirely or partially of wood or other approved material.

X.2.7 Fire Resistance Rating Requirements for Structural Elements.

X.2.7.1 Fire resistance protection shall be provided for structural elements as set forth in Annex X and other chapters of this Code.

X.2.7.2 Structural elements shall meet the requirements of X.2.7.2.1 and X.2.7.2.2.

X.2.7.2.1 Structural elements, floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support.
X.2.7.2.2 Structural elements shall be required to have only the fire resistance rating required for the construction classification, provided both of the following are met:

(1) Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less.

(2) Structural elements do not serve as exit enclosures or protection for vertical openings.

X.2.7.3 Structural elements required to have a fire resistance rating and that support more than two floors, one floor and roof, a bearing wall, or a nonbearing wall more than two stories high shall be individually protected on all sides for their full length with materials providing the required fire resistance rating.

X.2.7.4 Structural elements, other than those specified in X.2.7.3, required to have a fire resistance rating shall be protected by individual encasement, membrane or ceiling protection in accordance with Section 8.6 or a combination of both.

X.2.7.5 In addition to the requirements of X.2.7.3 and X.2.7.4, columns shall meet the following requirements:

(1) Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected.

(2) Where the column extends through a ceiling, the fire-resistive protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

X.2.7.6 The required thickness and construction of fire-resistive materials or assemblies enclosing trusses shall be based on one of the following:

(1) The results of full-scale tests or combinations of tests on truss components

(2) Approved calculations based on such tests to verify that the assembly is provided with the required fire resistance rating.

X.2.7.7 The fire resistance rating required for external structural elements located beyond the perimeter of the building floor area, shall be permitted to be calculated by using analytical methods in accordance with the provisions set forth in 8.2.3.

X.2.7.8 Structural elements within exterior walls or located along the exterior perimeter of a building or structure shall have a fire resistance rating as required by Table X.2.1.1 for exterior bearing walls based on the type of construction.

X.2.7.9 Structural elements within an exterior wall located where openings are not permitted, or where protection of openings is required in accordance with X.3.5, shall have a fire resistance rating based on protection against exterior fire exposure as required for exterior bearing walls or the structural element, whichever requires the greater fire resistance rating.

X.2.7.10 The edges of lugs, brackets, rivets, and bolt heads attached to structural elements shall be permitted to extend to within 1 in. (25.4 mm) of the surface of the fire-resistant protection.

X.2.7.11 Conduits, pipes, ducts, or other construction elements shall not be embedded within required fire-resistive protection of any structural elements requiring individual encasement to achieve the required fire resistance rating.

X.2.7.12 Fire-resistive materials covering columns required to have a fire resistance rating, where exposed to impact damage by moving vehicles, handling of merchandise, or by other means, shall be protected from damage.

X.3 Exterior Walls.

X.3.1 General. Exterior walls shall be designed and constructed in accordance with Chapter 37 and Section X.3.

X.3.2 Fire Resistance Rating of Exterior Walls.

X.3.2.1 Exterior walls shall have a fire resistance rating based on Table X.2.1.1 and Table X.3.2.1, whichever is greater.

X.3.2.2 The fire resistance rating requirements of Table X.3.2.1 shall not apply to exterior walls of one- and two-family dwellings having a horizontal separation of more than 5 ft (1.5 m).

X.3.3 Continuity. Exterior walls required to be fire rated by Table X.3.2.1 because of horizontal separation shall be continuous from the foundation to not less than 30 in. (760 mm) above the roof, except where otherwise permitted by 37.1.3.1.

X.3.4 Horizontal Separation.

X.3.4.1 Horizontal separation shall be measured at a 90-degree angle to the exterior wall.

X.3.4.2 Where two or more buildings are located on the same lot, the horizontal separation shall be measured from the exterior wall to an imaginary line drawn between the exterior walls of the adjacent buildings. The imaginary line shall be placed at a distance from the facing exterior wall of the adjacent building that is equal to the horizontal separation applicable for that wall based on its fire resistance rating and protection of openings.

X.3.4.3 Where the exterior wall is an irregular vertical shape, the following criteria shall be met:

(1) The horizontal separation shall be determined by measuring from a vertical plane that is located so that no portion of the exterior wall is between such vertical plane and the line to which the horizontal separation is measured.

(2) The area of openings shall be determined from the projection of the openings in the exterior wall onto the vertical plane.

X.3.5 Opening Protectives. Where an exterior wall is required to have a fire resistance rating as determined by Table X.3.2.1, the area of openings in exterior walls shall not exceed that permitted by this section and Table X.3.5(a) or Table X.3.5(b).

X.3.5.1 The area of unprotected openings in an exterior wall shall be the aggregate of unprotected openings expressed as a percentage of the area of the exterior wall.

X.3.5.2 When required by Table X.3.2.1 to have a fire protection rating, penetrations shall comply with the requirements of Section 8.8.

X.3.5.3 The area of an exterior wall shall be calculated as the length, edge to edge, of the exterior wall multiplied by the measurement from the finished ground level to the uppermost ceiling.

---

**Table X.3.2.1 Fire Resistance Ratings for Exterior Walls (hr)**

<table>
<thead>
<tr>
<th>Occupancy Classification</th>
<th>Horizontal Separation ft (m)</th>
<th>Opening Protectives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 to 5 (0 to 1.5)</td>
<td>&gt;5 to ≤ 10 (&gt;1.5 to ≤ 3)</td>
</tr>
<tr>
<td>Assembly, educational, day care, health care, ambulatory health care, detection and correctional, residential, residential board and care, business, industrial, and storage occupancies with low hazard contents</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>See Table X.3.5(a)</td>
<td></td>
</tr>
<tr>
<td>Mercantile and industrial and storage occupancies with ordinary hazard contents</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>See Table X.3.5(b)</td>
<td></td>
</tr>
<tr>
<td>Industrial and storage occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3</td>
<td>See Chapter 34 for minimum requirements</td>
<td></td>
</tr>
</tbody>
</table>
Table X.3.5(a) Maximum Allowable Area of Unprotected Openings (percentage of exterior walls)

<table>
<thead>
<tr>
<th>Horizontal Separation (ft)</th>
<th>Max. Area of Exposing Building Face (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
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<tr>
<td>2</td>
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<td>3</td>
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<td>8</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².

Table X.3.5(b) Maximum Allowable Area of Unprotected Openings (percentage of exterior wall)

<table>
<thead>
<tr>
<th>Horizontal Separation (ft)</th>
<th>Max. Area of Exposing Building Face (ft²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
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<tr>
<td>1</td>
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<td>7</td>
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<td>0</td>
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<tr>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².

X.3.5.4 The area of unprotected openings permitted by Table X.3.5(a) and Table X.3.5(b) shall be permitted to be doubled under either of the following conditions:

1. Where the building is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, NFPA 13D and NFPA 13R. Where the building is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, NFPA 13D and NFPA 13R.

2. Where the building is protected with fire window assembly or other listed opening protective having a fire protection rating in accordance with Table X.3.5.4.

Table X.3.5 Minimum Fire Protection Ratings for Exterior Opening Protections

<table>
<thead>
<tr>
<th>Wall Fire Resistance Rating (hr)</th>
<th>Fire Protection Rating (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1/2</td>
</tr>
<tr>
<td>1</td>
<td>3/4</td>
</tr>
</tbody>
</table>

X.4 Enhanced Fire (EF) Compartment.

X.4.1 General. The height of buildings and size of EF compartments, based on their intended occupancy and type of construction classification, shall be in accordance with this section.

X.4.2 EF Compartments. All buildings shall be constructed as a single EF compartment or shall be separated into more than one EF compartment.

X.4.2.1 EF Compartment Area. The maximum area of each EF compartment shall be determined by applying the area limits in Table X.4.2.1(a) or Table X.4.2.1(b) for each of the occupancies within the EF compartment. The most restrictive area so determined shall apply to the entire EF compartment. Table X.4.2.1(b) shall only be applied where the EF compartment is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

X.4.2.2 EF Compartment Height. Based on the occupancy(ies) within the EF compartment, the height of the highest story of an EF compartment shall not exceed the height in feet and stories allowed by Table X.4.2.2(a) or Table X.4.2.2(b), except as modified in X.4.3. Table X.4.2.2(b) shall only be applied where the EF compartment is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

Table X.4.2.1 Maximum Allowable Number of EF Compartments per Building

<table>
<thead>
<tr>
<th>Actual building height, stories</th>
<th>Maximum allowable number of EF compartments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
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<tr>
<td>5</td>
<td>32</td>
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<td>6</td>
<td>36</td>
</tr>
<tr>
<td>7</td>
<td>40</td>
</tr>
</tbody>
</table>

X.4.2.3 Separation. Where a building has multiple EF compartments, each EF compartment shall be separated in accordance with Section X.5 by horizontal and/or vertical EFC barriers having a fire resistance rating determined by Table X.4.2.1(a) or Table X.4.2.1(b) for the occupancies being separated, except as modified in Section X.4.3.4.

X.4.2.4 Access to Nonsprinklered EF Compartments. Each nonsprinklered EF compartment shall be provided with a fire department access road. The fire department access road shall be located a minimum of 50 feet, measured horizontally, from an access opening in the exterior wall of the EF compartment.

X.4.4 Number of EF Compartments. The number of EF compartments in a building shall be limited in accordance with this section.

X.4.4.1 General. The maximum number of EF compartments shall be limited in accordance with Table X.4.4.1, except as permitted in X.4.4.2.

X.4.4.1.1 Application of Table X.4.4.1.

X.4.4.1.2 For occupancies in Table X.4.2.1(a) or Table X.4.2.1(b) in which the number of stories is not limited, the allowable number of stories for use in Table X.4.4.1 shall be determined by dividing the allowable height in feet from Table X.4.2.1(a) or Table X.4.2.1(b) based on the type of construction by:

a. 20 for industrial and storage occupancies,

b. 15 for mercantile occupancy,

c. 12 for business and educational occupancies, and
d. 10 for all other occupancies.

A.X.4.4.1.2 Quotients that are not whole number are permitted to be rounded in the traditional fashion (i.e., rounded down if less than 0.5, and rounded up if equal to or greater than 0.5).

5000-103
<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>Max EF Compartment Area</th>
<th>Fire Resistant Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly &gt; 1000</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly &gt; 300</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly &lt; 300</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly, Outdoor</td>
<td>NL</td>
<td>-</td>
</tr>
<tr>
<td>Educational</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Day care</td>
<td>12,000 (1,116)</td>
<td>2</td>
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<tr>
<td>Day care homes</td>
<td>12,000 (1,116)</td>
<td>1</td>
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<tr>
<td>Health care</td>
<td>NP</td>
<td>2</td>
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<tr>
<td>Ambulatory health care</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Detention/correctional</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>One- and two-family</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Lodging/dormitories</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Hotels/dormitories</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Apartment</td>
<td>12,000 (1,116)</td>
<td>1</td>
</tr>
<tr>
<td>Residential board and care — small</td>
<td>12,000 (1,116)</td>
<td>2</td>
</tr>
<tr>
<td>Residential board and care — large</td>
<td>NP</td>
<td>2</td>
</tr>
<tr>
<td>Assisted living</td>
<td>12,000 (1,116)</td>
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</tr>
<tr>
<td>Mercantile:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordinary hazard content</td>
<td>12,000 (1,116)</td>
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</tr>
<tr>
<td>Bulk merchandising retail</td>
<td>12,000 (1,116)</td>
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</tr>
<tr>
<td>Business</td>
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<tr>
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<td></td>
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<tr>
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<tr>
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</tr>
<tr>
<td>Low hazard content</td>
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</tr>
<tr>
<td>Ordinary hazard content</td>
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</tr>
<tr>
<td>High hazard content</td>
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</table>

Note: NL – Not Limited; NP – Not Permitted

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>Max EF Compartment Area</th>
<th>Fire Resistant Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly &gt; 1000</td>
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<tr>
<td>Assembly &gt; 300</td>
<td>60,000 (5580)</td>
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</tr>
<tr>
<td>Assembly &lt; 300</td>
<td>60,000 (5580)</td>
<td>1</td>
</tr>
<tr>
<td>Assembly, Outdoor</td>
<td>60,000 (5580)</td>
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</tr>
<tr>
<td>Educational</td>
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</tr>
<tr>
<td>Day care</td>
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</tr>
<tr>
<td>Day care homes</td>
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</tr>
<tr>
<td>Health care</td>
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</tr>
<tr>
<td>Ambulatory health care</td>
<td>60,000 (5580)</td>
<td>1</td>
</tr>
<tr>
<td>Detention/correctional</td>
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</tr>
<tr>
<td>One- and two-family</td>
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</tr>
<tr>
<td>Lodging/dormitories</td>
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<tr>
<td>Hotels/dormitories</td>
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</tr>
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<td>Apartment</td>
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</tr>
<tr>
<td>Residential board and care — small</td>
<td>60,000 (5580)</td>
<td>1</td>
</tr>
<tr>
<td>Residential board and care — large</td>
<td>60,000 (5580)</td>
<td>1</td>
</tr>
<tr>
<td>Assisted living</td>
<td>60,000 (5580)</td>
<td>1</td>
</tr>
<tr>
<td>Mercantile:</td>
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<td></td>
</tr>
<tr>
<td>Ordinary hazard content</td>
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<td></td>
</tr>
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</tr>
<tr>
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<tr>
<td>Ordinary hazard content</td>
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</tr>
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</tr>
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Note: NL - Not Limited; NP – Not Permitted
### Table X.4.2.2(a) Allowable Height in Feet and Stories - Nonsprinklered

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>I (442)</th>
<th>I (332)</th>
<th>II (222)</th>
<th>II (111)</th>
<th>II (000)</th>
<th>III (211)</th>
<th>III (200)</th>
<th>IV (2HH)</th>
<th>V (111)</th>
<th>V (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Height (ft)</td>
<td>NL</td>
<td>NL</td>
<td>160*</td>
<td>65</td>
<td>55</td>
<td>65</td>
<td>55</td>
<td>65</td>
<td>50</td>
<td>40</td>
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<td>Assembly &gt; 1000</td>
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<td>NP</td>
<td>2</td>
<td>NP</td>
<td>2</td>
<td>2</td>
<td>NP</td>
</tr>
<tr>
<td>Assembly &gt; 300</td>
<td>4</td>
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<td>4</td>
<td>3</td>
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<td>2</td>
<td>1</td>
<td>2</td>
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<td>1</td>
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<tr>
<td>Assembly &lt; 300</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Assembly outdoor</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
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<td>1</td>
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<tr>
<td>Health care</td>
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<td>NP</td>
<td>NP</td>
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<td>NP</td>
</tr>
<tr>
<td>Ambulatory health care</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Detention/correctional</td>
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<td>NP</td>
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<td>NP</td>
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<tr>
<td>Residential board and care — large</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
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</tr>
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</table>

### Table X.4.2.2(b) Allowable Height in Feet and Stories - Sprinklered

<table>
<thead>
<tr>
<th>Occupancy Class</th>
<th>I (442)</th>
<th>I (332)</th>
<th>II (222)</th>
<th>II (111)</th>
<th>II (000)</th>
<th>III (211)</th>
<th>III (200)</th>
<th>IV (2HH)</th>
<th>V (111)</th>
<th>V (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Height (ft)</td>
<td>NL</td>
<td>NL</td>
<td>180</td>
<td>85</td>
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<td>60</td>
</tr>
<tr>
<td>Assembly &gt; 1000</td>
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<td>NL</td>
<td>NL</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>NP</td>
<td>3</td>
<td>3</td>
<td>NP</td>
</tr>
<tr>
<td>Assembly &gt; 300</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
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<td>NL</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>2</td>
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<tr>
<td>Assembly Outdoor</td>
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<td>NL</td>
<td>NL</td>
<td>NL</td>
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<td>4</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Health care</td>
<td>NL</td>
<td>NL</td>
<td>NL</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>NP</td>
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<tr>
<td>Ambulatory health care</td>
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<td>NL</td>
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<tr>
<td>Detention/correctional</td>
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<td>NL</td>
<td>6</td>
<td>NL</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: NL — Not Limited; NP — Not permitted.
X.4.3.1 Towers, Spires, Steeples, and Similar Structures. Towers, spires, steeples, and similar structures erected as part of a structure and not used for habitation or storage shall be of materials consistent with the required type of construction, and shall meet the requirements of X.4.3.1.1 and X.4.3.1.2.

X.4.3.1.1 Towers, spires, steeples, and similar structures shall not be limited in height when constructed entirely of noncombustible materials.

X.4.3.1.2 Towers, spires, steeples, and similar structures shall extend not more than 20 ft (6 m) above the height limit permitted in Table X.4.2.2(a) or Table X.4.2.2(b) when constructed of combustible materials.

X.4.3.2 Underground Buildings/Windowless Buildings. All structural members up to and including the floor of the lowest level of discharge of underground and windowless buildings more than 30 ft (9 m) high or more than one level below the lowest level of exit discharge shall be Type I or Type II (222) construction.

X.4.3.3 Unlimited Area EF Compartment. The area of a building containing a single EF compartment shall not be limited where requirements of this section are met.

X.4.3.4.1 One-Story Building. A one-story building containing a single EF compartment of Type II construction used as an industrial occupancy with low hazard contents, or as a storage occupancy with low hazard contents, shall not be limited when surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.4.2 Sprinklered One-Story Building.

X.4.3.4.2.1 A one-story building containing a single EF compartment used for business, industrial occupancies with ordinary hazard contents, or mercantile occupancies, and assembly uses intended for viewing of indoor sporting events with spectator seating shall not be limited when provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 and surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.4.2.2 The sprinkler protection specified in X.4.3.4.2.1 shall not be required in areas occupied for indoor participant sports, such as tennis, skating, swimming, and equestrian activities, provided that the following conditions are met:

1. Exit doors directly to the outside are provided for occupants of the participant sports areas.

2. The building is equipped with a fire alarm system with manual fire alarm boxes installed in accordance with Section 55.2.

X.4.3.4.3 Sprinklered, One- or Two-Story Storage Building. A one- or two-story building containing a single EF compartment used for storage of ordinary hazard contents shall not be limited, provided all the following requirements are met:

1. The entire building is protected throughout with an approved, electrically supervised automatic sprinkler systems installed in accordance with NFPA 13.

2. The exterior walls face public ways or yards not less than 60 ft (18 m) in width.

X.4.3.4.4 Sprinklered Two-Story Buildings. A two-story building containing a single EF compartment used for business, industrial, or mercantile occupancies shall not be limited when provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 and surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.4.5 Reduced Open Space. The permanent open space of 60 ft (18 m) required in X.4.3.4.1, X.4.3.4.2, X.4.3.4.3, and X.4.3.4.4 shall be permitted to be reduced to not less than 40 ft (12 m), provided the following requirements are met:

1. The reduced open space shall not be permitted for more than 75 percent of the perimeter of the structure.

2. The exterior wall facing the reduced open space shall have a minimum fire resistance rating of 3 hours.

3. Openings in the exterior wall, facing the reduced open space, shall have opening protective with a fire protection rating of 3 hours.

X.4.3.4.6 High Hazard Uses in Storage and Industrial Occupancies. High hazard contents other than detonation or deflagration hazards that are required to be stored in detached buildings, that are in compliance with Chapter 34 shall be permitted in unlimited area buildings of industrial and storage occupancies containing a single EF compartment in accordance with the limitations of X.4.3.4.6.1 through X.4.3.4.6.3.

X.4.3.4.6.1 Fire areas located at the perimeter of the unlimited area building shall not exceed 10 percent of the area of the building nor the area limitations specified in Table X.4.2.1(a) and Table X.4.2.1(b), as modified by Section X.4.3.4.4, based on the percentage of the perimeter of the fire area that fronts on a street or other unoccupied space.

X.4.3.4.6.2 Fire areas other than those specified in X.4.3.4.6.1 shall not exceed 25 percent of the area limitations specified in Table X.4.2.1(a) and Table X.4.2.1(b).

X.4.3.4.6.3 Fire resistance rating requirements of fire barrier assemblies shall be in accordance with Table 6.2.4.1.

X.4.3.4.7 Sprinklered One-Story Educational Buildings. One-story buildings containing a single EF compartment of Type II (111), Type II (000), Type III (211), or Type IV construction used for educational occupancies shall not be limited when the following criteria are met:

1. Each classroom shall have not less than two means of egress, with one of the means of egress being a direct exit to the outside of the building.

2. The building shall be equipped throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

3. The building shall be surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.4.8 Sprinklered One-Story Motion Picture Theaters. One-story motion picture theaters in buildings containing a single EF compartment of Type II construction shall not be limited when provided with an approved, electrically supervised automatic sprinkler system throughout in accordance with NFPA 13 and surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.4.3.4.9 Sprinklered One-Story Assembly Building. A one-story, assembly building containing a single EF compartment used as an auditorium, church, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool, or tennis court of Type II construction shall not be limited when all the following criteria are met:

1. The building shall not have a theatrical stage other than a raised platform.

2. The building shall be equipped with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13.

3. The assembly floor shall be located at, or within 21 in. (533 mm) of the level of the exterior exit discharge accessible from the main entrance/exit. For buildings that do not have a main entrance/exit, the assembly floor shall be within 21" of the level of the exterior exit discharge accessible from any of the required exits.

4. All exits and exit discharges shall be level or provided with ramps to a public way.

5. The building shall be surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.
X.5 Enhanced Fire Compartment (EFC) Barriers. Enhanced fire compartment (EFC) barriers used to separate a building into different EF compartments shall comply with sections X.5.1 through X.5.4.

X.5.1 Enhanced Fire Compartment (EFC) Barriers. Horizontal EFC barriers shall comply with Section 8.6, and vertical EFC barriers shall comply with Section 8.4, X.5.1.1 and X.5.1.2.

X.5.1.1 Vertical EFC Barriers (Walls). EFC barrier walls shall be continuous:
1. through all concealed spaces, such as those found above a ceiling, and
2. from:
   a. An exterior wall to an exterior wall,
   b. The floor or horizontal EFC barrier below to the horizontal EFC barrier or roof deck above,
   c. One EFC barrier wall to another EFC barrier wall,
   d. One EFC barrier wall to a fire wall, or
   e. A combination thereof.

X.5.1.2 Termination. Vertical EFC barriers shall terminate in accordance with X.5.1.2.1 or X.5.1.2.2.

X.5.1.2.1 EF Compartment Roof decks at Same Height. Where the roof decks of adjacent EF compartments are at the same height, vertical EFC barriers shall terminate at the underside of the roof deck above. The roof deck of each EF compartment shall be of at least 1-hour fire resistance rated construction and is without openings for a width of at least 3-feet, measured from the vertical EFC barrier.

X.5.1.2.2 EF Compartments with Differing Roof deck Heights. Where adjacent EF compartments have differing roof deck heights, vertical EFC barrier shall terminate at:
   a. the underside of the roof deck of the upper EF compartment, or
   b. the underside of the roof deck of the lower EF compartment when the exterior wall of the upper EF compartment is without openings for a height of at least 3-feet above the lower roof deck, or
   c. the underside of the roof deck of the lower EF compartment when roof deck of the lower EF compartment is of at least 1-hour fire resistance rated construction and without openings for a width of at least 3-feet, measured from the wall.

X.5.2 Openings and Penetrations in EFC Barriers.

X.5.2.1 Glazed Openings. Glazed openings in EFC barriers shall be limited to those in fire doors complying with X.5.2.2.

X.5.2.2 Fire Doors.

X.5.2.2.1 Fire Doors in 1-hour EFC barriers shall have a fire protection rating of at least 1 hour.

X.5.2.2.2 Fire Doors in EFC barriers shall limit temperature rise to 450°F (250°C) when tested in accordance with NFPA 252.

X.5.2.3 Ductwork in One-Hour EFC Barriers. Openings in 1-hour EFC barriers for air-handling ductwork or air movement shall be protected with fire dampers having a fire protection rating of 1 hour.

X.5.3 Continuity of Supporting Construction. Enhanced Fire Compartment barriers shall be:

X.5.3.1 In Type II (000), III (200) and V (000) construction, the fire resistance of supporting construction required of Chapter 8 shall not be required where supporting horizontal EFC barriers have a 1-hour fire resistance rating, provided that all structural elements supporting the horizontal EFC barriers are protected by construction having a 20-minute finish rating.

X.5.3.2 In sprinklered buildings of Type II (000), III (200) and V (000) construction containing assembly uses other than exhibition or display, ambulatory health care, apartment, hotel/dormitory, and business occupancies, the fire resistance of supporting construction required of Chapter 8 shall be provided where supporting horizontal EFC barriers have a 1-hour fire resistance rating.

X.6 Special EF Compartment Height Requirements.

X.6.1 Aircraft Hangars. The height of one-story aircraft hangars shall not be limited when the building is surrounded by public space, streets, or permanent open yards less in width than 1-1/2 times the height of the building, and the building is protected with a NFPA 13 sprinkler system. (See Chapters 29 and 30 for special occupancy requirements.)

X.6.2 Low-Hazard Industrial Processes Requiring Unusual Heights. Buildings and structures of Type I or Type II construction, or buildings and structures protected throughout with an approved supervised automatic sprinkler system, designed to house low-hazard industrial processes that require unusual heights to accommodate cranes or special machinery and equipment, shall be permitted to be unlimited in height.

X.6.3 Rack Storage EF Compartments. The height in feet of EF compartments having only one-story, and of Type I or Type II construction used solely for rack storage and not having access by the public, shall not be limited, provided the rack storage EF compartment has a NFPA 13, Standard for the Installation of Sprinkler Systems, automatic sprinkler system, and is surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.

X.6.4 Residential Type V Construction. The height of residential occupancy buildings of Type V construction shall be increased 10 ft (3 m) above the limit shown in Table X.4.2.1(b) where protected throughout with an approved, supervised automatic sprinkler system in accordance with NFPA 13R, Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height.

X.7 Special Occupancy Requirements.

X.7.1 Mall Buildings. The height and area of mall buildings shall comply with Section 27.4.4.

X.7.2 Open Parking Structures. The height and area of open parking structures of Type I and Type II construction shall be governed by NFPA 88A, Standard for Parking Structures, and 30.8.1.6.6.

X.7.3 Small Board and Care Occupancies. For board and care occupancies, the values in Table X.4.2.1(b) and Table X.4.2.2(b) for sprinklered buildings shall also apply to buildings, four stories or less in height, protected throughout with an approved, electrically supervised sprinkler system in accordance with NFPA 13R.

X.7.4 Airport Traffic Control Towers.

X.7.4.1 Airport traffic control towers, with cab floor areas not exceeding 1500 ft² (140 m²) per story, shall be permitted to be constructed in accordance with Table X.7.4.1

Table X.7.4.1 Allowable Building Height and Area for Airport Traffic Control Towers.

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Height</th>
<th>Area per Story</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (442)</td>
<td>UL</td>
<td>UL</td>
</tr>
<tr>
<td>II (332)</td>
<td>UL</td>
<td>UL</td>
</tr>
<tr>
<td>II (222)</td>
<td>240</td>
<td>73</td>
</tr>
<tr>
<td>II (111)</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>II (000)</td>
<td>85</td>
<td>26</td>
</tr>
<tr>
<td>III (211)</td>
<td>65</td>
<td>20</td>
</tr>
</tbody>
</table>

Note: UL = unlimited.

X.7.4.2 Height shall be measured from grade to cab floor.

X.7.5 Enclosed Parking Structures with Occupancies Above. A basement or first story above grade plane of a EF compartment shall be considered as a separate and distinct EF compartment for the purpose of determining the location of the occupancies and type of construction, provided all of the following conditions are met:

(1) The basement or first story above grade plane shall be of Type I construction and shall be separated from the building above with a horizontal assembly having a minimum 3-hour fire resistance rating.

(2) Shaft, stairway, ramp, or escalator enclosures through the horizontal assembly shall have not less than a 2-hour fire resistance rating with opening protectives in accordance with Table 8.7.2.

(3) Where the walls below the horizontal assembly have a minimum 3-hour fire resistance rating with opening protectives as required for walls forming a 3-hour fire barrier, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire resistance rating, provided that all the following conditions are met:

---

5000-107
X.7.8 Open Parking Structure Beneath Other Occupancies.

X.7.8.1 Limitations.

(A) Open parking structures constructed under other occupancies shall not exceed the height and area limitations permitted under 30.8.1.6.

(B) The height of the EF compartments above the open parking structure shall not exceed the limitations in Table X.4.2.2(a) or Table X.4.2.2(b) for the upper occupancy.

(C) The height, in both feet and stories, of EF compartments above the open parking structure shall be measured from grade and shall include both the open parking structure and the portion of the EF compartment above the parking structure.

X.7.8.2 Fire Separation. Fire separation assemblies between the parking occupancy and the upper occupancy shall correspond to the required fire resistance rating prescribed in Table 6.2.4.1 for the uses involved.

X.7.8.3 Type of Construction. The type of construction shall apply to each EF compartment individually, except that structural members, including main bracing within the open parking structure, that are necessary to support the upper occupancy shall be provided with the more restrictive fire resistance ratings of the use groups involved, as shown in Table X.2.1.1.

X.7.8.4 Means of Egress. Means of egress for the upper occupancy shall conform to Chapter 11 and shall be separated from the parking occupancy by fire barriers having at least a 2-hour fire resistance rating, with self-closing doors.

Substantiation: In the development of the 2003 Edition of NFPA 5000, the Technical Committee chose to take a ‘clean sheet approach’ to the regulation of building heights and areas. To that end, a Task Group was asked to evaluate and make recommendations on NFPA 5000’s Chapter 7, Heights and Area Restrictions. A proposal was submitted but it was decided based upon the Public Comments received that the concept was not yet ready for publication. As noted in 5000- (Log #7), the Technical Committee responsible for Chapter 7 at that time (BLD-STR) and the Technical Correlating Committee indicated that the new approach should continue to be developed. This proposal represents the results of the Task Group’s ongoing effort to develop a new approach to the regulation of building height and area.

Basic Philosophy: Based upon a thorough literature review and general knowledge, the Task Group first identified factors that should influence the allowable height and area of a particular building. In general, height limitations should be based upon:

I. The Building’s Occupancy:
   A. Occupant Load/Density
   B. Fire Load
   C. Egress Strategy:
      i. Defend in Place, or
      ii. Evacuation
   II. The Building’s Type of Construction
   III. Presence of a Qualified Sprinkler System
   IV. Typical Fire Department Response
      A. On-site Deployment Capabilities
      B. On-site Activities such as Rescue and Fire Suppression
      C. Firefighter Safety, and
      D. Limitation of Equipment
   V. Building Exposure
      A. Structural Collapse
      B. Radiant Heat
      C. Building Separation/Open Space

The Task Group agreed upon two levels of restrictions based upon Type of Construction and whether the building is sprinklered:

1. Maximum height in feet, which is independent of Occupancy, and
2. Maximum height in stories, which is dependent on Occupancy.

Proposed language and Tables X.4.2.2(a) and X.4.2.2(b) were developed from this discussion.

Next, the Task Group considered possible restrictions on the area of a particular compartment. Based upon available literature, it was decided that it was more relevant to define and restrict the given compartment’s area than the building’s total area. Fire-resistance rated walls, floor/ceiling assemblies, fire walls, roofs, and exterior walls would define the boundaries of a particular compartment.

In general, it was decided that the compartment area limitations should be based upon:

X.7.6 Enclosed Parking Structure with Open Parking Structure Above.

An enclosed parking structure located in the basement or first story below an open parking structure shall be classified as a separate and distinct EF compartment and shall not be included when determining the type of construction for other EF compartments, provided the following conditions are met:

1. The enclosure connects less than four stories.
2. The enclosure opening protectives above the horizontal assembly are a minimum 1-hour fire protection rating.
3. The floor assembly shall provide a fire resistance rating not less than the mixed occupancy separation required in Table 6.2.4.1.

5000-108
I. Heights:

The Task Group developed compartment area restrictions based upon both the Occupancy and whether the building is sprinklered. These restrictions include a maximum area, fire resistance rating, and a maximum fire flow rate. The Task Group utilized an enhanced 1-hour barrier by requiring sprinklers to be installed in the fire barrier to reduce radiant heat transfer through the openings (see X.5.2).

Proposed language and Tables X.4.2.1(a) and X.4.2.1(b) were developed from this discussion. One substantive change from the original proposal can be seen in Table X.4.2.1(b). The original proposal used a multiplier of 8 when determining the allowable compartment area in buildings protected with an NFPA 13 sprinkler system. The multiplier of 8 was based upon some limited work prepared by Ram chamandran using fire data in the United Kingdom. The Task Group has reviewed considerable U.S. fire data and determined that the sprinkler multiplier should be occupancy specific. The values used in Table X.4.2.1(b) are based upon the ratio of the extent of flame damage beyond the floor of origin rather than high in sprinklered buildings, the ratio may be the same as that determined for a health care occupancy even though a higher percentage of fires extend beyond the floor of origin.

Whereas the proposal represents a significant deviation from traditional methods of regulating building height and area, the Task Group has proposed that the new approach be included as an Annex. In this format, either a jurisdiction could substitute the Annex for Chapter 7 during the adoption process or the Annex could be considered an acceptable alternative method to determining allowable building height and area. As such, the Task Group hopes that additional input can be obtained from the public after the approach has been used on various projects.

Special Topics:
Once the Task Group established a working concept, attention was turned to dealing with special conditions. These include such items as:

I. Special Occupancies and Conditions:
A. Outdoor Assembly Occupancies: The Task Group agreed to allow an unlimited area for outdoor assemblies of Type I and II construction, with no minimum 60-foot separation distance. The Task Group assumed that the separation distance is inherent; and that any enclosed spaces will have to meet requirements of those particular occupancy chapters.
B. Indoor Assembly Occupancies: The Task Group created an exception for the fire compartment only in the arena seating areas, concourse area and exhibit hall areas. All other areas should be treated as compartments.
C. Underground/Windowless Buildings: The Task Group agreed that when underground building requirements are triggered (under 30 feet), all structural members up to and including the floor of the lowest level of discharge should be Type I and Type II (222) construction.

II. Further Defining the Compartment:
A. Fire-Resistance Rating of the Compartment’s Floor: The floor of the compartment rating will be decided by the occupancy below.
B. Roof as the Top of the Compartment: There may be special requirements for roofs when they are designated as the top of the compartment. Various roof levels and unlimited building areas of combustible construction may present special problems. This topic will need to be revisited.
C. Fire Resistance Ratings of Structural Members Supporting the Compartment: Special requirements were developed for structural elements supporting 1-hour horizontal EFC barriers (see X.5.3.1 and X.5.3.2).

III. Further Consideration of Compartment Area Restrictions:
A. One of the issues that remained from the last cycle is whether there should be a benefit for noncombustible construction. In the current proposal, the type of construction is considered in the allowable building height and in the number of compartments permitted within a building.
B. Definition of the Unlimited Area Building: This section was worked on extensively by the Task Group and has been incorporated into Section X.4.3.3 (Unlimited Area EF Compartment)
C. Type of sprinkler systems other than NFPA 13 that qualify for height and area increases:
   i. Heights:
      a. Type V (111) residential occupancies with NFPA 13R sprinkler systems are permitted to be 4 stories and 60 feet.
      b. Type V (000) residential occupancies with NFPA 13R sprinkler systems are permitted to be 3 stories and 50 feet.
   ii. Compartment Areas:
      a. The Task Group agreed that at this time there is no convincing information to allow an increase in compartment area for 13R systems.
      b. Maximum Number of Compartments: This item was not resolved in the last cycle but a proposed limit on the number of compartments has been included in this proposal. The proposed values are based upon the number of compartments that could be provided based upon the height of the building. Additional, for low-rise buildings the number of compartments were increased based upon a concept similar to that used for control areas in Chapter 34.

IV. Fire-fighter Access to Compartments:
The Task Group decided that fire department access to the building should be as required in the NFPA 1 Uniform Fire Code. However, direct access from the exterior is required for any compartment that is not protected with an automatic sprinkler system.

For more information, please see the Preprint of Annex X, which incorporates the accepted modifications on Chapter 7 to ensure that similar provisions remain similar between the two documents.

Committee Meeting Action: Accept

Number Eligible to Vote: 22

Ballot Results: Affirmative: 16  Negative: 3

Vote Not Returned: 4  BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative:
COLLINS: No reason given.
MESSERSMITH: I cannot in good conscience vote to accept a proposal that permits compartment area increases to be based upon fire data that shows sprinkler fire is effective in limiting fire spread to other floors, while at the same time the proposal does not permit compartment areas to be increased based upon type of construction. The same fire data used to justify area increases for sprinklers also shows that area increases on the same order of magnitude should be permitted based upon type of construction.
THORNBERY: In my opinion this proposal is not complete enough nor suitable for inclusion as a new annex to NFPA 5000, let alone as an alternate method for determining the type of construction and the height and area of buildings. I object to adding a new 7.1.1.1 which directs the user of NFPA 5000 to the new Annex X and makes it, in essence, a part of the code by designating it as an alternate method. I also object to the italicized text inserted at the beginning of Annex X which states: "This Annex is part of the requirements of this code." If this proposal is to be incorporated as an annex to NFPA 5000, it should be handled similarly to Annexes B and C, for example. The italicized text at the beginning of both of these Annexes states the following: "This Annex is not a part of the requirements of this NFPA document but is included for informational purposes only. Information in this Annex is intended to be adopted by the jurisdiction at the discretion of the adopting jurisdiction. Thus, the language in this annex is written in mandatory language, it is not intended to be enforced or applied unless specifically adopted by the jurisdiction."

As this code change proposal is crafted, the adopted jurisdiction, when adopting NFPA 5000, will automatically adopt Annex X unless a conscious decision is made to delete 7.1.1.1 and to revise the italicized text at the beginning of the Annex which has been discussed above. Thus, Annex X may be inadvertently adopted by a jurisdiction which would then have to accept it as an alternate method for determining the type of construction and the height and area of a building. This may happen because most jurisdictions adopt codes under the presumption that Annexes (Appendices) are not a part of the code unless specifically included in the adopting ordinance. I believe it was the intent of the Task Group that worked on this annex to simply annex it as an annex which could be evaluated by any jurisdiction which is intending to adopt NFPA 5000. Then the jurisdiction could make a conscious decision to adopt the annex if the jurisdiction felt it was appropriate to use as an alternate method. This would require a provision in the adopting ordinance that would specifically state that Annex X was being adopted as part of the code. I believe it would be preferable, if it is the Committee's desire to see Annex X incorporated into NFPA 5000, to have it available as an optional Annex that could then be evaluated and reviewed by the users of NFPA 5000 to determine on a case-by-case basis if it is suitable for designing buildings as an alternate to Chapter 7.
Although I can't speak for the other members of the Task Group, I believe there is the general feeling that this proposal still needs quite a bit of work to validate its intended use and to further refine and substantiate the concepts used to develop the proposal. At this point in time I do not feel confident enough that the technical aspects of the proposal have been fully evaluated and thought through as to how the proposal will impact the design of buildings for the purpose of determining their allowable heights and areas based on their type of construction. I would feel more comfortable allowing
Report on Proposals — Copyright, NFPA

another three year cycle to pass before including this proposal in an annex. This would permit the Task Group to continue its work on this proposal so that we can more fully explore the concepts behind this proposal and better ascertain the potential impacts this proposal will have on the design of new buildings. In other words, I believe that this annex is premature, especially if it is being incorporated as an alternate method by the addition of 7.1.1.1 to NFPA 5000.

Comment on Affirmative:

FRABLE: In concept, I do support this proposal. Even though I supported Log #780 that would have eliminated Chapter 7 in its entirety, I believe that this proposal is a step in the right direction to creating regulations for building heights and areas based more on sound technical documentation in lieu of arbitrary data. However, I strongly believe that the inclusion of a maximum number of compartments within a building should be removed from the document since it is contrary to the Technical Committee’s belief that regulations for building heights and areas should be based more on sound technical documentation then arbitrary values having no merit.

Table:

<table>
<thead>
<tr>
<th>Proposal</th>
<th>Description</th>
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<tr>
<td>7.1.5 Fire Department Access</td>
<td>Fire department access roads as measured by an approved route around the exterior of the building or facility.</td>
</tr>
<tr>
<td>7.1.5.2.5.1 Vertical clearance shall be permitted to be reduced, provided such reduction does not impair access by fire apparatus, and approved signs of not less than 20 ft (6.1 m) and an unobstructed vertical clearance of not less than 13 ft 6 in. (4.1 m).</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>7.1.5.2.5.1.3 Vertical clearances or widths shall be increased when vertical clearances or widths are not adequate to accommodate fire apparatus.</td>
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<tr>
<td>7.1.5.2.5.2 Surface</td>
<td>Fire department access roads as measured by an approved route around the exterior of the building or facility.</td>
</tr>
<tr>
<td>7.1.5.2.5.3 Turning Radius</td>
<td>The turning radius of a fire department access road shall be as approved by the AHJ.</td>
</tr>
<tr>
<td>7.1.5.2.5.4 Dead Ends</td>
<td>Dead-end fire department access roads as measured by an approved route around the exterior of the building or facility.</td>
</tr>
<tr>
<td>7.1.5.2.5.5 Bridges</td>
<td>Fire department access roads as measured by an approved route around the exterior of the building or facility.</td>
</tr>
<tr>
<td>7.1.5.2.5.6.1 The gradient for a fire department access road shall not exceed the maximum approved.</td>
<td></td>
</tr>
<tr>
<td>7.1.5.2.5.6.2* The angle of approach and departure for any means of fire department access shall not exceed 1 ft drop in 20 ft (0.3 m drop in 6 m), and the design limitations of the fire apparatus of the fire department shall be subject to approval by the AHJ.</td>
<td></td>
</tr>
<tr>
<td>7.1.5.2.5.6.2 The design limits of fire department apparatus should take into account mutual aid companies and other response agencies that might respond to emergencies.</td>
<td></td>
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</tbody>
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Table:

<table>
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<tr>
<th>Ballot Results</th>
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<td>19</td>
<td>4 BARBADORO, FOSTER, GEMENY, WESSEL</td>
<td>Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee</td>
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<tr>
<td>23</td>
<td>4 BARBADORO, FOSTER, GEMENY, WESSEL</td>
<td>Anthony C. Apfelbeck, City of Altamonte Springs Fire Department</td>
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</tbody>
</table>

5000-302 Log #464 Final Action: Reject (7.1.5)

5000-303 Log #774 Final Action: Accept in Principle (7.1.5)
7.1.5.2.5.7 Marking of Fire Apparatus Access Road. Where required by the AHJ, approved signs or other approved notices shall be provided and maintained for fire department access roads to identify such roads, or prohibit the obstruction thereof, or both. [18.2.2.5.7]

Substantiation: The Task Group on Height and Area developed this proposal. The Task Group felt that this should be extracted fully from NFPA 1/IBC requirements so that requirements would be consistent and the basic design information would be readily available to the designer.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-305 Log #460 BLD-BLC Final Action: Reject
(1.5.2.2.6(A))

Recommendation: Note: This comment was developed by the proponent as a member of the Building Code Development Committee and is submitted on behalf of the Building Code Development Committee, with the Committee's endorsement.

Revise to read as follows:

7.1.5.2.2.6 Grade.

(A) The gradient for a fire apparatus access road shall not exceed the maximum approved by the authority having jurisdiction.

Substantiation: There are any number of agencies that may have jurisdiction over the development of site improvements and roadways. The additional language merely follows the format used throughout the code where officials and agencies other than the Building Department have responsibilities in the construction of buildings or the development of property. This will avoid conflicts by limiting the approval to one responsible party.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The word ‘approved’ is defined in Chapter 3 as being acceptable to the AHJ. Thus, the additional language is unnecessary.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-306 Log #752 BLD-BLC Final Action: Accept in Principle
(7.2)

Submitter: Jesse J. Beitel, Hughes Assoc., Inc.
Recommendation: Delete Section 7.2 and replace with the following:

7.2 Construction Types.

7.2.1 General.

7.2.1.1 All buildings and parts of buildings hereafter constructed shall conform to the requirements for the specific types of construction as provided in this chapter and shall comply with the applicable requirements of other chapters and sections of this Code.

7.2.2 Portions of Building Construction. All buildings and structures shall be classified according to their type of construction, which shall be based upon one of five basic types of construction designated by roman numerals as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table 7.2.2.1 through 7.2.2.22 and with fire resistance ratings meeting the requirements of 7.2.7.

A.7.2.2.1.1 The system of designating types of construction also includes a specific breakdown of the types of construction through the use of arabic numbers. These arabic numbers follow the roman numeral notation where identifying a type of construction for example, Type I(442), Type II(111), Type III(000) and indicate the fire resistance rating requirements for certain structural elements as follows.

Table A7.2.1.1 Cross-Reference of Building Construction Types.

<table>
<thead>
<tr>
<th>NFPA 220</th>
<th>I(442)</th>
<th>I(332)</th>
<th>II(222)</th>
<th>II(111)</th>
<th>III(000)</th>
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</table>

(1) First Arabic Number, Exterior bearing walls
(2) Second Arabic Number, Columns, beams, girders, trusses, and arches, supporting bearing walls, columns, or loads from more than one floor
(3) Third Arabic Number, Floor construction

Substantiation:

7.2.1.2 Except as permitted by other provisions of this Code, wherever two or more types of construction are used in the same building, the entire building shall be classified as the least type of construction in the building and shall be subject to the requirements for that type except as permitted by other provisions of this Code.

7.2.1.3 Requirements for specific materials, types of construction, and fire protection shall be minimum requirements, and any material, type of construction, or fire protection affording safety or a fire resistance rating equal to or greater than that provided in this Code shall be permitted. Materials shall be in accordance with all of the following except as modified by any special requirements in 7.2.3:

(1) Chapter 41, Concrete
(2) Chapter 42, Aluminum
(3) Chapter 43, Masonry
(4) Chapter 44, Steel
(5) Chapter 45, Wood
(6) Chapter 46, Glass and Glazing
(7) Chapter 47, Gypsum Board, Lath, and Plaster
(8) Chapter 48, Plastics

7.2.2 Reserved.

7.2.3 Type I (442 or 332) and Type II (222, 111, or 000) Construction.

7.2.3.1 Type I and Type II Construction. Type I (442 or 332) and Type II (222, 111, or 000) construction shall be those types in which the structural elements, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are of approved noncombustible or limited-combustible materials.

7.2.3.2 Special Requirements—Type I and Type II Construction.

The special requirements in 7.2.3.2.1 through 7.2.3.2.22 shall apply to Type I and Type II construction.

7.2.3.2.1 Wood Sleepers. Where wood sleepers are used for laying wood flooring on noncombustible floors, the furring space shall be filled with noncombustible or limited-combustible material or shall be firebacked so that there will be no open space over 100 ft² (9 m²) in area under the flooring.

7.2.3.2.2 Sleeper Space. The furring spaces created by sleepers in 7.2.3.2.1 shall be filled solidly under all permanent partitions to prevent spread of fire under the flooring.

7.2.3.2.3 Mezzanine Floors in Type I, Type II (222, 111) Construction.

Mezzanine floors in Type I, Type II (222, 111) construction shall have a fire resistance rating of not less than 1-hour and be of noncombustible or limited-combustible construction with a 1-hour fire resistance rating.

7.2.3.2.4 Mezzanine Floors in Type II (000) Construction.

Mezzanine floors in Type II(000) construction shall not be required to have a fire resistance rating but shall be permitted to be of un-rated construction.

7.2.3.2.5 Platforms.

Permanent platforms shall be permitted to be constructed of noncombustible or limited-combustible materials.
7.2.3.2.6 Space Beneath Platforms. When the space beneath any permanent platform is used for storage or any other purpose than equipment, wiring, or plumbing, the floor construction shall have a fire resistance rating not less than 1-hour fire resistance-rated construction.

7.2.3.2.7 Fire Retardant–Treated Wood Platforms. Fire retardant–treated wood shall be permitted for permanent platforms that are not more than 30 in. (760 mm) above the floor and do not occupy more than 50 percent of the floor area.

7.2.3.2.8 Fire Retardant–Treated Wood Platform Area. The maximum area of a platform constructed with fire retardant–treated wood shall be not more than 3000 ft² (278 m²).

7.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In occupancies except mercantile, industrial, or storage occupancies with ordinary contents, high hazard contents, or any other occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3, the fire resistive protection of structural members, the roof-ceiling assembly required by Table 7.2.1.1 shall not be required for the roof construction, including protection of roof framing and decking, when all where every parts of the roof-ceiling assembly construction are in 20 ft (6 m) or more above any floor immediately below.

7.2.3.2.10 Fire Retardant–Treated Wood Roof.

7.2.3.2.10.1 Fire retardant–treated wood members shall be permitted to be used for unprotected members specified in 7.2.3.2.9.

7.2.3.2.10.2 Fire retardant–treated wood shall be permitted for roof construction, including girders and trusses, under the following conditions:

1. In Type II buildings
2. In Type I buildings of two stories or less
3. In Type I buildings over two stories when the vertical distance from the floor to the roof is 20 ft (6 m) or more

7.2.3.2.11 Heavy Timber Structural Members. In all occupancies, heavy timber structural members shall be permitted to be used for the roof construction where a 1-hour or less fire resistance rating is required.

7.2.3.2.12 Interior Nonbearing Walls.

7.2.3.2.12.1 Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

7.2.3.2.12.2 Interior nonbearing walls required to have a fire resistance rating of 2 hours or less shall be permitted to be fire retardant–treated wood enclosed within noncombustible or limited-combustible materials, provided such walls are not used as shaft enclosures.
(b) Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics

(c) Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics

(d) Optical-fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway

(2) Smoke detectors shall not be required to comply with 7.2.3.2.16.

(3) Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handing Spaces.

(4) Pipe insulation and coverings, duct coverings, duct linings, vapor-retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and duct silencers used in duct systems shall be permitted, provided that the following criteria are met:

(a) The products specified in 7.2.3.2.16(4) shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50.

(b) Where the products specified in 7.2.3.2.16(4) are to be applied with adhesives, they shall be tested with such adhesives applied, or the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state.

7.2.3.2.17 Plenum Fire Stopping. The integrity of the fire stopping for penetrations shall be maintained.

7.2.3.2.18 Plenum Light Diffusers. Light diffusers, other than those made of metal or glass, used in air-handling light fixtures shall be listed and marked as follows:

- Fixture Light Diffusers for Air-Handling Fixtures

7.2.3.2.19 Plenum Air Temperature. The temperature of air delivered to plenums shall not exceed 250°F (121°C).

7.2.3.2.20 Plenum Materials Exposure. Materials used in the construction of a plenum shall be suitable for continuous exposure to the temperature and humidity conditions of the environmental air in the plenum.

7.2.3.2.21 Ceiling Plenum Tested Assembly. Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested or investigated and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform with the design of the fire resistance–rated assembly, as tested in accordance with NFPA 251, Standard Methods of Test for Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials.

7.2.3.2.22 Raised Floor Plenum. The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return and exhaust air from the occupied area, provided that the conditions in 7.2.3.2.16 through 7.2.3.2.21 are met.

7.2.4 Type III (211 or 200) Construction.

7.2.4.1 Type III Construction. Type III (211 or 200) construction shall be that type in which exterior walls and structural members that are portions of such walls, such as columns, beams, girders, trusses, arches, floors, and roofs, are of approved noncombustible or limited-combustible materials, and in which interior structural elements, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are entirely or partially of wood of smaller dimensions than required for Type IV construction or are of approved noncombustible, limited-combustible, or other approved combustible materials.

7.2.4.2 Special Requirements—Type III Construction. The special requirements in 7.2.4.2.1 through 7.2.4.2.3 shall apply to Type III construction.

7.2.4.2.1 Fire Retardant–Treated Wood. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.4.2.2 Heavy Timber. Wood columns and arches conforming to heavy timber sizes shall be permitted where exterior walls are required to have a 1-hour fire resistance rating or less.

7.2.4.2.3 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of acceptance of, NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.5 Type IV (2HH) Construction.

7.2.5.1 Type IV Construction. Type IV (2HH) construction shall be that type in which exterior walls, and interior bearing walls and structural elements, that are portions of such walls, are of approved noncombustible or limited-combustible materials. Other interior structural elements, including columns, beams, girders, trusses, arches, floors, and roofs, shall be of solid or laminated wood without concealed spaces and shall comply with the allowable dimensions of 7.2.5.5.

7.2.5.2 Exterior Wall Separation. Exterior walls greater than 30 ft (9.1 m) from the property line shall be permitted to be of heavy timber construction, provided the 2-hour rating as required by Table 7.2.1(2) is maintained and such walls contain no combustible concealed spaces.

7.2.5.3 Interior Columns, Arches, Beams, Girders, and Trusses. Interior columns, arches, beams, girders, and trusses of approved materials other than wood shall be permitted, provided they are protected to provide a fire resistance rating of not less than 1 hour.

7.2.5.4 Concealed Space. Certain concealed spaces shall be permitted in accordance with 7.2.5.5.3(D).

7.2.5.5 Type IV (2HH) Allowable Dimensions. All dimensions in 7.2.5.5 shall be considered nominal.

7.2.5.5.1 Columns.

- (A) Wood columns supporting floor loads shall be not less than 6 in. (150 mm) in width and not less than 10 in. (250 mm) in depth.
- (B) Wood columns supporting only roof loads shall be not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.2 Beams.

- (A) Wood beams and girders supporting floor loads shall be not less than 6 in. (150 mm) in width and not less than 10 in. (250 mm) in depth.
- (B) Wood beams and girders and other roof framing supporting roof loads only shall be not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.3 Arches.

- (A) Framed or glued laminated arches that spring from grade or the floor line and timber trusses that support floor loads shall be not less than 8 in. (200 mm) in width or depth.
- (B) Framed or glued laminated arches for roof construction that spring from grade or the floor line and do not support floor loads shall have members not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth for the lower half of the member height and not less than 6 in. (150 mm) in depth for the upper half of the member height.
- (C) Framed or glued laminated arches for roof construction that spring from the top of walls or wall abutments, and timber trusses that do not support floor loads, shall have members not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.
- (D) Spaced members shall be permitted to be composed of two or more pieces not less than 3 in. (75 mm) in thickness where blocked solidly throughout their intervening spaces or where such spaces are tightly closed by a continuous wood cover plate not less than 2 in. (50 mm) in thickness that is secured to the underside of the members.

7.2.5.5.4 Splice Plates. Splice plates shall be not less than 3 in. (75 mm) in thickness.
Floors shall be constructed of spline or tongue-and-groove plank not less than 3 in. (75 mm) in thickness that is covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel; or they shall be constructed of laminated planks not less than 4 in. (100 mm) in width, set close together on edge, spiked at intervals of 18 in. (460 mm), and covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel.

Roof decks shall be constructed of spline or tongue-and-groove plank not less than 2 in. (50 mm) in thickness; or of laminated planks not less than 3 in. (75 mm) in width, set close together on edge, and laid as required for floors; or of 1 1/8-in. (28.5-mm) thick interior wood structural panel (exterior glue); or of approved noncombustible or limited-combustible materials of equivalent fire durability.

Special Requirements—Type IV Construction. The special requirements in 7.2.5.6.1 through 7.2.5.6.8 shall apply to Type IV construction.

Structural Elements. Structural elements shall be of heavy timber members (sawn or glued-laminated) or of fire-resistance-rated construction as set forth in Table 7.2.1.1 when materials other than heavy timber are used.

Columns, Arches, Beams, and Roof Decking. Where horizontal separation of 20 ft (6 m) or more is provided, wood columns, arches, beams, and roof deck conforming to the requirements for heavy timber in 7.2.5.5 shall be permitted to be used on the exterior of the building.

Partitions. Permanent partitions shall be permitted to be of solid wood construction formed by not less than two layers of matched boards of 1-in. (25-mm) nominal thickness or of 1-hour fire-resistance-rated construction as set forth in Table 7.2.1.1.

Floors. Floors shall be permitted to be of heavy timber, masonry, concrete, wood, or steel and shall be constructed as required in Chapter 8.

Roofs. Roofs of 1-hour fire-resistance-rated construction shall be permitted.

Stairways.

Stairways shall be permitted to be constructed with wood treads and risers of not less than 2-in. (50-mm) nominal thickness.

Where built-on, laminated or plank inclines are required for floors, stairways shall be permitted to be 1-in. (25-mm) nominal thickness or shall be permitted to be constructed as required for buildings of Type I or Type II construction.

Exterior Walls. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285 shall be permitted.

Type V (111 or 000) Construction. Type V (111 or 000) construction shall be that type in which structural elements, exterior walls, bearing walls, columns, beams, girders, trusses, arches, floors, and roofs are entirely or partially of wood or other approved material.

Fire Resistance Rating Requirements for Structural Elements.

Fire protection shall be provided for structural elements as set forth in Chapter 7 and other chapters of this Code.

Structural elements shall meet the requirements of 7.2.7.2.1 and 7.2.7.2.2.

Structural elements, including floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support.

Structural elements shall be required to have only the fire resistance rating required for the construction classification of the building, provided both of the following are met:

1. Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less

2. Structural elements do not serve as exit enclosures or protection for vertical openings.

Structural elements required to have a fire resistance rating and that support more than two floors, one floor and roof, a bearing wall, or a nonbearing wall more than two stories high shall be individually protected on all sides for their full length with materials providing the required fire resistance rating.

Structural members, other than those specified in 7.2.7.3, required to have a fire resistance rating shall be protected by individual encasement, membrane or ceiling protection in accordance with Section 8.6 or a combination of both.

In addition to the requirements of 7.2.7.3 and 7.2.7.4, columns shall meet the following requirements:

1. Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected.

2. Where the column extends through a ceiling, the fire-resistant protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

The required thickness and construction of fire-resistive materials or assemblies enclosing trusses shall be based on one of the following:

1. The results of full-scale tests or combinations of tests on truss components

2. Approved calculations based on such tests to verify that the assembly is provided with the required fire resistance rating.

The fire resistance rating required for external structural elements, defined as columns, trusses, girders, and beams, located beyond the perimeter of the building floor area, shall be permitted to be calculated by using analytical methods in accordance with the provisions set forth in 8.2.3.

Structural elements within exterior walls or located along the exterior perimeter of a building or structure shall have a fire resistance rating as required by Table 7.2.1.1 when materials other than heavy timber are used.

Structural elements within an exterior wall located where openings are not permitted, or where protection of openings is required in accordance with 7.3.5, shall have a fire resistance rating based on protection against exterior fire exposure as required for exterior bearing walls or the structural element, whichever requires the greater fire resistance rating.

The edges of lugs, brackets, rivets, and bolt heads attached to structural elements shall be permitted to extend to within 1 in. (25.4 mm) of the surface of the fire-resistive protection.

Conduits, pipes, ducts, or other construction elements shall not be embedded within required fire-resistive protection of any structural elements requiring individual encasement to achieve the required fire resistance rating.

Fire-resistive materials covering columns required to have a fire resistance rating, where exposed to impact damage by moving vehicles, handling of merchandise, or by other means, shall be protected from damage.

The Task Group on Construction Types developed the modifications to better clarify Section 7.2.

Committee Meeting Action: Accept in Principle

Delete Section 7.2 and replace with the following:

Construction Types.

General.

All buildings and parts of buildings hereafter constructed shall conform to the requirements for the specific type of construction as provided in this chapter and shall comply with the applicable requirements of other chapters and sections of this Code.

Types of Building Construction. All buildings and structures shall be classified according to their type of construction, which shall be based upon one of five basic types of construction designated by roman numerals as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table 7.2.1.1 and 7.2.3 through 7.2.6 and with fire resistance ratings meeting the requirements of 7.2.7.
7.2.2 Reserved.

7.2.3 Type I (442 or 332) and Type II (222, 111, or 000) Construction.

7.2.3.1 Type I and Type II Construction. Type I (442 or 332) and Type II (222, 111, or 000) construction shall be those types in which the structural elements, members, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are of approved noncombustible or limited-combustible materials.

7.2.3.2 Special Requirements—Type I and Type II Construction. The special requirements in 7.2.3.2.1 through 7.2.3.2.22 shall apply to Type I and Type II construction.

7.2.3.2.1 Wood Sleepers. Where wood sleepers are used for laying wood flooring on noncombustible floors, the furring space shall be filled with noncombustible or limited-combustible material or shall be fireblocked so that there will be no open space over 100 ft² (9 m²) in area under the flooring.

7.2.3.2.2 Mezzanine Floors in Type I and Type II (222, 111) Construction. Mezzanine floors in Type I and Type II (222, 111) construction shall have a fire-resistance rating of not less than 1-hour and be of noncombustible or limited-combustible construction with a 1-hour fire-resistance rating.

7.2.3.2.3 Mezzanine Floors in Type II (000) Construction. Mezzanine floors in Type II (000) construction shall not be required to have a fire-resistance rating beyond that provided in this Code shall be permitted. Materials shall be in accordance with all of the following except as modified by any special requirements in 7.2.3:

7.2.3.2.4 Sleeper Space. The furring spaces created by sleepers in 7.2.3.2.1 shall be filled solidly under all permanent partitions to prevent spread of fire under the flooring.

7.2.3.2.5 Platforms. Permanent platforms shall be permitted to be constructed of noncombustible or limited-combustible materials.

7.2.3.2.6 Space Beneath Platforms. When the space beneath any permanent platform is used for storage or any other purpose other than equipment, wiring, or plumbing, the floor construction shall have a fire resistance rating not less than 1-hour fire-resistance rated construction.

7.2.3.2.7 Fire Retardant–Treated Wood Platforms. Fire retardant–treated wood shall be permitted for permanent platforms that are not more than 30 in. (760 mm) above the floor and do not occupy more than 50 percent of the floor area.

Table 7.2.1.1 Cross-Reference of Building Construction Types.

<table>
<thead>
<tr>
<th>I(442)</th>
<th>I(332)</th>
<th>I(222)</th>
<th>I(111)</th>
<th>I(000)</th>
<th>III(211)</th>
<th>III(200)</th>
<th>V(2HH)</th>
<th>V(111)</th>
<th>V(000)</th>
</tr>
</thead>
</table>

Table 7.2.1.1 Fire Resistance Ratings for Type I through Type V Construction (hr).

<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
<th>Type III</th>
<th>Type IV</th>
<th>Type V</th>
</tr>
</thead>
<tbody>
<tr>
<td>442</td>
<td>332</td>
<td>222</td>
<td>111</td>
<td>000</td>
</tr>
<tr>
<td>Supporting more than one floor, columns, or other bearing walls</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Supporting one floor only</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Supporting a roof only</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Supporting roofs only</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: H = heavy timber members (see text for requirements).

a. See 7.3.2.1.

b. See Section 7.3.

c. See 7.2.3.2.13, 7.2.4.2.3, and 7.2.5.6.8.
7.2.3.2.8 Fire Retardant–Treated Wood Platform Area. The maximum area of a platform constructed with fire retardant–treated wood shall not be more than 3000 ft² (278 m²).

7.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In all occupancies except hazardous other than mercantile, industrial, or storage occupancies with ordinary contents or high hazard contents, and any other occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3, the fire resistive protection of structural members of the roof-ceiling assembly required by Table 7.2.1.1 shall not be required for the roof construction, including protection of roof framing and decking, when all or more than 20 ft (6 m) or more above any floor immediately below.

7.2.3.10 Fire Retardant–Treated Wood Roof.

7.2.3.10.1 Fire retardant–treated wood members shall be permitted to be used for unprotected members specified in 7.2.3.2.9.

7.2.3.10.2 Fire retardant–treated wood shall be permitted for roof construction, including girders and trusses, under the following conditions:

(1) In Type II buildings
(2) In Type I buildings of two stories or less
(3) In Type I buildings over two stories when the vertical distance from the floor to the roof is 20 ft (6 m) or more

7.2.3.11 Heavy Timber Structural Members. In all occupancies, heavy timber structural members shall be permitted to be used for the roof construction where a 1-hour or less fire resistance rating is required.

7.2.3.12 Interior Nonbearing Walls.

7.2.3.12.1 Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

7.2.3.12.2 Interior nonbearing walls required to have a fire resistance rating of 2 hours or less shall be permitted to be fire retardant–treated wood enclosed within noncombustible or limited-combustible materials, provided such walls are not used as shaft enclosures.

7.2.3.13 Exterior Nonbearing Walls. Nonbearing exterior walls shall be constructed of noncombustible materials, limited-combustible materials, or materials specified in 7.2.3.13.1 or 7.2.3.13.2.

7.2.3.13.1 Fire retardant–treated wood shall be permitted in exterior nonbearing walls when such walls are not required to have fire resistance ratings.

7.2.3.13.2 Exterior nonbearing walls tested in accordance with, and meeting the conditions of acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.3.14 Combustible Materials. Combustible materials shall be permitted in accordance with the following:

(1) Foam plastic insulation complying with Section 48.4
(2) Aluminum composite material complying with Section 37.4
(3) Thermal and acoustical insulation, other than foam plastic, complying with Chapter Section 8.1564.
(4) Interior floor finish and interior finish, trim, and millwork such as doors, door frames, window sashes, and window frames
(5) Light-transmitting plastic complying with Section 48.7 and Section 38.14
(6) Class A, Class B, or Class C roof coverings
(7) Blocking

7.2.3.15 Ceiling Plenum. The space between the top of the finished ceiling and the underside of the floor or roof shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the conditions of 7.2.3.16 through 7.2.3.21 are met.

7.2.3.16 Plenum Materials Combustibility. All materials exposed to the airflow shall be noncombustible, limited-combustible, or fire retardant–treated wood and have a maximum smoke developed index of 50, unless otherwise permitted by the following:

(1) The following materials shall be permitted in the plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread of 5 ft (1.5 m) or less when tested in accordance with the specified test method:

   (a) Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces
   (b) Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics
   (c) Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics
   (d) Optical-fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway

   (2) Smoke detectors shall not be required to comply with 7.2.3.2.16.

(3) Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

(4) Pipe insulation and coverings, duct coverings, duct linings, vapor-retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and duct silencers used in duct systems shall be permitted, provided that the following criteria are met:

   (a) The products specified in 7.2.3.2.16(4) shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50.
   (b) Where the products specified in 7.2.3.2.16(4) are to be applied with adhesives, they shall be tested with such adhesives applied, or the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state.

7.2.3.17 Plenum Fire Stopping. The integrity of the fire stopping for penetrations shall be maintained.

7.2.3.18 Plenum Light Diffusers. Light diffusers, other than those made of metal or glass, used in air-handling light fixtures shall be listed and marked as follows:

   Fixture Light Diffusers for Air-Handling Fixtures

7.2.3.19 Plenum Air Temperature. The temperature of air delivered to plenums shall not exceed 250°F (121°C).

7.2.3.20 Plenum Materials Exposure. Materials used in the construction of a plenum shall be suitable for continuous exposure to the temperature and humidity conditions of the environmental air in the plenum.

7.2.3.21 Ceiling Plenum Tested Assembly. Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested and investigated and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform with the design of the fire resistance–rated assembly, as tested in accordance with NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials.

7.2.3.22 Raised Floor Plenum. The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return and exhaust air from the occupied area, provided that the conditions in 7.2.3.16 through 7.2.3.21 are met.

7.2.4 Type III (211 or 200) Construction.

7.2.4.1 Type III Construction. Type III (211 or 200) construction shall be that type in which exterior walls and structural members that are portions of exterior walls are of approved noncombustible or limited-combustible materials, and in which interior structural elements members, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are entirely or partially of wood of smaller dimensions than required for Type IV.
construction or are of approved noncombustible, limited-combustible, or other approved combustible materials.

7.2.4.2 Special Requirements—Type III Construction. The special requirements in 7.2.4.2.1 through 7.2.4.2.3 shall apply to Type III construction.

7.2.4.2.1 Fire Retardant–Treated Wood. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m). A fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.4.2.2 Heavy Timber. Wood columns and arches conforming to heavy timber sizes shall be permitted where exterior walls are required to have a 1-hour fire resistance rating or less.

7.2.4.2.3 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of acceptance of, NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.5 Type IV (2HH) Construction.

7.2.5.1 Type IV Construction. Type IV (2HH) construction shall be that type in which exterior walls, and interior bearing walls and structural elements that are portions of such walls, are of approved noncombustible or limited-combustible materials. Other interior structural elements, including columns, beams, girders, trusses, arches, floors, and roofs, shall be of solid or laminated wood without concealed spaces and shall comply with the allowable dimensions of 7.2.5.5.

7.2.5.2 Exterior Wall Separation. Exterior walls greater than 30 ft (9.1 m) from the property line shall be permitted to be of heavy timber construction, provided the 2-hour rating as required by Table 7.2.1.1 is maintained and such walls contain no combustible concealed spaces.

7.2.5.3 Interior Columns, Arches, Beams, Girders, and Trusses. Interior columns, arches, beams, girders, and trusses of approved materials other than wood shall be permitted, provided they are protected to provide a fire resistance rating of not less than 1 hour.

7.2.5.4 Concealed Space. Certain concealed spaces shall be permitted in accordance with 7.2.5.5.3(D). where the concealed space is not utilized by the building.

7.2.5.5 Type IV (2HH) Allowable Dimensions. All dimensions in 7.2.5.5 shall be considered nominal.

7.2.5.5.1 Columns.

(A) Wood columns supporting floor loads shall be not less than 8 in. (200 mm) in any dimension.

(B) Wood columns supporting only roof loads shall be not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth.

7.2.5.5.2 Beams.

(A) Wood beams and girders supporting floor loads shall be not less than 6 in. (150 mm) in width and not less than 10 in. (250 mm) in depth.

(B) Wood beams and girders and other roof framing supporting roof loads only shall be not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.3 Arches.

(A) Framed or glued laminated arches that spring from grade or the floor line and timber trusses that support floor loads shall be not less than 8 in. (200 mm) in width or depth.

(B) Framed or glued laminated arches for roof construction that spring from grade or the floor line and do not support floor loads shall have members not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth for the lower half of the member height and not less than 6 in. (150 mm) in depth for the upper half of the member height.

(C) Framed or glued laminated arches for roof construction that spring from the top of walls or wall abutments, and timber trusses that do not support floor loads, shall have members not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.4 Splice Plates. Splice plates shall be not less than 3 in. (75 mm) in thickness.

7.2.5.5.5 Floors. Floors shall be constructed of spline or tongue-and-groove plank not less than 3 in. (75 mm) in thickness that is covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel; or they shall be constructed of laminated planks not less than 4 in. (100 mm) in width, set close together on edge, spaced at intervals of 18 in. (460 mm), and covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel.

7.2.5.5.6 Roof Decks. Roof decks shall be constructed of spline or tongue-and-groove plank not less than 2 in. (50 mm) in thickness; or of laminated planks not less than 3 in. (75 mm) in width, set close together on edge, and laid as required for floors; or of 1 1/8-in. (28.5-mm) thick interior wood structural panel (exterior glue); or of approved noncombustible or limited-combustible materials of equivalent fire durability.

7.2.5.6 Special Requirements—Type IV Construction. The special requirements in 7.2.5.6.1 through 7.2.5.6.8 shall apply to Type IV construction.

7.2.5.6.1 Structural Elements. Structural elements shall be of heavy timber members (sawn or glued-laminated) or of fire resistance-rated construction as set forth in Table 7.2.1.1 when materials other than heavy timber are used.

7.2.5.6.2 Columns, Arches, Beams, and Roof Decking. Where horizontal separation of 20 ft (6 m) or more is provided, wood columns, arches, beams, and roof deck conforming to the requirements for heavy timber in 7.2.5.5 shall be permitted to be used on the exterior of the building.

7.2.5.6.3 Partitions. Permanent partitions shall be permitted to be of solid wood construction formed by not less than two layers of matched boards of 1-in. (25-mm) nominal thickness or of 1-hour fire resistance–rated construction as set forth in Table 7.2.1.1 where materials other than heavy timber are used.

7.2.5.6.4 Floors. Floors shall be permitted to be of heavy timber, masonry, concrete, wood, or steel and shall be constructed as required in Chapter 8.

7.2.5.6.5 Roofs. Roofs of 1-hour fire resistance–rated construction shall be permitted.

7.2.5.6.6 Stairways.

7.2.5.6.6.1 Stairways shall be permitted to be constructed with wood treads and risers of not less than 2-in. (50-mm) nominal thickness.

7.2.5.6.6.2 Where built-on, laminated or plank inclines are required for floors, stairways shall be permitted to be 1-in. (25-mm) nominal thickness or shall be permitted to be constructed as required for buildings of Type I or Type II construction.

7.2.5.6.7 Exterior Walls. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.5.6.8 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285 shall be permitted.

7.2.6 Type V (111 or 000) Construction. Type V (111 or 000) construction shall be that type in which structural elements, exterior walls, bearing walls, columns, beams, girders, trusses, arches, floors, and roofs are entirely or partially of wood or other approved material.

7.2.7 Fire Resistance Rating Requirements for Structural Elements.

7.2.7.1 Fire resistance protection shall be provided for structural elements as set forth in Chapter 7 and other chapters of this Code.

7.2.7.2 Structural elements shall meet the requirements of 7.2.7.2.1 and 7.2.7.2.2.
7.2.7.2.1 Structural elements, including floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support.

7.2.7.2.2 Structural elements shall be required to have only the fire resistance rating required for the construction classification of the building, provided both of the following are met:

1. Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less

2. Structural elements do not serve as exit enclosures or protection for vertical openings.

7.2.7.3 Structural elements required to have a fire resistance rating and that support more than two floors, one floor and roof, a bearing wall, or a nonbearing wall more than two stories high shall be individually protected on all sides for their full length with materials providing the required fire resistance rating.

7.2.7.4 Structural members, other than those specified in 7.2.7.3, required to have a fire resistance rating shall be protected by individual encasement, membrane or ceiling protection in accordance with Section 8.6 or a combination of both.

7.2.7.5 In addition to the requirements of 7.2.7.3 and 7.2.7.4, columns shall meet the following requirements:

1. Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected.

2. Where the column extends through a ceiling, the fire-resistive protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

7.2.7.6 The required thickness and construction of fire-resistive materials or assemblies enclosing trusses shall be based on one of the following:

1. The results of full-scale tests or combinations of tests on truss components

2. Approved calculations based on such tests to verify that the assembly is provided with the required fire resistance rating.

7.2.7.7 The fire resistance rating required for external structural members defined as columns, trusses, girders, and beams located beyond the perimeter of the building floor area, shall be permitted to be calculated by using analytical methods in accordance with the provisions set forth in 8.2.3.

7.2.7.8 Structural elements within exterior walls or located along the exterior perimeter of a building or structure shall have a fire resistance rating as required by Table 7.2.11.2 for exterior bearing walls based on the type of construction.

7.2.7.9 Structural elements within an exterior wall located where openings are not permitted, or where protection of openings is required in accordance with 7.3.5, shall have a fire resistance rating based on protection against exterior fire exposure as required for exterior bearing walls or the structural element, whichever requires the greater fire resistance rating.

7.2.7.10 The edges of lugs, brackets, rivets, and bolt heads attached to structural elements shall be permitted to extend to within 1 in. (25.4 mm) of the surface of the fire-resistive protection.

7.2.7.11 Conduits, pipes, ducts, or other construction elements shall not be embedded within required fire-resistive protection of any structural members requiring individual encasement to achieve the required fire resistance rating.

7.2.7.12 Fire-resistive materials covering columns required to have a fire resistance rating, where exposed to impact damage by moving vehicles, handling of merchandise, or by other means, shall be protected from damage.

Committee Statement: The Technical Committee made several minor editorial modifications to the text. In Table A.7.2.1.1, the charging language was tightened up and two typos were corrected. In addition, the title to 7.2.3.2.3 was corrected and the word ‘section’ was inserted in 7.2.3.2.14 (3).

This document served as a base document for Committee Proposal 5000-307 (Log #CP901).

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBARO, FOSTER, GEMENY, WESSEL

7.2 Construction Types.

7.2.1 General.

7.2.1.1 All buildings and parts of buildings hereafter constructed shall conform to the requirements for the specific types of construction as provided in this chapter and shall comply with the applicable requirements of other chapters and sections of this Code.

7.2.2 The system of designating types of construction also includes a specific breakdown of the types of construction through the use of arabic numbers as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table 7.2.11.2 and 7.2.3 through 7.2.6 and with fire resistance ratings meeting the requirements of 7.2.7. [5000-306 (Log #752)]

A.7.2.1.1 The system of designating types of construction also includes a specific breakdown of the types of construction through the use of roman numerals as Type I, Type II, Type III, Type IV, and Type V, with fire resistance ratings not less than those specified in Table 7.2.11.2 and 7.2.3 through 7.2.6 and with fire resistance ratings meeting the requirements of 7.2.7. [5000-306 (Log #752)]

1. First Arabic Number. Exterior bearing walls

2. Second Arabic Number. Columns, beams, girders, trusses and arches, supporting bearing walls, columns, or loads from more than one floor

3. Third Arabic Number. Floor construction

Table A.7.2.1.1 provides a comparison of similar types of construction for various model building codes. [5000-306 (Log #752)]

7.2.1.2 Except as permitted by other provisions of this Code, wherever two or more types of construction are used in the same building, the entire building shall be classified as the least type of construction in the building and shall be subject to the requirements for that type except as permitted by other provisions of this Code. [5000-306 (Log #752)]

7.2.1.3 Requirements for specific materials, types of construction, and fire protection shall be minimum requirements, and any material, type of construction, or fire protection affording safety or a fire resistance rating equal to or greater than that provided in this Code shall be permitted. Materials shall be in accordance with all of the following except as modified by any special requirements in 7.2.3:

1. Chapter 41, Concrete

2. Chapter 42, Aluminum

Table A.7.2.1.1 Cross-Reference of Building Construction Types.

<table>
<thead>
<tr>
<th>Type</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
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unp – Unprotected

[5000-306 (Log #752)]
Table 7.2.1-2 Fire Resistance Ratings for Type I through Type V Construction (hr)

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<tr>
<th></th>
<th>Type I</th>
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<th>Type III</th>
<th>Type IV</th>
<th>Type V</th>
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<tr>
<td><strong>Exterior Nonbearing Walls</strong>c</td>
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</tbody>
</table>

Note: H = heavy timber members (see text for requirements).
aSee 7.3.2.1.
bSee Section 7.3.
cSee 7.3.2.13, 7.4.2.4.3, and 7.5.6.8. [5000-306 (Log #752)]

7.2.2 Reserved. [5000-306 (Log #752)]

7.2.3 Type I (442 or 332) and Type II (222, 111, or 000) Construction.

7.2.3.1 Type I and Type II Construction. Type I (442 or 332) and Type II (222, 111, or 000) construction shall be those types in which the fire walls, structural elements, members, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are of approved noncombustible or limited-combustible materials. [5000-306 (Log #752) and 5000-311 (Log #795)]

7.2.3.2 Special Requirements—Type I and Type II Construction. The special requirements in 7.2.3.2.1 through 7.2.3.2.20 apply to Type I and Type II construction.

7.2.3.2.1 Wood Sleepers. Where wood sleepers are used for laying, installing wood flooring on noncombustible floors, the furring space shall be filled with noncombustible or limited-combustible material or be fire-blocked so that there will be no open space exceeding 100 ft² (9 m²) in area under the flooring. [5000-312 (Log #473)]

7.2.3.2.2 Sleeper Space. The furring spaces created by sleepers in 7.2.3.2.1 shall be filled solidly under all permanent partitions to prevent spread of fire under the flooring.

7.2.3.2.3 Mezzanine Floors in Type I and Type II (222, 111) Construction. Mezzanine floors in Type I and Type II construction shall have a fire resistance rating of not less than 1-hour or be of noncombustible or limited-combustible construction with a 1-hour fire resistance rating. [5000-306 (Log #752)]

7.2.3.2.4 Mezzanine Floors in Type II (000) Construction. Mezzanine floors in Type II(000) construction shall not be required to have a fire resistance rating, be permitted to be of nonrated construction. [5000-306 (Log #752)]

7.2.3.2.5 Platforms. Permanent platforms shall be permitted to be constructed of noncombustible or limited-combustible materials. [5000-306 (Log #752)]

7.2.3.2.6 Space Beneath Platforms. When the space beneath any permanent platform is used for storage or any other purpose other than equipment, wiring, or plumbing, the floor construction shall have a fire resistance rating not less than 1-hour fire resistance–rated construction. [5000-306 (Log #752)]

7.2.3.2.7 Fire Retardant–Treated Wood Platforms. Fire retardant–treated wood shall be permitted for permanent platforms that do not exceed 3000 ft² (278 m²) in area, that are not more than 30 in. (760 mm) above the floor and do not occupy more than 50 percent of the floor area of the room or space in which they are located. [Log #468]

7.2.3.2.8 Fire Retardant–Treated Wood Platform Area. The maximum area of a platform constructed with fire retardant–treated wood shall not exceed 3000 ft² (278 m²). [5000-314 (Log #468)]

7.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In all occupancies except hazardous other than mercantile, industrial, or storage occupancies with ordinary contents or high hazard contents, and any other occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3, the fire resistive protection of structural members the roof-ceiling assembly required by Table 7.2.1-1 shall not be required for the roof construction, including protection of roof framing and decking, when all where every part of the roof-ceiling assembly construction are is 20 ft (6 m) or more above any floor immediately below. [5000-306 (Log #752)]

7.2.3.2.10 Fire Retardant–Treated Wood Roof.

7.2.3.2.11 Fire Retardant–Treated Wood Roof. Fire retardant–treated wood members shall be permitted to be used for unprotected members specified in 7.2.3.2.9.

7.2.3.2.12 Fire Retardant–Treated Wood Roof. Fire retardant–treated wood shall be permitted for roof construction, including girders and trusses, under the following conditions:

1. In Type II buildings
2. In Type I buildings of two stories or less
3. In Type I buildings over two stories when the vertical distance from the floor to the roof is 20 ft (6 m) or more

7.2.3.2.13 Heavy Timber Structural Members. In all occupancies, heavy timber structural members shall be permitted to be used for the roof construction where a 1-hour or less fire resistance rating is required.

7.2.3.2.14 Interior Nonbearing Walls.

7.2.3.2.15 Nonbearing Walls. Interior nonbearing walls shall be constructed of noncombustible or limited-combustible materials.

7.2.3.2.16 Exterior Nonbearing Walls. Nonbearing exterior walls shall be constructed of noncombustible materials, limited-combustible materials, or materials specified in 7.2.3.2.14 or 7.2.3.2.12.

7.2.3.2.17 Fire Retardant–Treated Wood. Fire retardant–treated wood shall be permitted in exterior nonbearing walls when such walls are not required to have fire resistance ratings.

7.2.3.2.18 Exterior Nonbearing Walls tested in accordance with, and meeting the conditions of acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.

7.2.3.2.19 Exterior Nonbearing Walls tested in accordance with, and meeting the conditions of acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.
(2) **Aluminum** metal composite material complying with Section 37.4 [5000-361 (Log #606a)]

(3) Thermal and acoustical insulation, other than foam plastic, complying with Chapter Section 8.154 [5000-306 (Log #752)]

(4) Interior floor finish and interior finish, trim, and millwork such as doors, door frames, window sashes, and window frames

(5) Light-transmitting plastic complying with Section 48.7 and Section 38.14

(6) Class A, Class B, or Class C roof coverings

(7) Blocking

7.2.3.2.[4.3.10.2.6.1] **Ceiling and Raised Floor Plenums.** The space between the top of the finished ceiling and the underside of the floor or roof above and the space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the requirements conditions of 7.2.3.2.[4.3.10.2.6.6] through 7.2.3.2.[4.3.10.2.6.20] are met. [5000-318 (Log #453)]

7.2.3.2.[4.3.10.2.6.1] **Plenum Materials Combustibility.** All materials exposed to the airflow shall be noncombustible, limited combustible, or fire retardant-treated wood and have a maximum smoke developed index of 50, unless otherwise permitted by the following:

1. The following materials shall be permitted in the plenum where listed or having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread of 5 ft (1.5 m) or less when tested in accordance with the specified test method:
   - a) Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces
   - b) Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics
   - c) Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics
   - d) Optical fiber and communication raceways — UL 2044, Standard for Optical Fiber Cable Raceway

2. Smoke detectors shall not be required to comply with 7.2.3.2.[4.3.10.2.6.2].

3. Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed or having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Safety for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

4. Pipe insulation and coverings, duct configurations, duct linings, vapor retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and duct silencers used in duct systems shall be permitted, provided that the following criteria are met:
   - a) The products specified in 7.2.3.2.[4.3.10.2.6.10] shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50.
   - b) Where the products specified in 7.2.3.2.[4.3.10.2.6.10] are to be applied with adhesives, they shall be tested with such adhesives applied, or the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state.

7.2.3.2.[4.3.10.2.6.15] **Plenum Materials Combustibility.** Materials exposed to the airflow shall be noncombustible or limited combustible and have a maximum smoke developed index of 50 or comply with the following: [90A: 4.3.10.2.6.1] [5000-320 (Log #722)]

7.2.3.2.[4.3.10.2.6.15.1] **Ceiling and Raised Floor Plenums.** The space between the top of the finished ceiling and the underside of the floor or roof above and the space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the requirements conditions of 7.2.3.2.[4.3.10.2.6.6] through 7.2.3.2.[4.3.10.2.6.20] are met. [5000-318 (Log #453)]

7.2.3.2.[4.3.10.2.6.15.2] **Pneumatic tubing for control systems shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.5 m (5 ft) or less when tested in accordance with UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics.** [90A: 4.3.10.2.6.2] [5000-320 (Log #722)]

7.2.3.2.[4.3.10.2.6.15.3] **Nonferrous fire sprinkler piping shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.5 m (5 ft) or less when tested in accordance with UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics.** [90A: 4.3.10.2.6.3] [5000-320 (Log #722)]

7.2.3.2.[4.3.10.2.6.15.4] **Optical-fiber and communication raceways shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.5 m (5 ft) or less when tested in accordance with UL 2043, Standard for Safety Optical Fiber Cable Raceway.** [90A: 4.3.10.2.6.4] [5000-320 (Log #722)]

7.2.3.2.[4.3.10.2.6.15.5] **Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum, where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Safety for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.** [90A: 4.3.10.2.6.5] [5000-320 (Log #722)]

7.2.3.2.[4.3.10.2.6.15.6] **Supplementary materials for air distribution systems shall be permitted when complying with the provisions of 4.3.3 of NFPA 90A: 4.3.10.2.6.6] [5000-320 (Log #722)]

7.2.3.2.[4.3.10.2.6.15.7] **Smoke detectors shall not be required to meet the provisions of this section.** [90A: 4.3.10.2.6.7] [5000-320 (Log #722)]

7.2.3.2.1846 **Plenum Light Stopping.** The integrity of the fire stopping for penetrations shall be maintained.

7.2.3.2.[4.3.10.2.6.18] **Plenum Light Diffusers.** Light diffusers, other than those made of metal or glass, used in air-handling light fixtures shall be listed and marked as follows:

- Fixture Light Diffusers for Air-Handling Fixtures

7.2.3.2.1926 **Plenum Materials Exposure.** Materials used in the construction of a plenum shall be suitable for continuous exposure to the temperature and humidity conditions of the environmental air in the plenum.

7.2.3.2.2041 **Ceiling Plenum Tested Assembly.** Where the plenum is a part of a floor-ceiling or roof-ceiling assembly that has been tested and assigned a fire resistance rating of 1 hour or more, and the assembly contains air ducts and openings for air ducts, all the materials and the construction of the assembly, including the air duct materials and the size and protection of the openings, shall conform with the design of the fire resistance–rated assembly, as tested in accordance with NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials, or ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials, or UL 263, [5000-321 (Log #25b)]

7.2.3.2.22 **Raised Floor Plenum.** The space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area, or return and exhaust air from the occupied area, provided that the conditions in 7.2.3.2.16 through 7.2.3.2.21 are met. [5000-318 (Log #453)]

7.2.4 **Type III (211 or 200) Construction.**

7.2.4.1 **Type III Construction.** Type III (211 or 200) construction shall be that type in which exterior walls and structural members that are portions of exterior walls are of approved noncombustible or limited-combustible materials, and in which firewalls, interior structural elements, members, including walls, columns, beams, girders, trusses, arches, floors, and roofs, are entirely or partially of wood of smaller dimensions than required for Type IV construction or are of approved noncombustible, limited-combustible, or other approved combustible materials. [5000-306 (Log #752) and 5000-311 (Log #785)]
Exterior nonbearing walls tested in accordance with 7.2.5.4 shall comply with the allowable dimensions of 7.2.5.5. [5000-306 (Log #752) and 5000-311 (Log #795)]

7.2.5.2 Exterior Wall Separation. Exterior walls greater than 30 ft (9.1 m) from the property line shall be permitted to be of heavy timber construction, provided the 2-hour rating as required by Table 7.2.5.2 shall be maintained and such walls contain no combustible concealed spaces. [5000-306 (Log #752)]

7.2.5.3 Interior Columns, Arches, Beams, Girders, and Trusses. Interior columns, arches, beams, girders, and trusses of approved materials other than wood shall be permitted, provided they are protected to provide a fire resistance rating of not less than 1 hour.

7.2.5.4 Concealed Space. Certain concealed spaces shall be permitted in accordance with 7.2.5.5.3(D).

7.2.5.5 Type IV (2HH) Allowable Dimensions. All dimensions in 7.2.5.5 shall be considered nominal.

7.2.5.5.1 Columns.
(A) Wood columns supporting floor loads shall be not less than 8 in. (200 mm) in any dimension.
(B) Wood columns supporting only roof loads shall be not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth.

7.2.5.5.2 Beams.
(A) Wood beams and girders supporting floor loads shall be not less than 6 in. (150 mm) in width and not less than 10 in. (250 mm) in depth.
(B) Wood beams and girders and other roof framing supporting roof loads only shall be not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.

7.2.5.5.3 Arches.
(A) Framed or glued laminated arches that spring from grade or the floor line and timber trusses that support floor loads shall be not less than 8 in. (200 mm) in width or depth.
(B) Framed or glued laminated arches for roof construction that spring from grade or the floor line and do not support floor loads shall have members not less than 6 in. (150 mm) in width and not less than 8 in. (200 mm) in depth for the lower half of the member height and not less than 6 in. (150 mm) in depth for the upper half of the member height.
(C) Framed or glued laminated arches for roof construction that spring from the top of walls or wall abutments, and timber trusses that do not support floor loads, shall have members not less than 4 in. (100 mm) in width and not less than 6 in. (150 mm) in depth.
(D) Spaced members shall be permitted to be composed of two or more pieces not less than 3 in. (75 mm) in thickness where blocked solidly throughout their intervening spaces or where such spaces are tightly closed by a continuous wood cover plate not less than 2 in. (50 mm) in thickness that is secured to the underside of the members.

7.2.5.5.4 Splice Plates. Splice plates shall be not less than 3 in. (75 mm) in thickness.

7.2.5.5.5 Floors. Floors shall be constructed of spline or tongue-and-groove plank not less than 3 in. (75 mm) in thickness that is covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel; or they shall be constructed of laminated planks not less than 4 in. (100 mm) in width, set close together on edge, spiked at intervals of 18 in. (460 mm), and covered with 1-in. (25-mm) tongue-and-groove flooring, laid crosswise or diagonally to the plank, or with 1/2-in. (12.5-mm) wood structural panel.

7.2.5.5.6 Roof Decks. Roof decks shall be constructed of spline or tongue-and-groove plank not less than 2 in. (50 mm) in thickness; or of laminated planks not less than 3 in. (75 mm) in width, set close together on edge, and laid as required for floors; or of 1 1/8-in. (28.5-mm) thick interior wood structural panel (exterior glue); or of approved noncombustible or limited-combustible materials of equivalent fire durability.

7.2.5.6 Special Requirements—Type IV Construction. The special requirements in 7.2.5.6.1 through 7.2.5.6.8 shall apply to Type IV construction.

7.2.5.6.1 Structural Elements. Structural elements shall be of heavy timber members (sawn or glued-laminated) or of fire resistance-rated construction as set forth in Table 7.2.5.6.1 when materials other than heavy timber are used. [5000-306 (Log #752)]

7.2.5.6.2 Columns, Arches, Beams, and Roof Decking. Where horizontal separation of 20 ft (6 m) or more is provided, wood columns, arches, beams, and roof decking conforming to the requirements for heavy timber in 7.2.5.5 shall be permitted to be used on the exterior of the building.

7.2.5.6.3 Partitions. Permanent partitions shall be permitted to be of solid wood construction formed by not less than two layers of matched boards of 1-in. (25-mm) nominal thickness or of 1-hour fire resistance-rated construction as set forth in Table 7.2.5.6.3 when materials other than heavy timber are used. [5000-306 (Log #752)]

7.2.5.6.4 Floors. Floors shall be permitted to be of heavy timber, masonry, concrete, wood, or steel and shall be constructed as required in Chapter 8.

7.2.5.6.5 Roofs. Roofs of 1-hour fire resistance-rated construction shall be permitted.

7.2.5.6.6 Stairways.

7.2.5.6.6.1 Stairways shall be permitted to be constructed with wood treads and risers of not less than 2-in. (50-mm) nominal thickness.

7.2.5.6.6.2 Where built-on, laminated or plank inclines are required for floors, stairways shall be permitted to be 1-in. (25-mm) nominal thickness or shall be permitted to be constructed as required for buildings of Type I or Type II construction.

7.2.5.6.7 Exterior Walls. Approved fire retardant–treated wood framing shall be permitted within the assembly of exterior walls having a required fire resistance rating of 2 hours or less and a horizontal separation of not less than 5 ft (1.5 m), provided the fire resistance rating is maintained and the exposed outer and inner faces of such walls are constructed of limited-combustible or noncombustible materials.

7.2.5.6.8 Exterior Nonbearing Walls. Exterior nonbearing walls tested in accordance with, and meeting the conditions of, acceptance of NFPA 285, Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus, shall be permitted.
7.2.7.2.1 Structural elements, including floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support. [5000-306 (Log #752)]

7.2.7.2.2 Structural elements, floors and bearing walls shall be required to have only the fire resistance rating required for the construction classification of the building, provided both of the following are met: [5000-326 (Log #794)]

1. Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less
2. Structural elements do not serve as exit enclosures, protection for vertical openings, or occupancy separations. [5000-326 (Log #794)]

7.2.7.3 Structural elements such as girders, beams, trusses, and spandrels, having direct connections to columns carrying gravity loads and are essential to the stability of the building as a whole shall have a fire resistance rating not less than that of the columns to which they are connected. [5000-327 (Log #106)]

7.2.7.3 Structural elements required to have a fire resistance rating and that support more than two floors, one floor and roof, a bearing wall, or a nonbearing wall more than two stories high shall be individually protected on all sides for their full length with materials providing the required fire resistance rating.

7.2.7.4 Structural members elements, other than those specified in 7.2.7.3, required to have a fire resistance rating shall be protected by individual encasement, membrane or ceiling protection in accordance with Section 8.6 or a combination of both. [5000-306 (Log #752)]

7.2.7.5 In addition to the requirements of 7.2.7.3 and 7.2.7.4, columns shall meet the following requirements:

1. Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected.
2. Where the column extends through a ceiling, the fire-resistant protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

7.2.7.6 The required thickness and construction of fire-resistant materials or assemblies enclosing trusses shall be based on one of the following:

1. The results of full-scale tests or combinations of tests on truss components
2. Approved calculations based on such tests to verify that the assembly is provided with the required fire resistance rating in accordance with 8.2.3. [5000-329 (Log #146)]

7.2.7.7 The fire resistance rating required for external structural members elements, defined as columns, trusses, girders, and beams located beyond the perimeter of the building floor area, shall be permitted to be calculated by using analytical methods in accordance with the provisions set forth in 8.2.3. [5000-306 (Log #752)]

7.2.7.8 Structural elements within exterior walls or located along the exterior perimeter of a building or structure shall have a fire resistance rating as required by Table 7.2.1 for exterior bearing walls based on the type of construction. [5000-306 (Log #752)]

7.2.7.9 Structural elements within an exterior wall located where openings are not permitted, or where protection of openings is required in accordance with 7.3.5, shall have a fire resistance rating based on protection against exterior fire exposure as required for exterior bearing walls or the structural element, whichever requires the greater fire resistance rating.

7.2.7.10 The edges of lugs, brackets, rivets, and bolt heads attached to structural elements shall be permitted to extend to within 1 in. (25.4 mm) of the surface of the fire-resistant protection.

7.2.7.11 Conduits, pipes, ducts, or other construction elements shall not be embedded within required fire-resistant protection of any structural elements requiring individual encasement to achieve the required fire resistance rating. [5000-306 (Log #752) and 5000-330 (Log #469)]

Substantiation: This Committee Proposal uses the committee action from Proposal 5000-306 (Log #752) as a base and incorporates actions taken on the following proposals: Proposals 5000-311 (Log #795), 5000-312 (Log #473), 5000-320 (Log #722), 5000-314 (Log #468), 5000-318 (Log #453), 5000-321 (Log #25b), 5000-326 (Log #794), 5000-327 (Log #106), 5000-329 (Log #146), 5000-330 (Log #469), and 5000-961 (Log #606a).

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 18 Negative: 1
Vote Not Returned: 4

5000-308 Log #454 BLD-BLC
(7.2.1.1, 7.2.1.2, 7.4.2.3, and 7.4.3.4 )

Submitter: Christopher Laux, Office of the State Building Inspector, Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.
Revise to read as follows:

7.2.1.2 Delete
7.4.2.3 Delete
7.4.3.4 Delete

Substantiation: 7.2.1.2 the approach to allow two different construction types in a single building is not practical. For instance, if the building consisted of Type II, 222 and Type IV, 2HH, even though each of those types has some fire protection inherent either by added protection or by size of combustible members, the code official could only classify it as Type V, 000, since Types II and IV cannot be mixed due to combustibility of members in Type IV and lack of heavy timber members in Type II. A better approach is to require the creation of separate buildings by virtue of fire walls whenever construction types are mixed.

Committee Statement: The Technical Committee chose to reject this proposal. The requirements for multiple types of construction should be retained for clarity.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4

5000-309 Log #309 BLD-BLC

Submitter: Don Bliss, James Burns, National Association of State Fire Marshals
Recommendation: Revise Table 7.2.2 as shown on the following page:
NASFM has submitted this proposed code change to ensure that the NFPA 5000 Building Construction and Safety Code (NFPA 5000) maintains the same level of safety that is prescribed under the 1997 Uniform Building Code (UBC).

This amendment proposes implementing the structural frame concept defined in Section 601.4 Structural Frame of the 1997 UBC. This concept is critical for occupant and first responder safety because it requires that those structural elements essential to the overall structural integrity of a building are provided with the same degree of fire resistance required for a given type of construction.

This amendment also proposes that the fire resistance ratings required for the various types of construction are made consistent with those specified in Table 6-A of the UBC. Several of fire resistance ratings allowed by Table 7.2.2 Fire Resistance Ratings for Type I through Type V Construction (hr) are significantly reduced below those allowed by the 1997 UBC. The justification for such a reduction appears to have been arbitrary and has not been sown by NFPA 5000 committee to provide adequate protection of the lives of civilians and emergency responders, or to ensure public welfare through property protection. See Section 7.3.2.1.


The fire resistance ratings, as specified under Table 7.2.2, NFPA 5000, place a considerable burden on active fire suppression systems. It is the position of NASFM that both active and passive fire protection must be in place at adequate levels to achieve safety from fire for both occupants and emergency responders. Used together, they can provide a superior level of fire and life safety that neither can provide alone. The longer that a fire is contained, the greater the chances that people will be able to escape or be rescued, that firefighters will be able to avoid injury or death from building collapse, and that building operations can continue with little impact on public welfare. NASFM finds it problematic that the built-in fire resistant protection will be arbitrarily reduced when states begin to adopt NFPA 5000.

Even more problematic is the reduction in fire and life safety that is allowed by NFPA 5000 as a result of the combination of Table 7.2.2 with Table 7.4.1, which allows significantly greater heights and areas for the given types of construction for most occupancies than is presently allowed by the 1997 UBC. For example, Table 7.4.1 indicates that it is allowable to construct a 9500 sq ft, 1 story, unsprinklered, Type V construction (wood frame) educational building. When compared to Table 7.2.2 it becomes apparent that the “0” fire resistance rating requirement means that this school would not be required to protect exterior or interior bearing walls, columns, beams, girders, trusses, arches, floors or ceilings. The only required fire rating in this instance would be for exit corridors serving more than 30 people. It must be noted that if this building were sprinklered the corridor rating goes away. In addition, with

### Table 7.2.2 Fire Resistance Ratings for Type I through Type V Construction (hr)

<table>
<thead>
<tr>
<th>Type</th>
<th>Type I</th>
<th>Type II</th>
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Note: H = heavy timber members (see text for requirements).

Substantiation: NASFM has submitted this proposed code change to ensure that the NFPA 5000 Building Construction and Safety Code (NFPA 5000) maintains the same level of safety that is prescribed under the 1997 Uniform Building Code (UBC).


The fire resistance ratings, as specified under Table 7.2.2, NFPA 5000, place a considerable burden on active fire suppression systems. It is the position of NASFM that both active and passive fire protection must be in place at adequate levels to achieve safety from fire for both occupants and emergency responders. Used together, they can provide a superior level of fire and life safety that neither can provide alone. The longer that a fire is contained, the greater the chances that people will be able to escape or be rescued, that firefighters will be able to avoid injury or death from building collapse, and that building operations can continue with little impact on public welfare. NASFM finds it problematic that the built-in fire resistant protection will be arbitrarily reduced when states begin to adopt NFPA 5000.

Even more problematic is the reduction in fire and life safety that is allowed by NFPA 5000 as a result of the combination of Table 7.2.2 with Table 7.4.1, which allows significantly greater heights and areas for the given types of construction for most occupancies than is presently allowed by the 1997 UBC. For example, Table 7.4.1 indicates that it is allowable to construct a 9500 sq ft, 1 story, unsprinklered, Type V construction (wood frame) educational building. When compared to Table 7.2.2 it becomes apparent that the “0” fire resistance rating requirement means that this school would not be required to protect exterior or interior bearing walls, columns, beams, girders, trusses, arches, floors or ceilings. The only required fire rating in this instance would be for exit corridors serving more than 30 people. It must be noted that if this building were sprinklered the corridor rating goes away. In addition, with
sprinklers this building could be built 2 stories and 19,000 sq ft. The end product would be a two-story, wood frame school with a sprinkler system and no passive protection anywhere in the building. If for any reason the sprinkler system were to fail, or if there were any problems with the water supply, this school would be completely unprotected.

*Table 7.4.1 can be used similarly for each class of occupancy and type of construction.

*In October of 2001, the NASFM Catastrophic Fire Safety Task Force released a report entitled, School Fires, which described the fire protection challenge facing today’s schools. One of the conclusions of the Task Force was that fire protection must be redundant because no individual safety measure is reliable all of the time. A copy of this report is available at: [http://www.firemarshals.org/issues/catastrophic/cata.pdf](http://www.firemarshals.org/issues/catastrophic/cata.pdf)

This example clearly demonstrates that the problem of providing inadequate built-in fire resistant construction is compounded when fire resistance ratings are reduced, especially for the higher types of construction, which generally allow the largest building heights and areas. We are not alone in raising these concerns. During its review of the model codes, Clark County, NV, compared the fire resistance ratings required for the various types of construction permitted by the UBC and the IBC — which is nearly identical to NFPA 5000 — and expressed fears similar to those stated here. A copy of Amendments to the 2000 IBC Southern Nevada is available as supporting material.

The State of California has also raised similar concerns and must now go through the difficult process of amending the code simply to maintain the present level of fire and life safety being constructed into buildings under the 1997 UBC. The California Fire Chiefs Association letter that supports NASFM’s proposals and the need to increase the level of fire protection is available as supporting material.

NASFM is not interested in why these requirements were weakened. We believe that NFPA 5000 has little choice but to adopt these changes without delay. Even the most open and diverse process is no substitute for common sense and dedication to public safety.

Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Accept in Principle in Part

Accept in Principal: Concept of protecting structural frame at the same level as the required column protection. See committee action on Proposal 5000-327 (Log #106).

Reject: All other changes.

Committee Statement: The Technical Committee chose to accept and incorporate the concept for the protection of the structural frame at the same level as the required column protection into Section 7.2.7.2.3. See committee action and statement on Proposal 5000-327 (Log #106).

The Technical Committee rejected the proposed increases in hourly ratings in Table 7.2.2. The proposed modifications come from a legacy code and do not capture the entire package of fire-resistance construction requirements. The Technical Committee did not see adequate justification for changing the requirements from those found originally in NFPA 220.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 16 Negative: 3

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative: DAVIS: I agree with the committee’s action to accept a part of the proposal to require the same fire resistance rating for horizontal members which are connected to columns, as the columns they provide lateral support for. This proposal also addresses some of the inconsistencies between fire resistance requirements for members that support one floor only or the roof only which are considerably less than that required for the remaining floors in multi-story buildings. This discrepancy is not justified in multi-story buildings since the occupancy can be the same as in floors where a higher fire resistance is required. This issue is also critical since there are no specific provisions in the code which address the prevention of progressive collapse, such as requirements for floor design loads that consider the weight (or some portion of it) of the floor above. A recent NIST study (NIST GCR 02-843) identified 22 incidents of fire-induced collapse of buildings that were 4 or more stories in height.

MESSERSMITH: After reading comments of other NEGATIVE voters during recirculation, I find that I agree with them.

THORNBERRY: I feel that the proponent of 5000-309 (Log #309) provided adequate technical justification to support acceptance of the entire proposal. This information was further supported by the substantiation included with 5000-310 (Log #664) (Table 7.2.2), which proposal is identical to 5000-309 (Log #309).

Explanation of Abstention: BERHINIG: Was unable to locate report on committee action from the web site.
Note: H = heavy timber members (see text for requirements).

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### Table 7.2.2 Fire Resistance Ratings for Type I through Type V Construction (hr)

<table>
<thead>
<tr>
<th>Type</th>
<th>Exterior Bearing Walls*</th>
<th>Interior Bearing Walls</th>
<th>Columns</th>
<th>Beams, Girders, Trusses, and Arches</th>
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**Explaination of Negative:**

Francis: I ballot NEGATIVE on 5000-311 (Log #795). First, I believe it is a significant error to make fire wall construction part of the definition of Type of Construction. This will inevitably lead to confusion when such a wall separates buildings of different types of construction. Secondly, a firewall should be held separate from Type of Construction because of the concept of independence of construction. Linking it to TOC is misleading, and could be confused with occupancy separation. Finally, the base requirement ought not be linked to combustible/noncombustible consideration. There are other sections of the code which deal with these items. It should be a simple link to materials permitted by the TOC rather than a part of TOC.

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**Report on Proposals**

*Copyright, NFPA*
Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The Technical Committee felt that the current mezzanine fire ratings are sufficient. In addition, the proponent provided no justification for the technical modification. However, the possible confusion between the two sections has been addressed by Proposal 5000-306 (Log #752).

Number Eligible to Vote: 23
Ballot Results: Affirmative: 18 Negative: 1
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Substantiation: The two current sections deal with the same issue and actually conflict with one another. Combining the requirements into one section is more concise. It also is inconsistent to require a fire resistance rating for mezzanine floors that differs from the requirements for other floors.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The Technical Committee felt that the current mezzanine fire ratings are sufficient. In addition, the proponent provided no justification for the technical modification. However, the possible confusion between the two sections has been addressed by Proposal 5000-306 (Log #752).

Number Eligible to Vote: 23
Ballot Results: Affirmative: 18 Negative: 1
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative: MESSERSMITH: The proponent is correct. Mezzanine floors should have the same fire resistance rating as other floors in the building.

5000-314 Log #468 BLD-BLC Final Action: Accept
(7.2.3.2.7 and 7.2.3.2.8)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

7.2.3.2.7 Fire Retardant-Treated Wood Platforms. Fire retardant-treated wood shall be permitted for permanent platforms that do not exceed 3000 ft² in area, that are not more than 30 in. (760 mm) above the floor and do not occupy more than 50 percent of the floor area of the room or space in which they are located.

7.2.3.2.8 Delete in its entirety and renumber the following sections.

Substantiation: These two sections speak to requirements for the same issue and should be incorporated into one section. In addition, what the 50 percent area limit is applied to must be clarified.

Committee Meeting Action: Accept
Committee Statement: These modifications have been incorporated into Committee Proposal 5000-307 (Log #CP901).

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-315 Log #678 BLD-BLC Final Action: Accept in Principle
(7.2.3.2.9)

Recommendation: Revise to read as follows:

7.2.3.2.9 Roofs 20 ft (6 m) or More Above Any Floor. In areas occupied except hazardous other than mercantile, industrial, or storage occupancies with ordinary contents or high hazard contents and any or other occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3, the required fire resistive protection of the structural members of the roof construction shall not be permitted to be omitted required for the roof construction, including protection of roof framing, trusses, and decking, where at where every part of the roof construction are is 20 ft (6 m) or more above any floor immediately below.

Substantiation: This proposal is an editorial clarification of 7.2.3.2.9 which, in our opinion, makes it easier to interpret and thus enforce. It basically clarifies how much of the required fire resistance protection for structural members of the roof construction is allowed to be omitted where the structural members of the roof are greater than 20 ft above any floor below.

Committee Meeting Action: Accept in Principle
See committee action on Proposal 5000-306 (Log #752), 7.2.3.2.9.

Committee Statement: In the committee action on Proposal 5000-306 (Log #752), 7.2.3.2.9, the Technical Committee incorporated similar modifications with minor editorial differences.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-316 Log #452 BLD-BLC Final Action: Reject
(7.2.3.2.14)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

7.2.3.2.14 Combustible Materials. Combustible materials shall be permitted in accordance with the following:

1. Items (1) through (3) – no change

2. Interior floor finish and interior finish, trim and millwork such as doors, door frames, window sashes and window frames installed in accordance with Chapter 10.

3. Items (5) and (6) – no change

4. Blocking installed behind a wall, floor or ceiling finish with a minimum 15 minute thermal barrier.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. It is not necessary to reference Chapter 10 in (4). Also, requiring a 15 minute thermal barrier over all blocking would create an installation problem for cased openings, window trim, rails, and similar blocked installations.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-317 Log #677 BLD-BLC Final Action: Accept
(7.2.3.2.14(3))

Recommendation: Only revise Item (3) of 7.2.3.2.14 as follows:

7.2.3.2.14 Combustible Materials. Combustible materials shall be permitted in accordance with the following:

3. Thermal and acoustical insulation, other than foam plastic complying with Chapter 51, Section 8.16.

Substantiation: The appropriate cross-reference for regulating the combustibility and fire performance of insulation is Section 8.16 Insulating Materials. Chapter 51 does not contain such requirements.

Committee Meeting Action: Accept
Committee Statement: This modification has already been incorporated into the recommendation on Proposal 5000-306 (Log #752), 7.2.3.2.14(3).

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-318 Log #453 BLD-BLC Final Action: Accept
(7.2.3.2.15 and 7.2.3.2.22)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.

Revise to read as follows:

7.2.3.2.15 Ceiling and Raised Floor Plenums. The space between the top of the finished ceiling and the underside of the floor or roof above the
space between the top of the finished floor and the underside of a raised floor shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the conditions requirements of 7.2.3.2.16 through 7.2.3.2.21 are met.

7.2.3.2.22 Raised Floor Plenum. Delete in its entirety.

Substantiation: Since the requirements for both types of plenum are identical, it is appropriate to combine them into a single requirement.

Committee Meeting Action: Accept

Committee Statement: These modifications have been incorporated into Committee Proposal 5000-307 (Log #CP901).

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Note Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-319 Log #261 BLD-BLC Final Action: Reject (7.2.3.2.16)


Recommendation: Revise to read as follows:

7.2.3.2.16 Plenum Materials Combustibility. All materials exposed to the airflow shall be listed as noncombustible, limited-combustible, or fire retardant-treated wood and have a maximum smoke developed index of 50, as determined in accordance with the requirements of NFPA 255, Standard Method of Test for Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, unless otherwise permitted by the following:

(1) The following materials shall be permitted in the plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread index of 5 ft (1.5 m) or less when tested in accordance with the specified test method:
   - (a) Electrical wires and cables and optical fiber cables — NFPA 262, Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces
   - (b) Pneumatic tubing for control systems — UL 1820, Standard for Safety for Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics
   - (c) Fire sprinkler piping — UL 1887, Standard for Safety for Fire Test of Plastic Sprinkler Pipe for Flame and Smoke Characteristics
   - (d) Optical-fiber and communication raceways — UL 2024, Standard for Optical Fiber Cable Raceway

(2) Smoke detectors shall not be required to comply with 7.2.3.2.16.

(3) Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

(4) Pipe insulation and coverings, duct insulation, duct coverings, duct linings, vapor-retarder facings, adhesives, fasteners, tapes, and supplementary materials added to air ducts, plenums, panels, and duct silencers used in duct systems shall be permitted, provided that the following criteria are met:
   - (a) The products specified in 7.2.3.2.16(4) shall have, in the form in which they are used, a maximum flame spread index of 25 without evidence of continued progressive combustion and a maximum smoke developed index of 50, as determined in accordance with the requirements of NFPA 255, Standard Method of Test for Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, and using the specimen preparation and mounting criteria of ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics.
   - (b) Where the products specified in 7.2.3.2.16(4) are to be applied with adhesives, they shall be tested with such adhesives applied, or the adhesives used shall have a maximum flame spread index of 25 and a maximum smoke developed index of 50 when in the final dry state, as determined in accordance with the requirements of NFPA 255, Standard Method of Test for Surface Burning Characteristics of Building Materials, or ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, and using the specimen preparation and mounting criteria of ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics.

Substantiation: The ASTM committee on fire standards, ASTM E05, has now issued ASTM E 2231, Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics. This is the first time that a standard practice was created with instructions for how to test pipe or duct insulation systems using ASTM E 84 (or NFPA 255). It is now important that the building code adopt the new practice to create consistency and maintain appropriate fire safety. This will prevent manufacturers from testing systems as individual materials rather than as a composite. Experience in fire safety indicates that testing of systems representative of what is being used in actual practice is likely to lead to more accurate information on the fire performance of the material proposed for use. Fortunately, ASTM E 84 and NFPA 255 are silent on specimen preparation and mounting for a number of materials, including pipe and duct insulation systems. The reference to ASTM E 2231 will now make testing details clear, as the ASTM E 2231 standard practice describes specimen preparation and mounting methods in detail for all types of systems.

This will also make it consistent with the changes accepted by the International Mechanical Code.

Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Action: Reject

Committee Statement: The Technical Committee chose to reject this proposal. Based upon the action in Proposal 5000-320 (Log #722), the section has been extracted in its entirety from NFPA 90A, since this topic is outside the jurisdiction of this Technical Committee.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Note Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-320 Log #722 BLD-BLC Final Action: Accept in Principle (7.2.3.2.16)

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to NFPA requesting that the TCC Review the proposal ROC language from NFPA 90A for these sections and revise the language as necessary. NFPA 90A is also reporting to the Spring 2005 Meeting thus some of these sections may change.


Recommendation: Replace the text with extracted text from NFPA 90A.

Substantiation: During the processing of the 2003 edition, direction was provided that this section should be consistent with the current edition of NFPA 90A. This did not occur and an errata was issued in an attempt to correct the situation. If the text is extracted from NFPA 90A then it will be maintained consistent with the current edition of NFPA 90A and it will eliminate a conflict between this section of the Code and other sections that reference NFPA 90A.

Committee Meeting Action: Accept in Principle

Delete 7.2.3.2.16 and replace with the following extracted text:

7.2.3.2.16 Plenum Materials Combustibility. Materials exposed to the airflow shall be noncombustible or limited combustible and have a maximum smoke developed index of 50 or comply with the following.

7.2.3.2.16.1 Electrical wires and cables and optical fiber cables shall be listed as noncombustible or limited combustible and have a maximum smoke developed index of 50 or shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread index of 5 ft (1.5 m) or less when tested in accordance with UL 2043, Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.

7.2.3.2.16.2 Pneumatic tubing for control systems shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread index of 5 ft (1.5 m) or less when tested in accordance with UL 1820, Standard for Safety Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics.

7.2.3.2.16.3 Nonferrous fire sprinkler piping shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.5 ft (0.5 m) or less when tested in accordance with UL 1887, Standard for Safety Fire Test of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics.

7.2.3.2.16.4 Optical-fiber and communication raceways shall be listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 1.5 ft (0.5 m) or less when tested in accordance with UL 2024, Standard for Safety Optical-Fiber and Communication Raceway.

7.2.3.2.16.5 Loudspeakers and recessed lighting fixtures, including their assemblies and accessories, shall be permitted in the ceiling cavity plenum where listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a peak heat release rate of 100 kW or less when tested in accordance with UL 2043, Standard for Safety Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces.
This is basically an editorial clarification. The requirements This modification has been incorporated into Committee Proposal 5000-307 (Log #CP901), 7.2.3.2.15. Number Eligible to Vote: 23 Ballot Results: Affirmative: 18 Negative: 1 Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL Explanation of Negative: HOLLAND: I vote negative on 5000-307 (Log #CP901) (Section 7.2) and 5000-320 (Log #722) (Section 7.2.3.2.16), 5000-320 (Log #722) was approved in order to bring NFPA 5000 into line with NFPA 90A. At the time I didn’t realize the scope of NFPA 90A was limited (see below). NFPA 90A does not cover the mechanical systems for all buildings. NFPA 5000 does cover the construction for all buildings; therefore, it is appropriate that NFPA 5000 can contain provisions that are different than those contained in NFPA 90A. Part (c) of the Document Scope specifically defers to other standards, such as NFPA 5000. The proposal eliminates fire-retardant-treated wood from the list of materials permitted. Other national standards have allowed FRTW in this application for many years. Fire-retardant-treated wood should continue to be recognized for use in plenums. There is no data to suggest FRTW has created problems when used in plenums. Fire-retardant-treated wood should be included in the list of materials allowed in plenums. NFPA 90A Document Scope: Covers all systems for the movement of environmental air in structures, which (a) serve spaces of over 25,000 cubic feet in volume, or (b) serve buildings of Types III, IV and V construction over three stories in height regardless of volume, or (c) serve buildings and spaces not covered by other applicable NFPA standards (d) serve occupants or processes not covered by other applicable NFPA standards.

Submitter: Technical Correlating Committee on Building Code Recommendation: The TCC directs that the action be changed from ACCEPT IN PRINCIPLE IN PART to ACCEPT IN PRINCIPLE. The TCC requests that NFPA staff and editors work to incorporate similar reference to multiple, referenced fire test standards throughout the document when appropriate. Test standards that are ANSI accredited and similar in nature should be given equal treatment in NFPA 5000. Companion NFPA-ASTM-UL Fire Test Standards include the following:

<table>
<thead>
<tr>
<th>NFPA</th>
<th>ASTM</th>
<th>UL</th>
</tr>
</thead>
<tbody>
<tr>
<td>251</td>
<td>E119</td>
<td>263</td>
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<td>E152</td>
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<td>723</td>
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<tr>
<td>256</td>
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</tbody>
</table>

Substantiation: This proposal is the result of a TCC note that was developed and published in the A2002 ROC for NFPA 5000. The TCC requests that the Technical Committee review the proposal based on the original comment and develop any needed language to further clarify or expand on, the intent of the Code as it relates to this subject. For review purposes, the comment as published in the A2002 ROC is reprinted below.

Comment 5000-436 reads as follows:

Accept in Principle: Move the reference to ASTM E 119 into the code. Reject: The annex note for UL 263.

Committee Meeting Action: Accept

The committee notes that ASTM E152 has been replaced with ASTM E2074.

Number Eligible to Vote: 23 Ballot Results: Affirmative: 23

Committee Statement: The committee notes that ASTM E152 has been replaced with ASTM E2074.

Report on Proposals — Copyright, NFPA

NFPA 5000
under certain conditions. The requirement to comply with NFPA 90A in Chapter 50 adequately addresses plenums in these types of construction.

**Number Eligible to Vote:** 23

**Ballot Results:** Affirmative: 19  BARBADORO, FOSTER, GEMENY, WESSEL

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5000-324  Log #249  BLD-BLC  Final Action: Reject  (7.2.7.2)

**Submitter:** Marcelo M. Hirschler, GBH International / Rep. Fire Retardant Chemicals Association

**Recommendation:** Add a new section to read as follows:

7.2.7 Plenums.

7.2.7.1 Ceiling plenum. The space between the top of the finished ceiling and the underside of the floor or roof above in all buildings of Type III (211 or 200), IV (2HH) and V (111 or 000) construction shall be permitted to be used to supply air to the occupied area or return and exhaust air from the occupied area, provided that the conditions of 7.2.3.2.16 through 7.2.3.2.21 are met.

**Note:** The balance of the text of the exception must be changed to italics.

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5000-325  Log #470  BLD-BLC  Final Action: Reject  (7.2.7.2)

**Submitter:** Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee

**Recommendation:** Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement.

Revise to read as follows:

7.2.7.2 Structural elements shall meet the requirements of 7.2.7.2.1 and 7.2.7.2.2.

7.2.7.2.4 Structural elements including floors and bearing walls shall have a fire resistance rating not less than the fire resistance rating required for the structural element, bearing or nonbearing wall, floor, or roof they support.

**Exception:** Structural elements shall be required to have only the fire resistance rating required for the construction classification of the building, provided both of the following are met:

1. Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hour or less
2. Structural elements do not serve as exit enclosures, exit protection for vertical openings, or other required fire barrier

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5000-326  Log #794  BLD-BLC  Final Action: Accept in Principle Part  (7.2.7.2.2)

**Submitter:** Joseph J. Messersmith, Jr., Portland Cement Association

**Recommendation:** Revise to read as follows:

7.2.7.2.2 Structural elements, including floors and bearing walls, shall be required to have only the fire resistance rating required for the construction classification of the building, provided both of the following are met:

1. Structural elements support nonbearing wall or partition assemblies having a required fire resistance rating of 1 hr or less
2. Structural elements do not serve as exit enclosures, exit protection for vertical openings, or other required fire barrier

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5000-327  Log #106  BLD-BLC  Final Action: Accept in Principle Part  (7.2.7.2.3 New)

**Submitter:** Richard W. Bukowski, Building and Fire Research Lab, NIST

**Recommendation:** Add a new section to read as follows:

7.2.7.2.3 Structural elements such as girders, beams, trusses, and spandrels having direct connections to columns carrying gravity loads and are essential to the stability of the building as a whole shall have a fire resistance rating not less than that of the members to which they are connected.

**Substantiation:** Lateral bracing of members carrying gravity loads to prevent buckling and possible collapse has been included in many building codes used in seismic areas for many years. Recent study of progressive collapse from fires show that loss of lateral bracing leading to buckling can be a mechanism for such failure. This requirement makes clear the need to protect all structural elements essential to stability to the same level.

**Committee Meeting Action:** Accept in Principle Part

Add a new section to read as follows:

7.2.7.2.3 Structural elements such as girders, beams, trusses, and spandrels having direct connections to columns carrying gravity loads and are essential to the stability of the building as a whole shall have a fire resistance rating not less than that of the columns to which they are connected.

**Committee Statement:** The Technical Committee made a minor modification to improve the clarity of the section.
This modification was incorporated into the committee recommendation in Committee Proposal 5000-307 (Log #CP901), 7.2.7.2.3.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-328 Log #471 BLD-BLC Final Action: Reject (7.2.7.5)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement. Revise to read as follows:

7.2.7.5 In addition to the requirements of 7.2.7.3 and 7.2.7.4, columns shall meet the following requirements:

(1) Where columns require a fire resistance rating, the entire column, including its connections to beams or girders, shall be individually protected. Unrated beams or columns that frame into rated columns shall require an extension of the column fire protection for a distance of 12 inches beyond the connection along the unrated member.

(2) Where the column extends through a ceiling, the fire-resistive protection provided for the column shall be continuous from the top of the floor through the ceiling space to the top of the column.

Substantiation: The extension of the column fire protection for a distance of 12 inches beyond the connection will afford greater protection to the integrity of the column protection in the event of fire.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The proponent has not provided technical justification for the requirement for the 12 in length of protection. Is the 12 in length sufficient in all cases? Is the protection of the connections to these unrated structural elements necessary?

Number Eligible to Vote: 23
Ballot Results: Affirmative: 15 Negative: 3 Abstain: 1
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative: DAVIS: I feel this proposal should be accepted. Considerable heat transfer could occur between an unprotected member and a rated column that are connected. The cross-sectional area of unprotected beams or braces that can connect to protected columns can vary from a few in.2 to 20 or 30 in.2. This is a significant area that can transfer heat from the unprotected member to the protected column. Studies have shown that a loss of only a few sq in. of fire resistant covering can result in reductions in the fire resistance of 10 percent or more. The effect is similar where an unprotected member frames into a protected member.

MESSERSMITH: After reading comments of other NEGATIVE voters during recirculation, I find that I agree with them.

THORNBERY: This proposal has merit and should be accepted. Its purpose is to reduce the potential for excessive heat being transmitted into a fire resistance protected column via an unprotected beam or column that frames directly into that column when it is exposed to a fire. I believe the 12 in. dimension for the fire resistant protection extending onto the otherwise unprotected beam or column connecting to the protected column is based on information provided in the UL Fire Resistance Directory, Volume 1. The Directory specifies that when unrestrained beam ratings, based on steel beams protected with spray applied fire protection material, are installed below unprotected steel floor decks or unprotected steel roof decks, the spray applied fire protection material is required to be over sprayed on the steel deck for a minimum width of 12 in. beyond the edges of the steel beam flanges being protected. This is intended to minimize the heat transfer to the steel beam that will occur from the steel deck as it heats during a fire exposure and transfers the heat directly to the beam flange that is connected to the underside of the steel deck. Without providing this proposed protection, the steel column being protected, in effect, will be unprotected where the unprotected steel beam or column connects to it. This would be virtually the same as scraping off the spray applied fire resistant material from the protected column, thus allowing the steel column to be directly exposed to a fire.

Explanation of Abstention: BERNING: Was unable to locate report on committee action from the web site.

5000-330 Log #469 BLD-BLC Final Action: Accept (7.2.7.11)

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee

Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee's endorsement. Revise to read as follows:

7.2.7.11 Conduits, pipes, or ducts, or other construction elements shall not be embedded within required fire-resistive protection of any structural member requiring individual encasement to achieve the required fire resistance rating.

Substantiation: The inclusion of the phrase "or other construction elements" is overly restrictive. For instance, how does one attach a non-rated partition to a sprayed beam or column if the Z-clips cannot be attached to the beam or column and then imbedded in the spray fire-proofing?

Committee Meeting Action: Accept
Committee Statement: This modification was incorporated into the committee recommendation in Committee Proposal 5000-307 (Log #CP901), 7.2.7.11.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-331 Log #657 BLD-BLC Final Action: Reject (7.2.7.13 (New))

Submitter: Joe McElvaney Phoenix, AZ

Recommendation: Add a new section to read as follows:

7.2.7.13 Structural elements connects shall be protected with the same required fire resistance rating of the structural element. Miscellaneous connections that are not tested shall be protected in accordance with the manufacturer's recommendation.

Substantiation: This new text will ensure that all structural elements connects are protected when the structural elements are required to be protected and the rating is the same as the structural element. Also is provides information on how miscellaneous connections that are not tested by the Lab's to be protected.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. This language is unclear, internally conflicting and requires additional input from the proponent. What is intended to qualify as a 'miscellaneous connection'?

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL
Table 7.3.2.1 Fire Resistance Ratings for Exterior Walls (hr)

<table>
<thead>
<tr>
<th>Occupancy Classification</th>
<th>0 to 5 (0 to 1.5)</th>
<th>&gt;5 to 10 (1.5 to 3)</th>
<th>&gt;10 to 20 (3 to 7)</th>
<th>&gt;20 (7+)</th>
<th>Opening Protectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly, educational, day care, health care, ambulatory health care, detection and correctional, residential board and care, business, industrial, and storage occupancies with low hazard contents</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>See Table 7.3.5(a)</td>
</tr>
<tr>
<td>Mercantile and industrial and storage occupancies with ordinary hazard contents</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>See Table 7.3.5(b)</td>
</tr>
<tr>
<td>Industrial and storage occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in Section 34.1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7.3.2.2 The fire resistance rating requirements of Table 7.3.2.1 shall not apply to exterior walls of one- and two-family dwellings having a horizontal separation of more than 5 ft (1.5 m).

7.3.3 Continuity. Exterior walls required to be fire rated by Table 7.3.2.1 because of horizontal separation shall be continuous from the foundation to not less than 30 in. (760 mm) above the roof, except where otherwise permitted by 37.1.3.1.

7.3.4 Horizontal Separation.

7.3.4.1 Horizontal separation shall be measured at a 90-degree angle to the building face/exterio wall.

7.3.4.2 There are two or more buildings located on the same lot, the horizontal separation shall be measured from the building face/exterio wall to an imaginary line drawn between the exterior walls of the adjacent buildings. The imaginary line shall be placed at a distance from the facing exterior wall of the adjacent building that is equal to the horizontal separation applicable for that wall based on its fire resistance rating and protection of openings.

7.3.4.3 Where the exterior wall of a building is an irregular vertical shape, the following criteria shall be met:

1. The horizontal separation shall be determined by measuring from a vertical plane that is located so that no portion of the exterior wall of the building is between such vertical plane and the line to which the horizontal separation is measured.

2. The area of openings shall be determined from the projection of the openings in the exterior wall onto the vertical plane.

7.3.5 Opening Protectives. Where an exterior wall is required to have a fire resistance rating as determined by Table 7.3.2.1, the area of openings in exterior walls shall not exceed that permitted by this table and Table 7.3.5(a) or Table 7.3.5(b). Tables are shown on the following page.

7.3.5.1 The area of unprotected openings in an exterior wall shall be the aggregate of unprotected openings expressed as a percentage of the area of the exterior wall.

7.3.5.2 When required by Table 7.3.2.1 to have a fire protection rating, penetrations shall comply with the requirements of Section 8.8.

7.3.5.3 The area of an exterior wall shall be calculated as the length, edge to edge, of the exterior wall multiplied by the measurement from the finished ground level to the uppermost ceiling.

7.3.5.4 The area of unprotected openings permitted by Table 7.3.5(a) and Table 7.3.5(b) shall be permitted to be doubled under either of the following conditions:

1. Where the building is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, NFPA 13R, and NFPA 13D.

2. Where the building is located within 30 ft (9 m) of a residential property with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, NFPA 13R, and NFPA 13D.

Table 7.3.5.4 Minimum Fire Protection Ratings for Exterior Opening Protectives

<table>
<thead>
<tr>
<th>Wall Fire Resistance Rating (hr)</th>
<th>Fire Protection Rating (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td>1</td>
<td>3/4</td>
</tr>
</tbody>
</table>

Substantiation: 1. Revisions to Table 7.3.2.1

The intent of this proposal is to clarify the table by deleting the column for horizontal separation for ">30". As the values in the column for ">10 to 30" and ">30" are identical, having the ">30" column is unnecessary and adds potential confusion.

2. Revisions to Tables 7.3.5(a) and 7.3.5(b) – Deletion of columns

The intent of this proposal is to clarify the tables by deleting the columns for Max. Area of Exposing Building Face of "10,000" and "20,000," and the rows for Horizontal Separations of "15" through "210."

As the values in the column for Max. Area of Exposing Building Face of "5,000" is identical to those found in the "10,000" and "20,000" columns, the last 2 columns are unnecessary and adds potential confusion.

3. Revisions to Tables 7.3.5(a) and 7.3.5(b) – Deletion of rows

The implementation of the values found in Tables 7.3.5(a) and 7.3.5(b) is directly tied to the fire resistance ratings required by Table 7.3.2.1. Openings in exterior walls required by Table 7.3.2.1 to be fire resistance rated are limited by the values in Tables 7.3.5(a) and 7.3.5(b). But where Table 7.3.2.1 does not require any fire resistance rating in an exterior wall, e.g., horizontal separation distance of > 10 feet, the maximum area of openings is not limited. Having values for the maximum area of openings in walls where there is no limit is only confusing. To eliminate the possible confusion, the rows for Horizontal Separations of "15" through "210" are proposed for deletion.

4. Revision to 7.3.5.4

The revision is intended to clarify that the increase for openings is allowed where automatic sprinkler systems that comply with NFPA 13, NFPA 13R, or NFPA 13D are installed.

Committee Meeting Action: Accept in Principle in Part

Accept in Principal: Modification to Tables 7.3.5(a) and 7.3.5(b) are shown on the following page.

Reject: Modification to Table 7.3.2.1.

Accept: All other modifications.

Committee Statement: The modifications to Tables 7.3.5(a) and 7.3.5(b) coordinate with 7.3.5.3 and the action taken on Table 7.3.2.1 in Proposal 5000-335 (Log #814). The Technical Committee wanted Table 7.3.2.1 to address occupancies with high hazard contents.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4

Barbarido, Foster, Gemeny, Wessel

Submitted: Robert McGinnis, Westinghouse Savannah River Site

Recommendation: Change to "Assembly, educational, day care, health care, ambulatory health care, detention, and correctional, residential, residential board and care, business, industrial, and storage occupancies with low hazard contents."

Substantiation: Typographical error; changed detection to detention.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4

Barbarido, Foster, Gemeny, Wessel
Table 7.3.5(a) Maximum Allowable Area of Unprotected Openings (percentage of exterior walls)

<table>
<thead>
<tr>
<th>Horizontal Separation (ft)</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1,000</th>
<th>1,500</th>
<th>2,000</th>
<th>2,500</th>
<th>3,000</th>
<th>3,500</th>
<th>&gt;5,000</th>
<th>10,000</th>
<th>20,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>10</td>
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<tr>
<td>&gt;10</td>
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<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².

Table 7.3.5(b) Maximum Allowable Area of Unprotected Openings (percentage of exterior wall)

<table>
<thead>
<tr>
<th>Horizontal Separation (ft)</th>
<th>100</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1,000</th>
<th>1,500</th>
<th>2,000</th>
<th>2,500</th>
<th>3,000</th>
<th>3,500</th>
<th>&gt;5,000</th>
<th>10,000</th>
<th>20,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<tr>
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<td>10</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>&gt;10</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².
Table 7.3.5(a) Maximum Allowable Area of Unprotected Openings (percentage of exterior walls)

| Horizontal Separation (ft) | 100 | 150 | 200 | 250 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1,000 | 1,500 | 2,000 | 2,500 | 3,500 | 5,000 | 10,000 | = or ≥ 20,000 |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|--------|--------|--------|--------|--------|--------|
|                           | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
|                           | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4     | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
|                           | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9     | 9      | 9      | 9      | 9      | 9      | 9      | 9      | 9      |
|                           | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16    | 16     | 16     | 16     | 16     | 16     | 16     | 16     | 16     |
|                           | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27    | 27     | 27     | 27     | 27     | 27     | 27     | 27     | 27     |
|                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40    | 40     | 40     | 40     | 40     | 40     | 40     | 40     | 40     |
|                           | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81    | 81     | 81     | 81     | 81     | 81     | 81     | 81     | 81     |

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².

Table 7.3.5(b) Maximum Allowable Area of Unprotected Openings (percentage of exterior wall)

| Horizontal Separation (ft) | 100 | 150 | 200 | 250 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1,000 | 1,500 | 2,000 | 2,500 | 3,500 | 5,000 | 10,000 | = or ≥ 20,000 |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|--------|--------|--------|--------|--------|--------|
|                           | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
|                           | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4     | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
|                           | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9   | 9     | 9      | 9      | 9      | 9      | 9      | 9      | 9      | 9      |
|                           | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16  | 16    | 16     | 16     | 16     | 16     | 16     | 16     | 16     | 16     |
|                           | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27  | 27    | 27     | 27     | 27     | 27     | 27     | 27     | 27     | 27     |
|                           | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40  | 40    | 40     | 40     | 40     | 40     | 40     | 40     | 40     | 40     |
|                           | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81  | 81    | 81     | 81     | 81     | 81     | 81     | 81     | 81     | 81     |

Note: For SI units, 1 ft = 0.305 m; 1 ft² = 0.093 m².
Table 7.3.2.1 Fire Resistance Rating for Exterior Walls (hr)

<table>
<thead>
<tr>
<th>Occupancy Classification</th>
<th>0 to 5 (0 to 1.5)</th>
<th>&gt;5 to ≤10 (&gt;1.5 to ≤3)</th>
<th>&gt;10 to ≤30 (&gt;3 to ≥9)</th>
<th>&gt;30 (&gt;9)</th>
<th>Opening Protectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly, educational, day care, health care, ambulatory health care, detention and correctional, residential, residential board and care, business, industrial, and storage occupancies with low hazard contents</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>See Table 7.3.5(a)</td>
</tr>
<tr>
<td>Mercantile and industrial and storage occupancies with ordinary hazard contents</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>See Table 7.3.5(b)</td>
</tr>
<tr>
<td>Industrial and storage occupancies with high hazard contents exceeding the maximum allowable quantities per control area as set forth in 34.1.3 and complying with Protection Levels 1, 2, or 3.</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>See Table 7.3.5(b)</td>
</tr>
</tbody>
</table>

See Chapter 34 for minimum requirements.
Report on Proposals — Copyright, NFPA

5000-338 Log #879 Final Action: Accept (7.3.4.3)
Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify to read as follows:
7.3.4.3 Where the exterior wall of a building is an irregular vertical shape, the following criteria shall be met:
1) The horizontal separation shall be determined by measuring from a vertical plane that is located so that no portion of the exterior wall of the building is between such vertical plane and the line to which the horizontal separation is measured.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification to tighten up the language.
Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-339 Log #553 BLD-BLC Final Action: Accept (7.3.5 and 7.3.5.2)
Recommendation: Revise to read as follows:
7.3.5 Openings Protective
Add a new 7.3.5.2 and renumber existing:
7.3.5.2 When required by Table 7.3.2.1 to have a fire protection rating, openings protective shall comply with the requirements of Section 8.7.

Substantiation: This change will provide consistency with existing terminology. Opening protective are doors or windows under Section 8.7 and 7.3.5 addresses and references opening protective and penetrations. Changing the title of this section will reduce confusion. The new 7.3.5.2 provides an appropriate reference to Section 8.7.
Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-340 Log #142 BLD-BLC Final Action: Reject (7.3.5.2)
Submitter: Joe McElvaney Phoenix, AZ
Recommendation: Revise to read as follows:
7.3.5.2 When required by Table 7.3.2.1 to have a fire protection rating, openings protective shall comply with the requirements of Sections 8.8 and 7.3.5.4.

Substantiation: Table 7.3.2.1 refer to Table 7.3.4(a) and 7.3.4(b). But by adding 7.3.5.4 you now get to double the area of opening with fire windows or other approved opening protection or the building is protected by fire sprinklers.
Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The reference to 7.3.5.4 for the fire protection rating for exterior opening protective is not applicable to penetrations.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-341 Log #862 BLD-BLC Final Action: Accept (7.3.5.4)
Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify to read as follows:
7.3.5.4 The area of unprotected openings permitted by Table 7.3.5(a) and Table 7.3.5(b) shall be permitted to be doubled under either of the following conditions:
1) Where the building is protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13, NFPA 13R and NFPA 13D.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification to consistently reference sprinkler system standards throughout Chapter 7.
Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19

5000-342 Log #474 BLD-BLC Final Action: Accept in Principle (7.3.5.4 and 7.4.1.3.3)
Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the sponsor as a member of the Building Code Development Committee, with the committee’s endorsement.
In both sections, delete the reference to 55.3.1.1 and insert a reference to the appropriate NFPA 13 standard.
Substantiation: These two sections as well as others throughout the book refer the code user to 55.3.1.1 for sprinkler requirements while the bulk of sprinkler references are directed to the appropriate NFPA standard (NFPA 13, NFPA 13R, or NFPA 13D). For style consistency, all references to sprinkler requirements should be directed to the appropriate NFPA standard.
Committee Meeting Action: Accept in Principle
See committee action on Proposal 5000-357 (Log #864) and Proposal 5000-341 (Log #862).
Committee Statement: The Technical Committee agreed with the proponent and made the recommended modifications in the committee actions on Proposal 5000-357 (Log #864) and 5000-341 (Log #862).
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-343 Log #779 BLD-BLC Final Action: Accept in Principle (Table 7.3.5(a) and 7.3.5(b))
Recommendation: Change the Title to Table 7.3.5(a) and 7.3.5(b) to include: Table 7.3.5(a) Maximum Allowable Area of Unprotected Openings (percent of exterior walls) Assembly, Educational, Day Care, Health Care, Ambulatory Health Care, Detention and Correctional, Residential, Residential Board and care, business, Industrial, and Storage Occupancies with low hazard contents as required by Table 7.3.2.1.
Table 7.3.5(b) Maximum Allowable Area of Unprotected Openings (percent of exterior walls) Mercantile and industrial and storage occupancies with ordinary hazard contents as required by Table 7.3.2.1.
Substantiation: Table 7.3.5(a) and 7.3.5(b) are indistinguishable except when examining the charging statements and the breakdown of occupancies in Table 7.3.2.1.
Committee Meeting Action: Accept in Principle
Change the Title to Table 7.3.5(a) and 7.3.5(b) to include:
Table 7.3.5(a) Maximum Allowable Area of Unprotected Openings (percentage of exterior walls) Assembly, Educational, Day Care, Health Care, Ambulatory Health Care, Detention and Correctional, Residential, Residential Board and Care, Business, Industrial, and Storage Occupancies with Low Hazard Contents as Required by Table 7.3.2.1.
Table 7.3.5(b) Maximum Allowable Area of Unprotected Openings (percent of exterior walls) For Mercantile and Industrial and Storage Occupancies with Ordinary Hazard Contents and Industrial and Storage Occupancies with High Hazard Contents Exceeding the MAOs per Control Area as Set Forth in 34.1.3 and Complying with Protection Levels 4 and 5 as required by Table 7.3.2.1.
Committee Statement: The modifications coordinate with changes made in Proposal 5000-335 (Log #814).
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-344 Log #475 BLD-BLC Final Action: Accept in Principle (Table 7.3.5(a) and (b))
Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the sponsor as a member of the Building Code Development Committee, with the committee’s endorsement.
Revise to read as follows:
Table 7.3.5(a) Balance of title and table to remain unchanged.
Notes:
This table shall apply to assembly, educational, day care, health care, ambulatory health care, detention and correctional, residential, residential board and care, business, industrial, and storage occupancies with low hazard contents.
Bay windows, oriel

Light-transmitting plastics used in

Fire protection to the bottom flange of lintels, shelf angles, or

Parapet walls shall not be required where any of the

Parapet walls shall be provided on the exterior of all

While it is understood that the path to these tables is

above any part of the roof that is within 10 ft (3.0 m) of the parapet wall.

7.3.8.3 Parapet Height.

(i) The entire roof covering has a minimum rating of Class B.

(ii) For a distance of at least 4 ft (1.2 m) from the wall, the roof deck has no

penetration seal or fireblock.

(6) In Type III (211), Type IV, and Type V (111) construction where all of the

approved fire penetration seal or fireblock

materials and the joint between the wall, and the roof is sealed using an

thermal barrier meeting the requirements in 48.3.3.

(2) ACM shall have a Class A rating as specified in Chapter 10, based on

a minimum exterior skin thickness of 0.019 in. (0.5 mm), a minimum interior skin thickness of 0.010 in (0.25 mm),

and a maximum panel thickness of 1/4 in. (6 mm) where installed on exterior

walls.

(3) ACM shall be permitted to be installed on the exterior of buildings

classified as Type I, Type II, Type III, or Type IV construction, as specified in

37.4.4, without changing the construction classification of the building.

(4) ACM installed on the exterior of buildings classified as Type I, Type II, Type III, or Type IV construction shall comply with each of the

following conditions:

(1) ACM that are part of the exterior wall assembly shall be tested in

 accordance with NFPA 285, Standard Method of Test for the Evaluation of

Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies

Containing Combustible Coatings or Laminates; and

Multistory Test Apparatus, using the maximum panel thickness intended for

use and shall meet the conditions of acceptance specified therein.

(2) ACM shall have a Class A rating as specified in Chapter 10, based on the

maximum thickness intended for use.

(3) ACM shall be completely separated from the building interior by a

thermal barrier meeting the requirements in 48.3.3.

(4) The thermal barrier specified in 37.4.4(3) shall not be required

where ACM meet either of the following conditions:

(1) ACM are installed as part of a balcony or similar architectural appendage

or as exterior trim.

(2) ACM are approved for the specific installation, based on tests conducted

using the maximum thickness intended for use in accordance with one of the

following:

(a) NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution

of Wall and Ceiling Interior Finish to Room Fire Growth

(b) UL 1040, Standard for Fire Test of Insulated Wall Construction

(c) FM 4800, Approval Standard for Class I Insulated Wall or Wall and

Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior

Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish

for the type of construction of the building, except as permitted by 37.2.2.1

through 37.2.2.3.

(9) Bay and Oriel Windows, Bay windows and oriel windows in buildings 40 ft (12.2 m) in height or less shall be permitted to be constructed of fire retardant–treated wood or materials required by the type of construction in accordance

with Chapter 7.

7.3.10.2 Bays, oriel, Porches, Decks, and Balconies.

(i) Bay and oriel windows, porches, decks, balconies, and similar projections shall conform to

the fire resistance rating requirements for exterior walls and floors in Chapter 7 for the type of construction of the building, except as permitted by 37.2.2.1

through 37.2.2.3.

(2) Protection is provided to separate the openings with a spandrel panel not less than 3 ft (0.9 m) high or a wall with a 1-hour fire resistance rating.

(3) Protection is provided between the openings with a 30-in. (760-mm)

horizontally projecting barrier with a 1-hour fire resistance rating.

7.3.10.3 Projections.

7.3.11.3 ACM shall be tested in accordance with 37.4.4, without changing the construction classification of the building.

7.3.11.1 ACM shall not reduce the required fire resistance rating of the exterior wall to which the ACM are attached.

7.3.11.2 ACM shall be permitted to be installed on the exterior of buildings classified as Type I, Type II, Type III, or Type IV construction, as specified in

37.4.4, without changing the construction classification of the building.

7.3.11 Aluminum Composite Materials.

ACM that are part of the exterior wall assembly shall be tested in

 accordance with NFPA 285, Standard Method of Test for the Evaluation of

Flammability Characteristics of Exterior Non-Load-Bearing Wall Assemblies

Containing Combustible Coatings or Laminates; and

Multistory Test Apparatus, using the maximum panel thickness intended for

use and shall meet the conditions of acceptance specified therein.

(2) ACM shall have a Class A rating as specified in Chapter 10, based on the

maximum thickness intended for use.

(3) ACM shall be completely separated from the building interior by a

thermal barrier meeting the requirements in 48.3.3.

(4) The thermal barrier specified in 37.4.4(3) shall not be required

where ACM meet either of the following conditions:

(1) ACM are installed as part of a balcony or similar architectural appendage

or as exterior trim.

(2) ACM are approved for the specific installation, based on tests conducted

using the maximum thickness intended for use in accordance with one of the

following:

(a) NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution

of Wall and Ceiling Interior Finish to Room Fire Growth

(b) UL 1040, Standard for Fire Test of Insulated Wall Construction

(c) FM 4800, Approval Standard for Class I Insulated Wall or Wall and

Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior

Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish

7.3.11.4.1 The thermal barrier specified in 37.4.4(3) shall not be required

where ACM meet either of the following conditions:

(1) ACM are installed as part of a balcony or similar architectural appendage

or as exterior trim.

(2) ACM are approved for the specific installation, based on tests conducted

using the maximum thickness intended for use in accordance with one of the

following:

(a) NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution

of Wall and Ceiling Interior Finish to Room Fire Growth

(b) UL 1040, Standard for Fire Test of Insulated Wall Construction

(c) FM 4800, Approval Standard for Class I Insulated Wall or Wall and

Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior

Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish

7.3.11.4.2 ACM tested in accordance with 37.4.4(2) shall be tested as an

assembly in the manner intended for use that shall include joints, seams, fasteners, and other construction details typical of the intended installation.
### ACM Height and Area Requirements

**7.3.11.4 ACM shall not be required to comply with 37.4.4, provided that:**

1. ACM shall be permitted to be installed to a maximum height of 40 ft (12.2 m) above grade where either 37.4.5(1)(a) or 37.4.5(1)(b) and 37.4.5(1)(c) are met as follows:
   - (a) Where the exterior wall is located not more than 5 ft (1.5 m) from a property line, the ACM shall not cover more than 10 percent of the exterior wall.
   - (b) Where the exterior wall is located more than 5 ft (1.5 m) from a property line, the area of the exterior wall covered by the ACM shall be limited.
   - (c) ACM shall have a Class B rating, as specified in Chapter 10, based on the maximum thickness intended for use.

2. ACM shall be permitted to be installed to a maximum height of 50 ft (15.2 m) above grade, provided that all of the following conditions are met:
   - (a) ACM shall be installed on the exterior wall so that the aggregate area of contiguous panels bounded by vertical joints and a vertical separation of not less than 4 ft (1.2 m), as measured to adjacent ACM, does not exceed 300 ft² (27.9 m²).
   - (b) ACM shall have a self-ignition temperature of not less than 650°F (343°C) when tested in accordance with ASTM D 1929, Standard Test Method for Determining Ignition Temperature of Plastics.
   - (c) ACM shall have a Class B rating, as specified in Chapter 10, based on the maximum thickness intended for use.

**7.3.11.4.6** ACM installed on the exterior walls of buildings classified as Type V construction shall have a Class B rating, as specified in Chapter 10, based on the maximum thickness intended for use.

**7.3.12 Exterior Insulation and Finish Systems (EIFS):**

- **7.3.12.1 General.** The provisions of Section 37.5 shall govern the materials, construction, and quality of exterior insulation and finish systems (EIFS) for use as non-load-bearing barrier walls and exterior cladding systems.


- **7.3.12.3 Expansion Joints,** Expansion joints shall be provided in EIFS in the following locations:
  1. Where EIFS adjoin dissimilar construction
  2. Where building expansion joints occur
  3. Where prefabricated panels abut one another
  4. Where the substrate changes
  5. Where significant structural movement occurs due to changes in roofline, building shape, or structural system
  6. In the floor lines in multilevel wood frame construction

**7.3.12.4.1 Manufacturer.** The manufacturer shall furnish a report certifying that the materials are in conformance with EIMA 99A, this Code, and the contract documents.

- **7.3.12.4.2 Contractor.** The installing contractor shall have a certificate of instruction from the respective EIFS manufacturer’s installer training program.

- **Substantiation:** To bring all of the provisions currently in Chapter 37 the code for fire resistance of exterior walls into Chapter 7 where exterior walls are regulated.

#### Committee Meeting Action: Accept

**Number Eligible to Vote:** 23

**Ballot Results:** Affirmative: 19

**Vote Not Returned:** 4 BARBADORO, FOSTER, GEMENY, WESSEL

### Table 7.4.1

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Height</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport Traffic Control Tower</td>
<td>55.3.1.1(1)</td>
<td>1.0</td>
</tr>
<tr>
<td>Sprinklered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-sprinklered</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proprietary Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Footnote 1

For each story in the building, the sum of the ratios of the floors area per story of each separated occupancy divided by the allowable floor area per story as determined by Table 7.4.1, and as modified by 7.6.2, shall not exceed 1.0.

### Report on Proposals — Copyright, NFPA

<table>
<thead>
<tr>
<th>Proposal</th>
<th>Log #</th>
<th>Ballot Results</th>
<th>Vote Not Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000-347</td>
<td>BLD-BLC</td>
<td>Final Action: Accept in Principle (7.4)</td>
<td></td>
</tr>
<tr>
<td>5000-348</td>
<td>BLD-BLC</td>
<td>Final Action: Accept (7.4)</td>
<td></td>
</tr>
</tbody>
</table>

#### Submitter:
William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

#### Recommendation:
Modify to read as follows:

**7.4 Height and Area Requirements Limitations.**

- **7.4.1 General.** Except as modified in Section 7.4 through Section 7.6, the heights and areas of buildings, based on their intended occupancy and type of construction classification, shall not exceed the limits and areas set forth in Table 7.4.1 where the values for sprinklered buildings,…with 55.3.1.1(1).

- **7.4.1.2.2** For each story in the building, the sum of the ratios of the floors area per story of each separated occupancy divided by the allowable floor area per story as determined by Table 7.4.1, and as modified by 7.6.2, shall not exceed 1.0.

#### Footnote 2

Within each occupancy category, the top row refers to the allowable number of stories above grade and the bottom row refers to the allowable area per floor story.

#### Footnote 3

S = sprinklered maximum allowable building height in feet and maximum allowable number of stories above grade in buildings protected with an automatic sprinkler system as specified in 7.4.1.

#### Footnote 4

N = non-sprinklered maximum allowable building height in feet and maximum allowable number of stories above grade in buildings protected with an automatic sprinkler system as specified in 7.4.1.

#### Table 7.4.1.3.4.1 Allowable Building Height and Area Requirements for Airport Traffic Control Towers

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Height</th>
<th>Area per Story</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.4.2 Allowable Areas.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.4.2.1 Maximum Allowable Area per Story.</td>
<td>The allowable area per story floor (A) for any individual story in a building shall not exceed the allowable area specified in permitted by Table 7.4.1, as modified by applicable increases determined in accordance with 7.6.2.</td>
<td></td>
</tr>
</tbody>
</table>
**7.4.2 Basements**. The area per story of basements shall not be required to be included in the total allowable building area, provided they do not exceed the area allowed permitted for a single-story building based on the occupancy and type of construction of the building.

**7.4.2.3 Multiple Types of Construction**. Where a building is constructed of two or more types of construction not separated by fire walls or floors in the same building, the total area of the entire building shall not exceed the least allowable building area permitted, based on the occupancy for and types of construction used in the building.

**7.4.3.1 Maximum Allowable Building Height and Number of Stories**. The maximum allowable building height and number of stories of a building shall depend on the use and occupancy of the building and on the type of construction of the building and shall not exceed the limits specified in Table 7.4.1, except as provided for in 7.4.3 and as modified by Section 7.5.

**Substantiation**: This proposal was developed by the Height and Area Task Group as an editorial clarification to ensure the uniformity of language.

**Committee Meeting Action**: Accept

**Number Eligible to Vote**: 23

**Ballot Results**: Affirmative: 19

**Vote Not Returned**: 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**5000-349 Log #799 BLD-BLC**

**Final Action**: Reject

(7.4.1)

**TCC Action**: The Technical Correlating Committee (TCC) notes that abbreviated AISI value should refer to PSI and abbreviated gam value should refer to GPM in the committee statement.

**Submitter**: Robert J. Wills, American Iron and Steel Institute

**Recommendation**: Revise the heading cell for Type I 332 as follows, with the remainder of the Table unchanged:

<table>
<thead>
<tr>
<th>Type</th>
<th>332</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>N</td>
</tr>
<tr>
<td>420</td>
<td>500</td>
</tr>
</tbody>
</table>

**Substantiation**: The height limits in this portion of the table were modified during the last ROC cycle. The original proposal cited 500 ft for nonsprinklered and 520 ft for sprinklered, with the values supposedly based on hydraulic calculations. The proposed values were reduced, however, to my knowledge no additional justification was offered to support the reduction. The technical documentation for these modified values should be transparent and traceable. This proposal would restore the values that were originally proposed.

**Committee Meeting Action**: Reject

**Committee Statement**: The decision to cap the height at 420 ft was based upon limiting the fire department’s attack hose capabilities at 300 AISI, which as required in NFPA 1961. Further, the Technical Committee, when developing this limitation, assumed a nozzle pressure of 100 AISI (per NFPA 14) and a friction loss in the standpipe of 20 AISI (engineering judgment) at a flow rate of 500 gam. For additional information, see NFPA 5000-2003 Comment 5000-468.

**Number Eligible to Vote**: 23

**Ballot Results**: Affirmative: 19

**Vote Not Returned**: 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**5000-350 Log #863 BLD-BLC**

**Final Action**: Accept

(7.4.1)

**Submitter**: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

**Recommendation**: Modify to read as follows:

**7.4 Height and Area Limitations**.

**7.4.1 General**. Except as modified in Section 7.4 through Section 7.6, the heights and areas of buildings, based on their intended occupancy and type of construction classification, shall not exceed the limits set forth in Table 7.4.1 where the values in Table 7.4.1 for sprinklered buildings apply to buildings protected throughout with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 and as modified during the last ROC cycle. The original proposal cited 500 ft for nonsprinklered and 520 ft for sprinklered, with the values supposedly based on hydraulic calculations. The proposed values were reduced, however, to my knowledge no additional justification was offered to support the reduction. The technical documentation for these modified values should be transparent and traceable. This proposal would restore the values that were originally proposed.

**Committee Meeting Action**: Accept

**Committee Statement**: The decision to cap the height at 420 ft was based upon limiting the fire department’s attack hose capabilities at 300 AISI, which as required in NFPA 1961. Further, the Technical Committee, when developing this limitation, assumed a nozzle pressure of 100 AISI (per NFPA 14) and a friction loss in the standpipe of 20 AISI (engineering judgment) at a flow rate of 500 gam. For additional information, see NFPA 5000-2003 Comment 5000-468.

**Number Eligible to Vote**: 23

**Ballot Results**: Affirmative: 19

**Vote Not Returned**: 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**5000-351 Log #234 BLD-BLC**

**Final Action**: Accept

(7.4.1)

**Submitter**: Joseph J. Messersmith, Jr., Portland Cement Association

**Recommendation**: Revise Table 7.4.1 as follows:

### Table 7.4.1 Height and Area Requirements

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>Assembly ≤1000</th>
<th>Assembly &gt;1000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S1</td>
<td>N1</td>
</tr>
<tr>
<td>Assembly ≤1000</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Assembly &gt;1000</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>

**Substantiation**: When Table 7.4.1 was developed, the goal was to use the allowable heights of the Life Safety Code, where such heights for specific occupancies were regulated by that code. Section 16.1.5.2 indicates that “The location of an assembly occupancy shall be limited in accordance with Chapter 7 or Table 16.1.5.2, whichever is more stringent.” If my interpretation of Table 16.1.5.2 is correct, there are two differences between the two tables. The changes being proposed will eliminate those differences.

**Committee Meeting Action**: Accept

**Number Eligible to Vote**: 23

**Ballot Results**: Affirmative: 19

**Vote Not Returned**: 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**5000-352 Log #663 BLD-BLC**

**Final Action**: Accept in Principle in Part

(7.4.1)

**Submitter**: Rick Thornberry, The Code Consortium, Inc. / Rep. Alliance for Fire and Smoke Containment and Control

**Recommendation**: Revise Notes 3 and 4 to Table 7.4.1 as follows:

3. S = sprinklered maximum building height in feet and maximum number of stories above grade for buildings protected with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13. See 7.4.1.

4. N = nonsprinklered maximum building height in feet and maximum number of stories above grade for buildings not protected with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13. See 7.4.1.

**Substantiation**: This proposal merely provides additional guidance and clarification as to how the height limits in both feet and maximum number of stories is determined based upon whether or not an approved, electrically supervised automatic sprinkler system is installed throughout the building in accordance with NFPA 13. This is stated in 7.4.1, however, many users of the code may overlook that section when initially developing a design for a building. The present footnotes could lead a designer to believe that a building sprinklered using an NFPA 13R or NFPA 13D system would qualify for the additional height. Conversely, looking at the nonsprinklered note it could be assumed that if the building had a sprinkler system in accordance with NFPA 13R or NFPA 13D, that the sprinkler column would be the appropriate one to apply since the nonsprinklered column literally indicates that it is only applicable to a nonsprinklered building. This proposal should eliminate any potential confusion or misapplication of this table and is consistent with the language presently contained in 7.4.1 which only allows the use of an NFPA 13 sprinkler system for an allowable height increase, as well as an allowable area increase.

**Committee Meeting Action**: Accept in Principle in Part

**Committee Statement**: Reference to NFPA 13 and use of term ‘electrically’.

**Committee Meeting Action**: The Technical Committee agreed that the action taken in Proposal 5000-349 (Log #868) met the proponent’s intent to improve the clarity of the footnotes.

**Committee Meeting Action**: The Technical Committee rejected referencing NFPA 13 in the footnotes, because this could potentially confuse the user. For instance, 7.4.1.3.3 allows the use of the table values with a NFPA 13R system. Adding this language to the footnotes could be interpreted to prohibit the user from using NFPA 13R. In addition, the use of the term ‘electrically’ was not accepted, simply because the Technical Committee wants to steer away from duplicating the table’s charging language in the table’s footnote.

**Number Eligible to Vote**: 23

**Ballot Results**: Affirmative: 19

**Vote Not Returned**: 4 BARBADORO, FOSTER, GEMENY, WESSEL
5000-353 Log #665 BLD-BLC

Final Action: Reject

( Table 7.4.1 )


Recommendation: Revise Table 7.4.1, as well as 7.4.2.2, Section 7.5.6.2.2, and 7.6.2.3, as indicated below. Delete Table 7.4.1 in its entirety and substitute the following new Table 7.4.1.

<table>
<thead>
<tr>
<th>Use Group</th>
<th>Height/Area</th>
<th>Maximum Height (ft) for 1,100 sq ft</th>
<th>H</th>
<th>000</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly ≥1000</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>39,900</td>
<td>65</td>
</tr>
<tr>
<td>Assembly ≥300</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>39,900</td>
<td>65</td>
</tr>
<tr>
<td>Assembly ≤300</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>39,900</td>
<td>65</td>
</tr>
<tr>
<td>Office, ind., ord. Hazard</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>39,900</td>
<td>65</td>
</tr>
<tr>
<td>Office, ind., hazard Storage</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>39,900</td>
<td>65</td>
</tr>
<tr>
<td>Educational Day Care</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>45,200</td>
<td>65,200</td>
<td>65</td>
</tr>
<tr>
<td>Industrial low hazard Storage, low hazard</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>59,900</td>
<td>119,000</td>
<td>65</td>
</tr>
<tr>
<td>Health Care</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>15,100</td>
<td>30,200</td>
<td>65</td>
</tr>
<tr>
<td>Health Care ambulatory Hospital</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>15,100</td>
<td>30,200</td>
<td>65</td>
</tr>
<tr>
<td>Residential</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>59,800</td>
<td>65</td>
</tr>
<tr>
<td>Residential, 1- and 2-family</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>29,900</td>
<td>59,800</td>
<td>65</td>
</tr>
<tr>
<td>High Hazard Contents</td>
<td>H</td>
<td>UL</td>
<td>UL</td>
<td>15,000</td>
<td>30,000</td>
<td>65</td>
</tr>
<tr>
<td>Protection Level 1</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>15,000</td>
<td>30,000</td>
<td>65</td>
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<tr>
<td>Protection Level 2</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>15,000</td>
<td>30,000</td>
<td>65</td>
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<tr>
<td>Protection Level 3</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>24,800</td>
<td>48,800</td>
<td>65</td>
</tr>
<tr>
<td>Protection Level 4 and 5</td>
<td>A</td>
<td>UL</td>
<td>UL</td>
<td>39,900</td>
<td>79,800</td>
<td>65</td>
</tr>
</tbody>
</table>

A – Floor area per story in sq ft (× 0.093 for m²).
H – Building height in number of stories.
UL – Unlimited.
NP – Not Permitted.

Also revise 7.4.2.2 as follows:
7.4.2.2 Basements. A single level basements shall not be required to be included in the total allowable building area, provided the basement they do not exceed the area permitted for a one-story building based on the occupancy and type of construction.
Also revise Section 7.5 as follows:
Section 7.5 Height Increases Permitted.
7.5.1 General. The allowable building heights in feet and allowable number of stories shall be as shown in Table 7.4.1, as modified in 7.4.3.6 and 7.5.2.
7.5.2 Residential Sprinkler Increase. For residential occupancies provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13R, the maximum overall height shall be increased by 20 ft (6 m) and the maximum number of stories shall be increased by one story; provided the overall building height does not exceed 60 ft (18 m) and the maximum number of stories does not exceed four stories.
7.5.2.2 Automatic Sprinkler Increase. Buildings protected with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 shall be permitted to have the maximum height in stories allowed by Table 7.4.1 increased by one story unless the maximum area allowed by Table 7.4.1 is increased in accordance with 7.6.2.3.
7.6.2.3 Maximum Floor Area. The maximum floor area of a multistory building shall be determined by multiplying the allowable area per floor (A) by two, the number of stories up to a maximum of three stories.
7.6.2.3.1 The maximum floor area of a building more than three stories in height shall not exceed that permitted for a three-story building.

Also delete the associated Annex A note in A.7.6.3.2.

Substantiation: The proposed amendment simply takes Table 5-A out of the 1997 Uniform Building Code (UBC) and replaces Table 7.4.1 in NFPA 5000. Table 5-A has also been modified using the appropriate NFPA occupancy classifications substituted for the UBC use groups and the appropriate NFPA 5000 types of construction designation substituted for the UBC types of construction. Thus, the height and area limits specified in NFPA 5000 are deleted and replaced with those specified in the 1997 UBC.
In addition, several sections of NFPA 5000 are proposed to be revised to make the height and area requirements, including modifications for increases in heights and areas, consistent with the UBC. Those sections include 7.4.2.2 Basements which limits a single level basement from being included in the total allowable building area where that basement does not exceed the area permitted for a one-story building. This prevents a multilevel basement from being constructed and not being included in the total allowable building area. Section 7.5 Height Increases Permitted has been revised to eliminate the height increase allowed for residential occupancies sprinklered in accordance with NFPA 13R while the UBC does not allow any trade-offs or allowances for the use of a residential sprinkler system. Section 7.5.2 is also revised to indicate that the height increase permitted is limited to one story without an increase in building height based on feet and the height increase can only be allowed when the automatic sprinkler system is installed in accordance with NFPA 13, not NFPA 13R. Presently, the NFPA 5000 Building Construction and Safety Code will not only allow a one-story height increase, but also a 20 ft height increase in actual building height. This section was also amended to not allow the use of both a story height increase and an area increase with the installation of an automatic sprinkler system since NFPA 5000 will allow both increases to be used in the same building.
And, 7.6.2.2 Automatic Sprinkler Increase has been modified to not allow the increase in building area if an increase in building height is taken as similarly discussed above for 7.5.2. Section 7.6.2.3 has also been modified to limit the maximum floor area of a multistory building to twice that allowed for a single story building which is consistent with the UBC as compared to NFPA 5000 which allows tripling the single story building area for multistory buildings. Section 7.6.2.3.1 has also been modified to be consistent with the modification to 7.6.2.3. And, finally 7.6.3.2.2 has been deleted since it allows a residential occupancy sprinklered with an NFPA 13R system to have its story height and the allowable maximum floor area increased beyond that allowed for a three story building. This is consistent with the UBC which does not allow an increase in height or area for buildings protected with a residential sprinkler system.

The reason for this significant proposed amendment to NFPA 5000 is to assure that jurisdictions adopting a new model code will be able to maintain the present level of fire and life safety being constructed into buildings under the 1997 UBC. Otherwise, if a jurisdiction adopts NFPA 5000 without the substituted height and area table and related amendments, the jurisdiction, in effect, will have increased the overall fire and life safety for buildings constructed under NFPA 5000 in comparison to the IBC. This has also been substantiated in two articles authored by Mark Klaver of the Portland Cement Association who made a comparison of the International Building Code (IBC) to the UBC for height and areas for certain occupancy classifications. Although that analysis was done using the IBC, it is also applicable to NFPA 5000 since both codes are virtually identical in regard to how allowable heights and areas are determined for buildings. It is also interesting to note the differences in the fire protection codes of the country as compared to the western region where the UBC is the dominant code adopted. These comparisons are shown and discussed in the two articles referenced above.

NFPA 5000, as well as the IBC, allow significantly greater areas and heights than the UBC for several reasons. First, the base allowable heights and areas were developed using the “lowest common denominator” approach which, in essence, took the greatest allowable heights and areas of any for the three regional model building codes for each occupancy (use group) and put them in the table as the base value. The stated purpose for that was to not cause existing buildings in any part of the country to be nonconforming with the IBC (as well as the NFPA 5000). Furthermore, NFPA 5000 allows the practice of “double dipping”. This is the case where the building area, as well as the building allowable height, is permitted to be increased with the installation of an automatic sprinkler system. As stated above, the UBC does not permit both increases to be taken in the same building. So under the UBC the designer needs to decide whether to use the sprinkler system for an increase in allowable area or, as an alternative, for an increase in the allowable height of a building. Another factor involves the total building area limit for multistory buildings. The UBC places a limit of twice that allowed for a single story building, whereas NFPA 5000 allows a tripling of the single story building area for buildings that are three or more stories in height. This can result in a significantly greater allowable area as compared to the UBC.

We should point out that during preliminary studies of the adoption of the IBC by the state of California and Clark County, NV, their comparisons of the allowable heights and areas between the UBC and IBC (which is virtually the same as NFPA 5000) raised significant concerns. In fact, part of the reason for the State of California deciding to readopt the 1997 UBC instead of adopting the IBC was because the State Fire marshal was concerned that the level of fire and life safety in the IBC would not be comparable to that being presently provided by the state, especially as it related to the allowable heights and area versus types of construction. So California decided to conduct a more detailed study of both the IBC and NFPA 5000 in comparison to the UBC to clearly determine the differences in the level of fire and life safety being provided by those codes. That study was recently concluded. The results have caused the California State Fire marshal, as well as other State Agencies involved in the statewide adoption process to publicly request that either of the two model codes (NFPA 5000 or IBC) is adopted by the state, they both will have to be significantly amended in order to maintain the level of fire and life safety currently provided by the 1997 UBC as adopted by the state. And that includes the height and area requirements.

Regarding Clark County, NV, the code enforcement officials have expressed concerns that they need to be able to maintain the level of fire and life safety they currently provide based on the adoption of the 1997 UBC which will require significant amendments to the IBC (or similarly, NFPA 5000) including the height and area tables to achieve that. We would refer you to a website where this process is being documented and made available for public review: It is www.co.clark.nv.us/development_services/bldg_codes/00ibc_amend.pdf.

In conclusion, we believe that in order for jurisdictions to continue to have buildings constructed with the appropriate level of fire resistance and use of noncombustible construction that will achieve the excellent level of fire and life safety presently provided by the 1997 UBC, this proposal must be incorporated into NFPA 5000.

Committee Meeting Action: Reject

Committee Statement: The Technical Committee chose to reject this proposal. See committee statement on Proposal 5000-355 (Log #311).

Number Eligible to Vote: 23

Ballot Results: Affirmative: 17 Negative: 1 Abstain: 1

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative: THORNBERRY: I believe that the proponents of these two virtually identical proposals have adequately justified accepting them. The fire experience of those jurisdictions that have utilized the proposed height and area table (which is based on the 1997 Uniform Building Code) has demonstrated that the table is effective in minimizing property loss to buildings and provides an increased level of fire and life safety for both single and multistory buildings. Furthermore, NFPA 5000 allows the provision of both fire and life safety presently provided by the 1997 UBC which include: heights to be limited to 50 feet and area to be limited to 10,000 square feet for buildings one story in height and 4,000 square feet for buildings two stories in height. This can result in a significantly greater allowable area as compared to the UBC which allows for a three story building. This is consistent with the UBC which does not allow an increase in height or area for buildings protected with a residential sprinkler system.

The point of eliminating both sprinkler increases for allowable height and allowable area is based on the assumption that automatic sprinklers should not be relied upon to such an extent as to allow significant increases in the size of buildings without an appropriate increase in the built-in fire resistive protection of the basic structural elements and compartments in the building. Sprinkler statistics have clearly shown that sprinklers fail to operate in 1 out of every 6 fires that occur in the sprinklered buildings where it was judged that the fire was of sufficient size to cause them to operate. Although this reflects good performance reliability, we do not believe it is sufficiently adequate to justify reliance on the automatic sprinkler system to permit combined area and height increases in buildings.

In regard to the one story and 20 ft height increase allowed for NFPA 13R sprinkler systems, I do not see this as a life safety issue as suggested in the Committee Statement. To me it is more of a property protection issue. I certainly agree that NFPA 13R sprinkler systems are specifically designed for the protection of life. But the standard clearly states that it is not intended to provide for property protection to the same degree NFPA 13 sprinkler systems do. Again, this is an issue of how much reliance should be placed on an active fire protection system such as NFPA 13R. The 1997 UBC while allowing larger buildings without an increased level of built-in fire resistive protection. That is why I believe this proposal should be accepted.

Explanation of Abstention: BERHINIG: Was unable to locate report on committee action from the web site.


Recommendation: Revise the number of stories for Protection Level 5 and Type I and Type II (222) construction from 3 stories to 4 stories.

Substantiation: The basis for the three story limit first incorporated into the 1985 UBC, and subsequently the BOCA National Building Code, Standard Building Code, and International Building Code, is not conclusive but appears to have been based upon:
1. How new semiconductor fabrication facilities were being designed and constructed at the time,
2. What the semiconductor industry perceived to be the future needs at the time,
3. Consideration for health hazard materials such as highly toxics and toxics associated with fabrication processes at the time,
4. Fire department access via ladders due to the presence of highly toxic and toxic materials.

Given the fact that the types and quantities of hazardous materials located within the Protection Level 5 portion of semiconductor fabrication facilities most closely resembles Protection Level 3 and Level 4 facilities, an increase to 4 stories is justified. Even at 4 stories, the allowable number of stories is less than permitted for Protection Level 3 and Level 4.

5000-354 Log #729 BLD-BLC Final Action: Accept (Table 7.4.1 )
ISO 5000 50000

Report on Proposals — Copyright, NFPA

A similar proposal was submitted to revise the International Building Code and the ICC General Code Development Committee recommended the proposal for approval as submitted.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-355 Log #311 BLD-BLC

Submitter: Don Bliss, James Burns, National Association of State Fire Marshals

Recommendation: Revise Table 7.4.1, as well as 7.4.2.2, Section 7.5, 7.6.2.2, and 7.6.2.3, as indicated below.

Delete Table 7.4.1 in its entirety and substitute the following new Table 7.4.1: the maximum number of stories does not exceed four stories.

Also revise Section 7.5 as follows:

Section 7.5 Height Increases Permitted.

7.5.1 General. The allowable building heights in feet and allowable number of stories shall be as shown in Table 7.4.1, as modified in 7.4.3.6 and 7.5.2 residential sprinkler increase. Buildings protected with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13R, the maximum overall height shall be increased by 20 ft (6 m) and the maximum number of stories shall be increased by one story, provided the overall building height does not exceed 60 ft (18 m) and the maximum number of stories does not exceed four stories.

Also delete the associated Annex A note in A.7.6.3.2.

Substantiation: In July of 2002, the National Association of State Fire Marshals (NASFM) formed the Partnership for Safer Buildings (the Partnership) to ensure a fair and objective answer to the following question: Are our nation’s model building codes sufficient to save lives and property from fire? The Partnership concluded that the answer is that neither code provides adequate levels of protection. In fact, the fire protection requirements in both the International Code Council’s International Building Code (IBC) and the National Fire Protection Association (NFPA) NFPA 5000 Building Construction and Safety Code were promulgated significantly weaker than the requirements found in the older regional model building codes with no scientific justification for such a change. The arbitrary weakening of these critical requirements must be reversed promptly. To do otherwise is to substantially increase the probability of significant fire losses in office buildings, health care facilities, schools and other major structures, which are being built in accordance with these new specifications.

### Table 7.4.1 Height and Area Requirements

<table>
<thead>
<tr>
<th>Use Group</th>
<th>Height/Area</th>
<th>Maximum Height (ft) (x 0.305 for m)</th>
<th>Types of Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>UL</td>
<td>442</td>
</tr>
<tr>
<td>Assembly &gt;1000</td>
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<tr>
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<td>UL</td>
<td>29,900</td>
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<tr>
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<td>UL</td>
<td>39,900</td>
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<tr>
<td>Mercantile Storage, ord. Hazard</td>
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<td>UL</td>
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<tr>
<td>Educational Day Care</td>
<td>A</td>
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<td>45,700</td>
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<tr>
<td>Industrial, low hazard Storage, low hazard</td>
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<td>UL</td>
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</tr>
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<td>UL</td>
<td>129,000</td>
</tr>
<tr>
<td>1: family</td>
<td>H</td>
<td>UL</td>
<td>129,000</td>
</tr>
<tr>
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<td>High Hazard Content</td>
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<td>Protection Level 1</td>
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<td>UL</td>
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<tr>
<td>Protection Levels 4 and 5</td>
<td>H</td>
<td>UL</td>
<td>24,800</td>
</tr>
</tbody>
</table>

A – Floor area per story in sq ft (x 0.093 for m²).

H – Building height in number of stories.

UL – Unlimited.

NP – Not Permitted.
The solution is relatively simple in that the relevant sections of the model codes should be restored. The following recommendations are based on what we know about the performance of various fire protection technologies, site visits and extensive consultations with experts — all of which are included in our recent report. (A copy of the report is available at NFPA Headquarters and at www.firemarshals.org).

Specifically, NASFM proposes that Table 7.4.1 in NFPA 5000 be replaced by Table 5-A out of the 1997 Uniform Building Code (UBC). Please note that Table 5-A has also been modified using the appropriate NFPA occupancy classifications substituted for the 1997 UBC use groups and the appropriate NFPA 5000 types of construction designations substituted for the 1997 UBC types of construction. This proposal calls for the deletion of the height and area limits specified in NFPA 5000 and recommends that they are replaced with 1997 UBC values. In addition, NASFM believes it is necessary to revise other sections of NFPA 5000 to make the height and area requirements, including modifications for increases in heights and areas, consistent with the 1997 UBC. This, it believes, will ensure that the NFPA 5000 document text and tables do not contradict one another.

To ensure adequate levels of life safety, the sections that must be amended include:

1. Section 7.5 Height Increases Permitted has been revised to eliminate the height increase allowed for residential occupancies sprinklered in accordance with NFPA 13R since the UBC does not allow any trade-offs or allowances for the use of a residential sprinkler system.
2. Section 7.6.2.2 Automatic Sprinkler Increase has been modified to allow the height increase permitted to be limited to one story without an increase in building height based on feet and the height increase can only be allowed when the automatic sprinkler system is installed in accordance with NFPA 13. Not NFPA 13R. As currently written, NFPA 5000 allows both a one story height increase, and a 20 ft height increase in actual building height. It is NASFM’s position that this section must be amended so as not to allow the use of both a story height increase and an area increase with the installation of an automatic sprinkler system.
3. NFPA 5000 will allow both increases to be used in the same building. The degree of flexibility allowed in the new model codes is an open invitation for those intent upon finding economically attractive loopholes that defeat the need for reasonably safe buildings. The changes NASFM proposes close those loopholes before they are used.
4. Section 7.6.2.3 has also been revised to indicate that the height increase permitted is limited to one story without an increase in building height based on feet and the height increase can only be allowed when the automatic sprinkler system is installed in accordance with NFPA 13, not NFPA 13R. As currently written, NFPA 5000 allows both a one story height increase, and a 20 ft height increase in actual building height. It is NASFM’s position that this section must be amended so as not to allow the use of both a story height increase and an area increase with the installation of an automatic sprinkler system.
5. Currently, NFPA 5000 will allow both increases to be used in the same building. The degree of flexibility allowed in the new model codes is an open invitation for those intent upon finding economically attractive loopholes that defeat the need for reasonably safe buildings. The changes NASFM proposes close those loopholes before they are used.
6. NASFM’s proposal is the deletion of 7.6.2.3 since it allows a residential occupancy sprinklered with an NFPA 13R system to have its story height and the allowable maximum floor area increased beyond that allowed for a 1-story building. This is consistent with the UBC, which does not allow an increase in height or area for buildings protected with a residential sprinkler system.
7. NASFM has proposed these obvious but significant amendments to NFPA 5000 because we know that the model codes ultimately represent the very most that builders and owners will do to ensure safety, and the most we as code enforcers can require. The model codes must focus first on safety. They have no higher purpose. The economic realities are not inconsequential but must never be allowed to undermine public safety. The changes we have proposed do little more than restore the levels of safety that have, by and large, ensured adequate levels of safety for decades. Some of these requirements were adopted without the benefit of science but time has shown them to be effective.
8. The principles of fire safety are unchallenged. We do all that we can to prevent fires and when those measures fail, our priority shifts to slowing a fire to enable occupants to escape. When all civilians are safe, we hope to save property without endangering emergency responders.

We are most concerned about jurisdictions such as Phoenix, Arizona, and the State of California that have moved forward with NFPA 5000. They must now go through the difficult process of amending the code simply to maintain the present level of fire and life safety being constructed into buildings under the 1997 UBC. A copy of the CA Fire Chiefs Association letter that supports NASFM’s proposals and the need to increase the level of fire protection is available for review at NFPA Headquarters.

Every jurisdiction that adopts NFPA 5000 without the substituted height and area table and related amendments, will “lower the bar” for built-in fire resistive and noncombustible construction that has been provided under the 1997 UBC. We believe it is our duty to alert the public of the increased risk as these proposals move forward through the states.

NASFM, through its Partnership for Safety Buildings, has spent over a year analyzing this issue. It has conducted a rigorous analysis of the codes, conducted non-regulatory site inspections of buildings built to various regional building codes and has received information from industry associations all of which have concluded that the allowable heights and areas permitted by NFPA 5000 are inadequate when compared to the 1997 UBC.

A table available as supporting material was provided to NASFM during its inquiry into the status of the fire safety provisions of the model codes. This analysis demonstrates that in nearly all instances, NFPA 5000 will allow substantially greater areas and taller buildings than the 1997 UBC.

NFPA 5000, as well as the IBC, allows significantly greater areas and heights then UBC for several reasons. First, the base allowable heights and areas were developed using the lowest common denominator approach which took the least rigorous, i.e., greatest allowable, heights and areas of any of the three regional model building codes for each occupancy (use group) and put them in the table as the base value. The stated purpose for that was to not cause existing buildings in any part of the country to be nonconforming with the IBC (as well as the NFPA 5000). The stated purpose should be rescinded.

NFPA 5000 also allows the practice of “double dipping”, which is where the “building allowable area,” as well as the “building allowable height,” may be increased if automatic sprinklers are installed. The 1997 UBC does not permit both increases to be taken in the same building which means that working within the process, a designer may use a sprinkler system for an increase in allowable area or, as an alternative, for an increase in the allowable height of a building, but not to justify both.

The total building area limit for multi-story buildings is another important matter. The 1997 UBC permits no more than twice that allowed for a single story building, whereas NFPA 5000 allows a tripling of the single story building area for buildings that are three or more stories in height. This can result in a significantly greater allowable area — a substantial sacrifice for fire safety — as compared to the 1997 UBC.

NASFM is not alone in raising these concerns. During the reviews of the IBC, the State of California and Clark County, NV, compared the allowable heights and areas permitted by the UBC and the IBC — which is nearly identical to NFPA 5000 — and expressed fears similar to those stated here. The State of California’s readoption of the 1997 UBC rather than the IBC was the result of the State Fire Marshall’s position that the fire safety in the IBC would not be comparable to that being presently provided in the state, especially as it related to the allowable heights and area versus types of construction. Thereafter, California studied both the IBC and NFPA 5000 in comparison to the UBC to identify the differences in the level of fire and life safety being provided by those codes. The study has prompted the California State Fire Marshall, among other State Agencies involved in the state code adoption process, to publicly state that no matter which of the two model codes (NFPA 5000 or IBC) is adopted by the state, they both will have to be significantly amended in order to maintain the level of fire and life safety currently provided by the 1997 UBC as adopted by the state.

The NFPA 5000 Code is an opportunity for diverse input and a public service. However, this is not possible when local authorities must amend the code where it fails to protect life and property.

NASFM is not interested in why these requirements were weakened. We believe that NFPA 5000 has little choice but to adopt these changes without delay. Even the most open and diverse process is no substitute for common sense and dedication to public safety.

Note: Supporting material is available for review at NFPA Headquarters.

Committee Meeting Actions: Resubmitted

Committee Statement: The Technical Committee chose to reject this proposal. They agreed that the existing table is adequate for an appropriate level of safety as it relates to the types of construction and height and area of buildings. Various levels of fire suppression, means of egress, notification alarm devices and the myriad of other protection features within NFPA 5000 provide additional life, property and emergency responder safety.

Justifications based upon statistical data do not conclusively support making these changes because they do not draw a connection between fire loss history and the height or area of buildings.

Using the installation of sprinklers in a building to allow changes to height and area is not a justifiable criticism of NFPA 5000; either the sprinkler...
system is going to work or is not going to work to protect the structure and occupants from hazards from fire.

The one story/20' increase for use of NFPA 13R protection has not been documented as leading to a decrease in life safety. NFPA 13R systems are specifically designed for protection of life safety and the code provides an economic incentive to use that feature. The converse could jeopardize occupant’s lives.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 16 Negative: 2 Abstain: 1

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative: MESSERSMITH: I agree with the National Association of State Fire Marshal's substantiation.

THORNBERY: I believe that the proponents of these two virtually identical proposals have adequately justified accepting them. The fire experience of those jurisdictions that have utilized the proposed height and area table (which is based on the 1997 Uniform Building Code) has demonstrated that the table is effective in minimizing property loss to buildings. The height and area tables and their related types of construction form the backbone for the basic fire protection package of any model building code upon which the other built-in fire protection and life safety features are based. I believe that this is basically a property protection issue, although it is a life safety issue regarding emergency responders and those occupancies where a defend in place evacuation scheme is utilized or required, for example.

The point of eliminating both sprinkler increases for allowable height and allowable area is based on the assumption that automatic sprinklers should not be relied upon to such an extent as to allow significant increases in the size of buildings without an appropriate increase in the built-in fire resistive protection of the basic structural elements and compartments in the building. Sprinkler statistics have clearly shown that sprinklers fail to operate in 1 out of every 6 fires that occur in sprinklered buildings where it was judged that the fire was of sufficient size to cause them to operate. Although this reflects good performance reliability, we do not believe it is sufficiently adequate to justify reliance on the automatic sprinkler system to permit combined area and height increases in buildings.

In regard to the one story and 20 ft height increase allowed for NFPA 13R sprinkler systems, I do not see this as a life safety issue as suggested in the Committee Statement. To me it is more of a property protection issue. I certainly agree that NFPA 13R sprinkler systems are specifically designed for the protection of life. But the standard clearly states that it is not intended to provide for property protection to the same degree NFPA 13R sprinkler systems do. Again, this is an issue of how much reliance should be placed on an active fire protection system while allowing larger buildings without an increased level of built-in fire resistive protection. That is why I believe this proposal should be accepted.

Explanation of Abstention: BERHINIG: Was unable to locate report on committee action from the web site.

An annex note will be added to 7.4.1.1 to provide guidance on the two different design methods.

Committee Meeting Action: Accept in Principle

Accept modifications to 7.4.1.1 recommended in proposal. Modify 7.4.1.2 as follows:

7.4.1.2 Areas with High Hazard Contents. The separation of areas containing high hazard contents requiring Protection Levels 1, 2, 3, 4, or 5 shall be in accordance with Chapter 34.

Committee Statement: The modifications to 7.4.1.2 represent further refinement of the language.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Report on Proposals — Copyright, NFPA

NFPA 5000

5000-357 Log #864 BLD-BLC Final Action: Accept (7.4.1.3.3 )

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

Recommendation: Modify 7.4.1.3.3 as follows:

7.4.1.3.3 Small Board and Care Occupancies. For board and care occupancies, the values in Table 7.4.1 for sprinklered buildings shall also apply to buildings, four stories or less in height, protected throughout with an approved, electrically supervised sprinkler system in accordance with 55.3.1.1(5) NFPA 13R

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification to consistently reference sprinkler system standards throughout Chapter 7.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-358 Log #760 BLD-BLC Final Action: Accept in Principle (7.4.1.3.5 (New ))

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to:

1. BLD-BLC requesting that the TCC further revise the committee action wording in 7.4.1.3.5.2 to avoid the use of “may”.

2. BLD-IND requesting that the TCC review this proposal and develop any comments on the proposal.

Submitter: Technical Committee on Agricultural Dusts

Recommendation: Insert a new 7.4.1.3.5, 7.4.1.3.5.1, 7.4.1.3.5.2, and Table 7.4.1.3.5.2 to read as follows:

7.4.1.3.5 Grain Handling and Processing Structures.

7.4.1.3.5.1 The requirements of 7.4.1.3.5 shall apply to those grain handling and processing structures covered in the scope of NFPA 61, Prevention of Fire and Dust Explosions in Agricultural and Food Processing Facilities and shall include:

(1) All facilities that receive, handle, process, dry, blend, use, mill, package, store, or ship dry agricultural bulk materials, their by-products, or products that include grains, oilseeds, agricultural seeds, legumes, sugar, flour, spices, feeds, and other related materials

(2) As defined for manufacturing and handling starch, including drying, grinding, conveying, processing, packaging and storing dry or modified starch, and dry products and dusts generated from these processes

(3) Those seed preparation and meal-handling systems of oilseed processing plants not covered by NFPA 36, Standard for Solvent Extraction Plants [61:1.1]

7.4.1.3.5.1 Example of facilities covered by this standard include, but are not limited to, bakeries, grain elevators, feed mills, flour mills, milling, corn milling (dry and wet), rice milling, dry milk products, mix plants, soybean and other oilseed preparation operations, cereal processing, snack food processing, tortilla plants chocolate processing, pet food processing, cake mix processing, sugar refining and processing, and seed plants. [61:1.1.1]

7.4.1.3.5.2 Buildings shall be constructed in compliance with the height and area requirements of Table 7.4.1 except as noted in Table 7.4.1.3.5.

Table 7.4.1.3.5.2 Height and Area Requirements for Grain Handling and Processing Structures

<table>
<thead>
<tr>
<th>Type of Construction</th>
<th>Height</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ft</td>
<td>m</td>
</tr>
<tr>
<td>(4FL) (160)</td>
<td>40</td>
<td>12.2</td>
</tr>
<tr>
<td>II (2FL) (200)</td>
<td>See Table 7.4.1 II (2FL) (200)</td>
<td>See Table 7.4.1 II (2FL) (200)</td>
</tr>
<tr>
<td>IV (3HH)</td>
<td>60*</td>
<td>18*</td>
</tr>
<tr>
<td>V (5FL) (1000)</td>
<td>See Table 7.4.1 V (5FL) (1000)</td>
<td>See Table 7.4.1 V (5FL) (1000)</td>
</tr>
</tbody>
</table>

Note: FL = unlimited

*When grain handling and processing structures covered in the scope of NFPA 61 are isolated such that they are surrounded and adjoined by public ways or yards not less than 60 ft (18 m) in width.
Substantiation: Grain elevators and similar structures cannot be constructed using the existing NFPA 5000, Table 7.4.1 Height and Area Requirements. For Protection Level 2, Type II (000) is the most common construction type for grain elevators and similar structures. NFPA 5000, Table 7.4.1 Height and Area Requirements limits the height and area to 7000 ft² and 1 story; the maximum height is 75 ft for sprinklered structure and 55 ft for a nonsprinklered structure. These height and area restrictions are not used in the industry; elevators are typically over 100 ft tall and commonly range to over 100,000 ft² in area. These structures typically have limited occupancy with restricted public access. Allowing unlimited height and area for Type I and II construction is common practice in many jurisdictions; however, occasionally where one locally adopted building code has restrictions similar to the restrictions in NFPA 5000, variances are always granted by the AHJ in order to build the structure. The Type IV construction would typically have more stringent height restrictions in local jurisdictions, and since the Committee agrees with the concept, it was reflected in the proposal. Proposed Table 7.4.1.3.5.2 was created in a format similar to that of existing Table 7.4.1.3.4.1 Height and Area Requirements for Airport Traffic Control Tower.

Committee Meeting Action: Accept in Principle

Insert a new 7.4.1.3.5 as follows:

7.4.1.3.5 Special Industrial and Storage Facilities.

7.4.1.3.5.1 The height and area of buildings and structures designed and constructed in accordance with NFPA 61, NFPA 120, NFPA 654, and NFPA 664 shall be governed by Table 7.4.1.3.5.1.

7.4.1.3.5.2 For coal preparation plants designed and constructed in accordance with NFPA 120, and grain handling and processing facilities designed and constructed in accordance with NFPA 61, where structures of Type IV construction are surrounded on all sides by public way or open space of at least 60 ft in width, the height may be increased by 20 ft (6m).

Committee Statement: The Technical Committee made minor editorial modifications to the proposal to better integrate it with the requirements found in Chapter 7. The scope of NFPA 61 was removed, since the Technical Committee believed that it was not necessary to restate it in NFPA 5000.

After the public proposal closing date, the Technical Committee received similar requests from the Technical Committees responsible for NFPA 120, NFPA 654, NFPA 664, NFPA 85, and NFPA 58. Upon review, the Technical Committee chose to include NFPA 120, NFPA 654, and NFPA 664 in the original proposal. However, the Technical Committee chose not to include NFPA 85, since the document addresses the boiler system and contains no requirements for the structure surrounding the boiler. Also, the Technical Committee chose not to include NFPA 58, because the application recommended was too broad and was not limited to industrial and storage occupancies requiring special considerations.

During the Public Comment phase, the Technical Committee would like the Technical Committees responsible for NFC Documents that deal with special industrial and storage facilities to consider how they would like to be dealt with in NFPA 5000. Any comment should contain technical justification for modification to Table 7.4.1.3.5.2.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-359 Log #CP902 BLD-BLC Final Action: Reject (7.4.1.3.5.3 (New ))

TCC Action: The Technical Correlating Committee (TCC) directs that the action on this proposal be changed from ACCEPT to REJECT as this subject was not fully coordinated with the action on proposal 5000-181. In addition, the TCC also notes that this proposal is dealing with an occupancy that is under the scope of BLD-IND.

The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that TCC: Give consideration to Thornberry’s comment on affirmative so as to make any needed changes. See the related TCC note on Proposal 5000-181.

Submitter: Technical Committee on Building Construction

Recommendation: Add section 7.4.1.3.5.3 as follows:

Chapter 3 Definition – Frangible Building. A detached building that presents a minimal hazard to life safety, is constructed with minimal protection features and is provided with sufficient separation to limit property damage to surrounding buildings and other structures.
The proposed wording will clarify the determination of towers, spires, steeples erected as part of a building and not used for habitation or storage.

Substantiation: The proposed wording will clarify the determination of building height by regulating where the measurement begins and where the measurement is at grade. This would use the current definition in Chapter 3 for grade.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The proponent’s language requires the measurement of building height from the ‘lowest’ grade level does not improve the clarity of the code, since it introduces a conflict in the use of the defined term ‘grade’. Also, the introduction of parapet wall into the measurement of building height is not technically substantiated.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

One-story buildings and structures used for rack storage of low or ordinary hazard contents shall not be limited in height when constructed entirely of noncombustible materials.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification to ensure the consistency of language.
Committee Meeting Action: Accept in Principle
Modify Section 7.4.3.6 as follows:
7.4.3.6 Special Height Requirements.
7.4.3.6.1 Towers, Spires, Steeples, and Other Architectural Embellishments, and Other Roof Structures. Towers, spires, steeples, and other roof structures shall not be limited in height when constructed entirely of noncombustible materials.

Committee Meeting Action: Accept in Principle
Modify Section 7.4.3.6.4 as follows:
7.4.3.6.4 Rack Storage Buildings. One-story buildings and structures used for rack storage of low or ordinary hazard contents shall not be limited in height, provided that all of the following requirements are met:
(1) The building shall be of Type I construction.
(2) The building shall not be open to the public.
(3) The building shall conform to the requirements of 7.6.3.3.

Submitter: Jon Nisja, Northcentral Regional Development
Recommendation: Revise to read:
7.4.3.2 The height of a building shall be measured from the lowest grade level around the perimeter of a building to the uppermost flat roof, parapet wall or average of the highest sloped roof.

Committee Meeting Action: Reject
Committee Statement: The Technical Committee chose to reject this proposal. The proponent’s language does not better clarify the code. Current NFPA 5000 languages use ‘first story above grade’ and ‘basement’, which are both defined terms. The term ‘lowest occupiable floor’ is not defined in NFPA 5000 and could increase confusion.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Submitter: Stephen V. Skalko, Portland Cement Association
Recommendation: Modify to read as follows:
7.4.3.6.4 Rack Storage Buildings. One-story buildings and structures used for rack storage of low or ordinary hazard contents, shall not be limited in height, provided that all of the following requirements are met:
(No change to requirements)
Substantiation: This section of the code permits rack storage to exceed the height limitations in Table 7.4.1. The provisions do not make any distinction with respect to the type of material being stored. High hazard contents present a much larger risk to the occupants, the fire service and to the building than less hazardous materials normally stored in high rack storage. Since Item (3) references 6.3.3, it implies that the provisions are for contents of rack storage buildings classified no higher than ordinary hazard. The added language clarifies the hazard limitation for the contents stored.
Committee Meeting Action: Accept in Principle
See committee action on Proposal 5000-366 (Log #859).
Committee Statement: This proposal is a duplicate of Proposal 5000-366 (Log #859).
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL
Substantiation: This proposal was developed by the Height and Area Task Group to clarify the intent that this requirement was never intended to apply to buildings with high hazard contents.

Committee Meeting Action: Accept in Principle

7.4.3.6.4 Rack Storage Buildings. In other than buildings containing high hazard contents requiring Protection Level 1, 2, 3, 4, or 5, one-story buildings and structures used for rack storage shall not be limited in height, provided that all of the following requirements are met:

(1) The building shall be of Type II construction.
(2) The building shall not be open to the public.
(3) The building shall conform to the requirements of 7.6.3.3.

Committee Statement: The Technical Committee chose to modify the language to allow limited quantities of high hazard contents consistent with the maximum allowable quantities found in Chapter 34.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-367 Log #602 BLD-BLC Final Action: Accept in Principle in Part (7.4.3.6.5(2) and (3))

Submitter: Ed Schultz, Code Consultants, Inc.
Recommendation: Revise to read as follows:

Shaft, stairway, ramp, or escalator enclosures through the horizontal assembly shall have not less than a 2-hour fire resistance rating with opening protectives in accordance with Table 8.7.2 or where the walls below the horizontal assembly have a minimum 3-hour fire resistance rating with opening protectives as required for walls forming a 3-hour fire barrier, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire resistance rating, provided that all of the following conditions are met as required by the provisions of this code.

(a) The building above the horizontal assembly is not required to be of Type I construction.
(b) The enclosure connects less than four stories.
(c) The enclosure opening protectives above the horizontal assembly are a minimum 1-hour fire protection rating.

Substantiation: These changes allow the concept of a 3-hour separation between the basement or first story to have two options. If a 3-hour horizontal membrane is penetrated by elements and is enclosed with 2-hour construction both above and below the 3-hour horizontal assembly, then this is acceptable.

Committee Meeting Action: Accept in Principle in Part

Modify 7.4.3.6.5 as follows:

7.4.3.6.5 Enclosed Parking Structures with Occupancies Above. A basement or first story above grade plane of a building shall be considered as a separate and distinct building for the purpose of determining the limitation on number of stories and type of construction, provided all of the following conditions are met:

(1) The basement or first story above grade plane shall be of Type I construction and shall be separated from the building above with a horizontal assembly having a minimum 3-hour fire resistance rating.
(2) Shaft, stairway, ramp, or escalator enclosures through the horizontal assembly shall comply with either of the following conditions:
(a) The enclosures shall have not less than a 2-hour fire resistance rating with opening protectives in accordance with Table 8.7.2, or
(b) Where the walls below the horizontal assembly have a minimum 3-hour fire resistance rating with opening protectives as required for walls forming a 3-hour fire barrier, the enclosure walls extending above the horizontal assembly shall be permitted to have a 1-hour fire resistance rating, provided that all of the following conditions are met:
(i) The building above the horizontal assembly is not required to be of Type I construction.
(ii) The enclosure connects less than four stories above the horizontal assembly.

- Recommendation: Revise to read as follows:
- Substantiation: This provision did permit storage occupancies to be located above the 3-hour horizontal fire barrier assembly until 1994 when the nomenclature for the occupancies was changed in that document, and inadvertently storage occupancies were dropped from permitted uses. There were no code changes and it was truly a case of this provision being inadvertently dropped. There had not been any fire record indication that there was a need to modify the code, and that greatly affects the flexibility and design options permitted by this provision in the fact of allowing open air parking above the 3-hr slab or allowing storage areas that may be related to mercantile occupancies, but are such a size to need to be classified as a separate occupancy from that of the mercantile use.

As a result, this section would be modified to restore the original design intent of this similar section that has been in the national code documents for many years and has a proven record to be again extended into this building code.

Committee Meeting Action: Accept

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-369 Log #600 BLD-BLC Final Action: Accept (7.4.3.6.5(5))

Submitter: Ed Schultz, Code Consultants, Inc.
Recommendation: Revise to read as follows:

The building below the horizontal assembly shall be an enclosed or open parking structure used for the parking and storage of private motor vehicles, unless otherwise permitted by the following:

The rest remains unchanged.

Substantiation: Open parking garages should also be permitted on the grade level based on the following:

Although 7.4.3.6.7 and 7.4.3.6.8 have requirements for an open parking garage beneath other occupancies, this section can be more restrictive with regard to the classification of the building above the parking garage. Section 7.4.3.6.7 requires the building above to measure height in both feet and number of stories from grade. As such, if a two story building were constructed above the one story open parking garage beneath, then the building above would be classified as a three story building. This would prohibit the use of several building construction methods normally permitted by the code.

Section 7.4.3.6.7 would permit the use of these construction methods since it would not limit the number of stories but would limit the total building height. However, per 7.4.3.6.5 the parking garage is required to be enclosed. Due to open parking structures being less hazardous than enclosed parking structures as a result of natural ventilation provided, it is logical for 7.4.3.6.5 to permit open parking structures to be located beneath the other use groups.

Committee Meeting Action: Accept

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-370 Log #665 BLD-BLC Final Action: Accept (7.4.3.6.5(5)(b))

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify to read as follows:

7.4.3.6.5 Enclosed Parking Structures with Occupancies Above...

(5) The building below the horizontal assembly shall be an enclosed parking structure used for the parking and storage of private motor vehicles, unless otherwise permitted by the following:
(a) Entry lobbies, mechanical rooms, and similar uses incidental to the operation of the building shall be permitted.
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(b) Business, mercantile occupancies, and assembly occupancies having an assembly room with an occupant load of less than 300 shall be permitted in addition to those uses incidental to the operation of the building (including storage areas), provided that the entire structure below the horizontal assembly is protected throughout by an approved, electrically supervised automatic sprinkler system installed in accordance with NFPA 13.

Substantiation: This proposal was developed by the Height and Area Task Group to clarify the original intent.

Committee Meeting Action: Accept
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-371 Log #476 BLD-BLC Final Action: Accept in Principle in Part
(7.4.3.6.8.4 )

Submitter: Christopher Laux, Office of the State Building Inspector, / Rep. Building Code Development Committee
Recommendation: Note: This proposal was developed by the proponent as a member of the Building Code Development Committee, with the committee’s endorsement.
Revise to read as follows:
7.4.3.6.8.4 Means of Egress. Means of egress for the upper occupancy shall conform to Chapter 11 and shall be separated from the parking occupancy by fire barriers having at least a 2-hour fire resistance rating, with self-closing doors, opening protective in accordance with Table 8.7.2.
Substantiation: Simply requiring self-closing doors in a 2-hour fire barrier is insufficient protection.
Committee Meeting Action: Accept in Principle in Part
Accept in Principle: Addition of reference to “Section 8.7.2” in lieu of “Table 8.7.2.”
Reject: Deletion of “self closing doors” in favor “opening protective”.
Committee Statement: Although the Technical Committee agreed with the addition of the reference out to the required fire protection rating, they chose to continue to specifically limit the door to the self-closing type. Changing the reference to ‘section’ instead of ‘table’ is considered editorial in nature.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-372 Log #869 BLD-BLC Final Action: Accept
(7.5 )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted to the TCC’s name to BLD-BLC requesting that the TCC:
Review this proposal to correlate with the action taken on Proposal 5000-373.
Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify Section 7.6 as follows:
7.6 Area Increases Permitted.
7.6.1 General. The allowable area per story floor area specified in Table 7.6.1 shall be permitted to be increased in accordance with 7.6.2. The area of buildings constructed in accordance with 7.6.3 shall not be limited.
7.6.2 Area Increase. The allowable area per story floor area specified in Table 7.6.1 shall be permitted to be increased to account for frontage (I) and automatic sprinkler system protection (P) in accordance with the following equation:

\[ A_s = A_t \left[ \frac{1}{100} \right] \]

where:

\[ A_t = \text{total allowable area per story floor area (ft}^2 \text{ or m}^2 \]

\[ A_s = \text{allowable area per story floor area increase (percent), as determined in accordance with 7.6.2.1} \]

\[ I = \text{percentage area increase for frontage area increase (percent), as determined in accordance with 7.6.2.2} \]

7.6.2.2 Automatic Sprinkler System Protection Increase. Buildings protected with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13 shall be permitted to have the following automatic sprinkler system protection (P) area increase applied to the allowable area per story:

(1) 200 percent (I = 200) for buildings of two stories or more in height
(2) 300 percent (I = 300) for single-story buildings

7.6.2.3 Maximum Area. In other than residential occupancies protected with an approved electrically supervised sprinkler system in accordance with NFPA 13, the maximum allowable area of a building shall be determined by

5000-373 Log #235 BLD-BLC Final Action: Accept in Principle
(7.5.2 )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TCC:
Give consideration to Messersmith’s comment on affirmative so as to make any additional changes. Also, see the related TCC note on Proposal 5000-372.
Submitter: Joseph J. Messersmith, Jr., Portland Cement Association
Recommendation: Revise to read as follows:
7.5.2 Residential Sprinkler Increase. For residential occupancies provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13R, the maximum overall height shall be increased by 20 ft (6 m) and the maximum number of stories shall be increased by one story, provided the overall building height does not exceed 60 ft (18 m) and the maximum number of stories does not exceed four stories. The height in feet and stories that are permitted to be increased under this provision are those for nonsprinklered buildings ("N" column) in Table 7.4.1.
Substantiation: To clarify the intent.
Committee Meeting Action: Accept in Principle
Modify 7.5.2 as follows:
7.5.2 Residential Sprinkler Increase. For buildings classified as residential occupancies and provided with an approved, electrically supervised automatic sprinkler system in accordance with NFPA 13R, the maximum overall allowable height for nonsprinklered buildings shall be increased by 20 ft (6 m) and the maximum allowable number of stories above grade for nonsprinklered buildings shall be permitted to be increased by one story, provided the overall building height does not exceed 60 ft (18 m) and the maximum number of stories above grade in the building does not exceed four stories.
Committee Statement: The Technical Committee believes that these editorial modifications meet the proponent’s intent.
Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Comment on Affirmative: MESSERSMITH: This log and 5000-372 (Log #869) revise the wording in Section 7.5.2, but the two are not consistent. It is not clear as to which log’s wording will be ultimately accepted. I prefer the wording in this log.

5000-374 Log #870 BLD-BLC Final Action: Accept
(7.6 )

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TCC:
Review this proposal to correlate with the action taken on Proposal 5000-373.
Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify Section 7.6 as follows:
7.6.1 General. The allowable area per story floor area specified in Table 7.6.1 shall be permitted to be increased in accordance with 7.6.2. The area of buildings constructed in accordance with 7.6.3 shall not be limited.
7.6.2 Area Increase. The allowable area per story floor area specified in Table 7.6.1 shall be permitted to be increased to account for frontage (I) and automatic sprinkler system protection (P) in accordance with the following equation:

\[ A_s = A_t \left[ \frac{1}{100} \right] \]

where:

\[ A_t = \text{total allowable area per story floor area (ft}^2 \text{ or m}^2 \]

\[ A_s = \text{allowable area per story floor area increase (percent), as determined in accordance with 7.6.2.1} \]

\[ I = \text{percentage area increase for frontage area increase (percent), as determined in accordance with 7.6.2.2} \]

5000-147
A.7.6.2.3 The section exempts residential occupancies protected with an NFPA 13R system because such buildings are limited to 4 stories in height. Section 7.5.2 and area increase are not permitted.

Delete Section 7.6.2.3.1, 7.6.2.3.2 and 7.6.2.3.3.

7.6.3 Unlimited Area Buildings. Allowable area per story of buildings and the maximum area of buildings shall not be limited where buildings are constructed in accordance with 7.6.3.1 through 7.6.3.9.

7.6.3.1 One-Story Building. The area of a one-story building…

7.6.3.3 Sprinklered One- or Two-Story Storage Building. The total area of a one- or two-story building structure used for storage /… are met:

1. The entire building structure is protected …

7.6.3.4 Sprinklered Two-Story Buildings. The area of a two-story building…

7.6.3.7 Sprinklered One-Story Educational Buildings. The area of One-story buildings…

7.6.3.8 Sprinklered One-Story Motion Picture Theaters. In buildings of Type II construction, the area of one-story motion picture theaters in buildings of Type II construction…

7.6.3.9 Sprinklered One-Story Assembly Buildings. The total area of a one-story assembly building…

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification to ensure the uniformity of language.

Committee Meeting Action: Accept

Committee Statement: Note: The modifications made by the Technical Committee in this proposal are intended to be editorial in nature and are recommended for accept. Additional modifications to 7.6.2.3 have been made in Proposal 5000-379 (Log #880). If both proposals pass, that the language in Proposal 5000-379 (Log #880) will overwite 7.6.2.3 of this proposal.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-375 Log #295 BLD-BLC Final Action: Reject (7.6.2.1.3)

Submitter: Mark Klüver, Portland Cement Association

Recommendation: Revise as follows:

7.6.2.1.3.2 The width limit (W) shall be a minimum of 20 ft (6 m), and the quantity W, divided by 30 ft (9 m) shall not exceed 2.0 for business, industrial, mercantile, and storage occupancies and assembly occupancies intended for viewing of indoor sporting events with spectator seating when all of the following conditions exist:

1. The building is permitted to be unlimited in area by 7.6.3; and
2. The only provision preventing unlimited area is compliance with the 60 ft (18 m) public ways or yards requirement, as applicable;

Substantiation: Like the majority of the other provisions in Section 7.6, the provisions in 7.6.2.1.3 were borrowed from legacy codes and revisions that were accepted by other model building codes. Section 7.6.2.1.3 was based specifically on a revision adopted by the IBC which permits additional frontage increase for buildings with occupancies that are permitted to be unlimited in area, but do not front on 60-ft public ways or yards as required for unlimited area buildings by 7.6.3. The unlimited area provisions of the IBC, as well as the NFPA 5000, both stipulate that the buildings be limited to a maximum height of one- or two-stories. This code change will set maximum building area increases for frontage that are consistent with the intent.

Committee Meeting Action: Reject

Committee Statement: The Technical Committee chose to reject this proposal. They understand the concerns raised by the proponent; however, the new wording does not seem to improve upon the clarity of the section. Consequently, the Technical Committee recommends that the existing language remain in place.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 18 Negative: 1

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative: MESSERSMITH: The wording proposed is clear. In addition, the proposal will make NFPA 5000 consistent with the 2003 edition of the IBC.

5000-376 Log #332 BLD-BLC Final Action: Accept in Principle (7.6.2.1.4.2)

Submitter: Joe McElvaney, Phoenix, AZ

Recommendation: Revise to read as follows:

7.6.2.1.4.2 Open space shall be accessible by a fire apparatus access road in accordance with 7.1.5.2.

Substantiation: See 7.1.5.2.

Committee Meeting Action: Accept in Principle

See committee action on Proposal 5000-377 (Log #877).

Committee Statement: The action taken on Proposal 5000-377 (Log #877) meets the proponent’s intent.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-377 Log #877 BLD-BLC Final Action: Accept (7.6.2.1.4.2)

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

Recommendation: Modify to read as follows:

7.6.2.1.4.2 Open space shall be accessible by a fire apparatus department access road in accordance with 7.1.5.2.

Substantiation: The Height and Area Task Group created this proposal to utilize consistent terms throughout the chapter.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-378 Log #858 BLD-BLC Final Action: Accept (7.6.2.2)

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

Recommendation: Modify to read as follows:

7.6.2.2 Automatic Sprinkler Increase, Buildings, other than those containing high hazard contents requiring Protection Level 1 or 2 as specified in Chapter 34, protected with…

Substantiation: This proposal was developed by the Height and Area Task Group to clarify the original intent to allow the automatic sprinkler increase for buildings only with high hazard contents requiring Protection Level 3, 4 or 5, and not Protection Level 1 or 2.

Committee Meeting Action: Accept

Number Eligible to Vote: 23

Ballot Results: Affirmative: 19

Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-379 Log #880 BLD-BLC Final Action: Accept in Principle (7.6.2.3)

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group

Recommendation: Delete and replace with the following:

7.6.2.3 Maximum Allowable Area per Story. The maximum allowable area per story shall be determined in accordance with 7.6.2.3.1, 7.6.2.3.2, or 7.6.2.3.3, or a combination thereof.

7.6.2.3.1 Allowable Area Ratio for Single Occupancy Stories. For each story in a building, the allowable area ratio shall be the ratio of the floor area divided by the allowable area per story as determined by Table 7.4.1, as modified by 7.6.2, and shall not exceed 1.0.

7.6.2.3.2 Allowable Area Ratio for Mixed Occupancies Stories. For each story in a building, the allowable area ratio shall be the ratio of the floor area divided by the allowable area per story as determined by Section 7.4.1.1, Table 7.4.1.1, and as modified by 7.6.2 through 7.6.2.2, and shall not exceed 1.0.

7.6.2.3.3 Allowable Area Ratio for Separated Occupancies Stories. For each story in a building, the allowable area ratio shall be the ratio of the floor area of each separated occupancy divided by the allowable area of each separated occupancy per story as determined by Table 7.4.1, as modified by 7.6.2, and shall not exceed 1.0.

7.6.2.3.4 Sum of the Allowable Area Ratios for All Stories. Except as modified by 7.6.2.3.3.4, the sum of the allowable area ratios for all floors of a building shall not be greater than:

1. 1.0 for one story buildings
2. 2.0 for two story buildings
3. 3.0 for three or more story buildings.

7.6.2.3.4.1* The sum of the allowable area ratios for all floors in buildings protected in accordance with NFPA 13 shall not be greater than:

1. 1.0 for one story buildings
2. 2.0 for two story buildings
3. 3.0 for three story buildings
4. 4.0 for four story buildings.

5000-148
This section increases the sum of the allowable area ratio for all floors to a maximum of 4 for residential occupancies protected with an NFPA 13R system because such buildings are limited to 4 stories in height by Section 7.5.2 and area increase are not permitted.

**Substantiation:** This proposal was developed by the Height and Area Task Group as a clarification to better explain the application of the maximum allowable area provisions.

**Committee Meeting Action:** Accept in Principle

Delete and replace with the following:

7.6.2.3 Maximum Allowable Area per Story. The maximum allowable area per story shall be determined in accordance with 7.6.2.3.1, 7.6.2.3.2, or 7.6.2.3.3, or a combination thereof.

7.6.2.3.1 Allowable Area Ratio for Single Occupancy Stories. For each story in a building, the allowable area ratio shall be the ratio of the floor area divided by the allowable area per story as determined by Table 7.4.1, as modified by 7.6.2, and shall not exceed 1.0.

7.6.2.3.2 Allowable Area Ratio for Mixed Occupancies Stories. For each story in a building, the allowable area ratio shall be the ratio of the floor area divided by the allowable area per story as determined by 7.4.1.1, Table 7.4.1, and as modified by 7.6.2 through 7.6.2.2, and shall not exceed 1.0.

7.6.2.3.3 Allowable Area Ratio for Separated Occupancies Stories. For each story in a building, the allowable area ratio shall be the sum of the ratio of the floor area of each separated occupancy divided by the allowable area of each separated occupancy per story as determined by Table 7.4.1, as modified by 7.6.2, and shall not exceed 1.0.

7.6.2.3.4 Sum of the Allowable Area Ratios for All Stories. Except as modified by 7.6.2.3.4.1, the sum of the allowable area ratios for all stories of a building shall not be greater than:

1. 1.0 for one story buildings
2. 2.0 for two story buildings
3. 3.0 for three or more story buildings.

7.6.2.3.4.1* The sum of the allowable area ratios for all stories in buildings protected in accordance with NFPA 13R shall not be greater than:

1. 1.0 for one story buildings
2. 2.0 for two story buildings
3. 3.0 for three story buildings
4. 4.0 for four story buildings.

A.7.6.2.3.4.1 This section increases the sum of the allowable area ratio for all stories to a maximum of 4 for residential occupancies protected with an NFPA 13R system because such buildings are limited to 4 stories in height by 7.5.2 and area increase are not permitted.

**Substantiation:** The method for calculating the maximum area for multi-story buildings is not clear in the code text. The added text in both the code and the Annex will give the clarity needed so that the calculation can be made for buildings over three-stories when using separated uses. The methodology is interpretive now. Putting it into the code will reduce potential confusion.

**Committee Meeting Action:** Accept in Part

Accept: Annex note and insert it on 7.6.2.3.3 of Proposal 5000-379 (Log #880).

Reject: The additional language in 7.6.2.3.1.

**Committee Meeting Action:** The Technical Committee chose to reject the additional language on 7.6.2.3.1 in favor of the more complete modification in Proposal 5000-379 (Log #980).

**NumberOfEligibleToVote:** 23

**Ballot Results:** Affirmative: 17 Negative: 2

4 BARBADORO, FOSTER, GEMENY, WESSEL

The calculated ratios per story are:

\[ \text{Ratio} = \frac{\text{Floor Area}}{\text{Allowable Area per Story}} \]

1. \[ 15000/80625 + 6000/99375 + 15000/140625 + 25000/80625 + 14000/58125 = 0.19 + 0.43 = 0.62 \]
2. \[ 15000/80625 + 60000/140625 = 0.19 + 0.43 = 0.62 \]
3. \[ 22000/140625 + 12000/58125 + 41000/140625 = 0.69 \]
4. \[ 40000/58125 = 0.69 \]

Each story complies since the sums are less than one. The sum of the ratios for all stories is: 0.69 + 0.66 + 0.62 + 0.91 = 2.88

The building complies since the sum of all the ratios are less than 3.

**Substantiation:** The method for calculating the maximum area for multi-story buildings is not clear in the code text. The added text in both the code and the Annex will give the clarity needed so that the calculation can be made for buildings over three-stories when using separated uses. The methodology is interpretive now. Putting it into the code will reduce potential confusion.

**Committee Meeting Action:** Accept in Part

Accept: Annex note and insert it on 7.6.2.3.3 of Proposal 5000-379 (Log #880).

Reject: The additional language in 7.6.2.3.1.

**Committee Meeting Action:** The Technical Committee chose to reject the additional language on 7.6.2.3.1 in favor of the more complete modification in Proposal 5000-379 (Log #980).

**NumberOfEligibleToVote:** 23

**Ballot Results:** Affirmative: 17 Negative: 2

4 BARBADORO, FOSTER, GEMENY, WESSEL

**Explanation of Negative:**

MESSERSMITH: The annex note portion of this proposal was accepted to go along with the new text developed by the committee in 5000-379 (Log #880). It should be pointed out that the example problem is not correct since the Assembly occupancy will very likely have more than 1,000 occupants (40,000/1,000 = 40 sq ft per occupant) and is located 3 levels above the level of exit discharge. See Table 16.1.2 for Type II (111) construction.

THORNBERRY: I agree with Jim Messersmith's negative comments.

**Figure 7.6.2.3.1**

![Figure 7.6.2.3.1](image-url)
The Technical Committee chose to reject this proposal, because it conflicts with the committee’s action taken on Proposal 5000-387 (Log #813). In that proposal, the Technical Committee chose to modify the language to allow not only ordinary hazards, but also limited quantities of high hazard contents consistent with the maximum allowable quantities found in Chapter 34.

Number Eligible to Vote: 23
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**Area Task Group**

**Recommendation:** Modify to read as follows:

7.6.3.2.2 The electrically supervised automatic sprinkler system protection specified in 7.6.3.2.1 shall not be required in areas occupied for indoor spectator sports activities, such as tennis, skating, swimming, and equestrian activities, provided that the following conditions are met:

**Substantiation:** This proposal was developed by the Height and Area Task Group as an editorial clarification.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 23

**Ballot Results:** Affirmative: 19

**Vote Not Returned:** 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**Area Task Group**

**Recommendation:** Revise to read as follows:

7.6.3.6 The permanent open space of 60 ft (18 m) required in 7.6.3.1, 7.6.3.2, 7.6.3.3, and 7.6.3.4 shall be permitted to be reduced to not less than 40 ft (12 m), provided the following requirements are met: (Remainder unchanged)

**Substantiation:** It is consistent with the other referenced sections in 7.6.3.5, to allow the same reduction in open space for a gymnasium, lecture hall or indoor tennis court that would be allowed for a two-story mercantile or one-story indoor spectator sports facility. The types of uses within 7.6.3.9 have had this reduction allowance in two of the prior model codes.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 23

**Ballot Results:** Affirmative: 19

**Vote Not Returned:** 4 BARBADORO, FOSTER, GEMENY, WESSEL

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**Area Task Group**

**Recommendation:** Modify to read as follows:

7.6.3.6 High Hazard Uses in Storage and Industrial Occupancies. High hazard contents, other than detonation or deflagration hazards that are required to be stored in detached buildings, that are in compliance with Chapter 34 shall be permitted in unlimited area buildings of industrial and storage occupancies in accordance with the limitations of 7.6.3.6.1 through 7.6.3.6.3.

**Substantiation:** This proposal was developed by the Height and Area Task Group as a correction.

**Committee Meeting Action:** Accept

**Committee Statement:** See committee action and statement on Proposal 5000-387 (Log #813).

**Number Eligible to Vote:** 23

**Ballot Results:** Affirmative: 19

**Vote Not Returned:** 4 BARBADORO, FOSTER, GEMENY, WESSEL

**Comment on Affirmative:** MESSERSMITH: This log and 5000-387 (Log #813) revise the wording in 7.6.3.6, but the two are not consistent. It is not clear as to which log’s wording shall be permitted to be reduced to not less than 40 ft (12 m), provided the following requirements are met: (Remainder unchanged)

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**Area Task Group**

**Recommendation:** Modify 7.6.3.6 and add a new section 7.6.3.6.4 as follows:

7.6.3.6.4 Indoor spectator sports facilities. The types of uses within 7.6.3.9 have had this reduction allowance in two of the prior model codes.

**Substantiation:**

- The current provision for open perimeter reduction, based on increased exterior wall fire resistance is not applicable to motion picture theaters. There is no reason to not extend this exception. These facilities have been designed under the BOCA and SBCCI codes which allowed the reduction. This proposal seeks to address this inconsistency and bring a current correlation to the code text.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 23

**Ballot Results:** Affirmative: 19

**Vote Not Returned:** 4 BARBADORO, FOSTER, GEMENY, WESSEL
Uses in Storage and Industrial Occupancies

High hazard contents, other than detonation or deflagration hazards or that are required to be stored in detached buildings, and that are in compliance with Chapter 34 shall be permitted in unlimited area buildings of industrial and storage occupancies in accordance with the limitations of 7.6.3.6.1 through 7.6.3.6.4.

7.6.3.6.4 High hazard contents shall not be located higher than the height limits specified in Table 7.4.1 for the high hazard contents.

Substantiation: The first part of the change is to editorially clarify that this section only applies to high hazard content fire areas that are not required to be in detached buildings. The second part adds a new section to make clear that portions of an unlimited area building that contain high hazard contents are not permitted to be located higher than the height limits in Table 7.4.1 for the hazard.

Committee Meeting Action: Accept in Principle

Modify 7.6.3.6 as follows:

7.6.3.6 High Hazard Contents in Storage and Industrial Occupancies. High hazard contents required to comply with Protection Level 2, 3, 4, or 5 in accordance with Chapter 34, other than detonation or deflagration hazards that are required to be stored in detached buildings, and that are in compliance with Chapter 34 shall be permitted in unlimited area buildings of industrial and storage occupancies in accordance with the limitations of 7.6.3.6.1 through 7.6.3.6.4.

7.6.3.6.1 Fire areas located at the perimeter of the unlimited area building shall not exceed 10 percent of the area of the building nor the area limitations specified in Table 7.4.1, as modified by Section 7.6, based on the percentage of the perimeter of the fire area that fronts on a street or other unoccupied space.

7.6.3.6.2 Fire areas other than those specified in 7.6.3.6.1 shall not exceed 25 percent of the area limitations specified in Table 7.4.1.

7.6.3.6.3 Fire resistance rating requirements of fire barrier assemblies shall be in accordance with Table 6.2.4.1.

7.6.3.6.4 High hazard contents required to comply with Protection Level 2, 3, 4, or 5 shall not be located higher than the height limits specified in Table 7.4.1.

Committee Statement: The Technical Committee made additional modifications to clarify that the section applies to high hazard contents exceeding the MAQ. They did not reference detonation hazards and Protection Level 1, because these hazards are already required to be in detached buildings. The additional modifications also recognize that there may be high hazard contents in other occupancies besides storage and industrial.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Comment on Affirmative: MESSERSMITH: This log and 5000-386 (Log #881) revise the wording in 7.3.6, but the two are not consistent. It is not clear as to which log’s wording will be ultimately accepted. I prefer the wording in this log.

5000-389 Log #334  BLD-BLC Final Action: Accept in Part 7.6.3.6.3

Submitter: Joe Mcelvany Phoenix, AZ
Recommendation: Revise to read as follows:

7.6.3.6.3 Fire resistance rating requirements of fire barrier assemblies shall be in accordance with Table 6.2.4.1, Table 34.2.2.3 and 34.2.4.2.

Substantiation: This section of high hazard content then these tables should rule note Table 6.2.4.1 plus 7.6.3.6 tell me to go to Chapter 34.

Committee Meeting Action: Accept in Part
Accept: Reference to Table 34.2.2.3 and deletion of Table 6.2.4.1.
Reject: Reference to 34.2.4.2.

Committee Statement: The Technical Committee agreed that the reference to control area was not applicable, since they are below MAQ and this section applies to buildings requiring Protection Level 1, 2, 3, 4, or 5.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

5000-389 Log #871  BLD-BLC Final Action: Accept 7.6.3.6.9

Submitter: William E. Koffel, Koffel Assoc., Inc. / Rep. Chair Height & Area Task Group
Recommendation: Modify to read as follows:

7.6.3.9 Sprinklered Assembly One-story Buildings. The area of a one-story, assembly building used as an auditorium, church, community hall, dance hall, exhibition hall, gymnasium, lecture hall, indoor swimming pool or tennis court of Type II construction shall not be limited when all the following criteria are met:

1. The building shall not have a theatrical stage other than a raised platform.
2. The building shall be equipped with a NFPA 13 automatic sprinkler system.
3. The assembly floor shall be located at, or within 21 in. (533 mm) of the level of the exterior exit discharge accessible from the main entrance/exit. For buildings that do not have a main entrance/exit, the assembly floor shall be within 21 in. of the level of the exterior exit discharge accessible from any of the required exits.
4. All exits and exit discharges shall be level or provided with ramps to a level or grade level.
5. All exits shall be provided with ramps to the street or grade level.
6. The building shall be surrounded and adhered by public ways or yards not less than 60 ft (18 m) in width.

Substantiation: This proposal was developed by the Height and Area Task Group as an editorial clarification.

Committee Meeting Action: Accept

Number Eligible to Vote: 23
Ballot Results: Affirmative: 19
Vote Not Returned: 4 BARBADORO, FOSTER, GEMENY, WESSEL

Final Action: Accept 5000-390 Log #CP1603  BLD-IND 7.6.3.10 and A.7.6.3.10 (New)

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC and BLD-IND requesting that:

1. BLD-BLC review the proposal and make any further correction changes for Chapter 7.
2. BLD-IND give consideration to Skalko’s explanation of negative so as to make any needed changes.

Submitter: Technical Committee on Industrial, Storage, and Miscellaneous Occupancies

Recommender: Add a new 7.6.3.10 and A.7.6.3.10 to read as follows:

7.6.3.10* Power Generation Structures. Structures used exclusively for the enclosure of steam generators, steam turbines, gas turbines, heat recovery generators and flue gas treatment equipment shall be permitted to be of unlimited height and area when special hazards are protected by automatic sprinkler/spray systems and are of at least Type II (0.0) construction.

A.7.6.3.10 See NFPA 850, Recommended Practice for Electric Generating Plants and High Voltage Direct Current Converter Stations, for protection recommendations.

Substantiation: The Technical Committee on Industrial, Storage and Miscellaneous Occupancies recognizes the need to exempt these structures from the height and area table. The structures are regularly unoccupied and have generally low combustible loading. Special hazard protection in areas with combustible loading is more effective, and equivalent to the intent of complete building sprinkler protection.

Committee Meeting Action: Accept

Number Eligible to Vote: 36
Ballot Results: Affirmative: 25 Negative: 1
Vote Not Returned: 4 ALDERMAN, BIRCHLER, DOODY, KRANTZ

Explanation of Negative: SKALKO: My records from our February Technical Committee meeting show that the unlimited height and area provisions for power plants was approved with the requirement that the building housing such uses had to be constructed “of Type I or II construction”. This was to insure that the buildings were of at least non-combustible construction. The committee’s proposal in this ballot states the building shall be “of at least Type II (000) construction”. The former language is more explicit on the construction types that these power plant buildings are required to be to qualify for the unlimited height and area. The term “of at least” is less specific and could be construed to imply that buildings built to requirements comparable to Type II (000) construction are acceptable. For example, Table 7.4.1 typically permits building constructed of Type III (211) construction to be built to larger heights and areas than buildings of Type II (000) construction. Someone could deduce that Type III (211) construction is at least comparable to Type II (000) construction since buildings of that type construction can be built larger. Yet, Type III construction can have combustible materials incorporated into the structural frame. The proposed language needs to read “of Type I or II construction” to be clear on the requirement that power plant buildings must be of noncombustible construction to qualify for unlimited heights and areas.
Submitter: William Grosshandler, National Institute of Standards and Technology

Recommendation: Revise text throughout Chapter 6 and Chapter 8 that refers to fire resistance in the misleading units of “hours” to a rating that is immune to misinterpretation. The following new rating system is proposed:

Select the performance of a highly fire resistant element (say, one with a 4-hour rating by current standards) to normalize alternative designs, materials and systems. That is, a 4-hour rated element would be classified as having a fire resistance factor of 100, while a 1-hour rated element would be classified as having a fire resistance factor of 25, a 3-hour rated element would have a fire resistance factor of 75, and so on. Corresponding guidance would be added to NFPA 251 to describe the exposure conditions and provide interpretation of the resistance factors for fire safe design.

Substantiation: The ratings of structural elements in standard fire resistance tests are based upon the maximum amount of time that the test articles remain below the threshold temperature or the threshold limit of deformation. It is expected that a 2-hour rated wall would resist failure in a real fire for a longer period of time than a 1-hour rated wall, and this is invariably the case. What can not be expected, however, is that a structure composed of elements that are 2-hour rated would necessarily withstand an actual fire for two hours, nor that it would necessarily fail after two hours. The inability of the current system of fire resistance rating to act as an absolute predictor of performance in an actual fire was recognized from the beginning when the forerunner of ASTM E119 (and NFPA 251) was published in 1918. Over the years, however, the reference to fire resistance ratings in common time units has become interpreted to relate closely (or at least conservatively) to the actual expected time that a structure or element would be expected to resist a fire. This problem of misinterpreting a fire rating is unique to fire resistance tests because the use of time as the rating unit is easy to apply in a manner not reflected in the standard. By contrast, a common flame spread test, ASTM E84, rates material on a scale normalized by the distance that a flame will spread over red oak in a defined configuration, which is given a rating of 100. If another material is rated 45, one expects flame spread to occur at a lower rate than red oak, but there is no way to extrapolate the rating to a specific performance criteria in an actual fire. In fire resistance tests, however, the end point (i.e., time to failure due to a certain temperature or deformation limit) is prone to misconception by a lay person.

It is critical that any change to a long-established system of fire resistance ratings allow existing materials and the vast historical record to be directly related to the new rating. The method proposed does that.

Committee Meeting Action: Reject

Committee Statement: The submitter does not provide specific wording in his proposal, and the committee believes that the concept introduced would not eliminate confusion as suggested. Additionally, the substantiation lacks sufficient information to support the concept proposed by the submitter which would likely have far reaching implications.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 23
ROSENAUB: I am voting negative since the wording does not allow the equivalency concept permitted by other sections of the code. Prohibiting an equivalency concept is not appropriate. This equivalency is utilized on occasion in circumstances where other options may be limited (e.g., existing buildings).

Comment on Affirmative:

KAPALCZYNSKI: Combination active and passive systems do not meet the definition of fire resistance as defined in Chapter 3 or in the definition accepted in 5000-1157 (Log #CP5). (There are no prescribed, standard tests.) There is no equivalent to a standard, tested, material fire resistance rating; therefore, an evaluation of a documented performance design must be used to achieve the specified fire protection goal.

Substantiation: Currently the use of fire-resistance rated glazing as walls is not recognized per se the Code. This has lead to confusion as to its applicability. Currently there are four major manufacturers of this type of fire-resistance rated glazing. This proposal would provide recognition for this type of material and also require specific identification for this usage. This identifier is similar to other code proposals that are being submitted to clarify the identification of fire rated glazing materials. The “W” will indicate that the glazing will meet the requirements of NFPA 251, thus qualifying the glazing to be used as wall and indicate that it meets the fire resistance, hose stream and temperature requirements in the test standard.

Committee Meeting Action: Accept in Principle

1. Accept the submitters proposed new 8.2.2.4.2.1 and revise to read as follows:
   8.2.2.4.2.1 Fire-resistance rated glazing when tested in accordance with NFPA 251 and complying with the requirements of 8.2.2.4.2.1 shall be permitted. Fire-resistance rated glazing shall bear the identifier “W-XXX” where the “XXX” is the fire-resistance rating in minutes. Such identification shall be permanently affixed.

2. Do not accept the submitter’s proposed new exception to 8.3.3.2. Instead add a new annex section to 8.2.2.4.2.1 to read as follows:
   A.8.2.2.4.2.1 Fire-resistance rated glazing complying with 8.2.2.4.2.1, when not installed in a door, is considered a wall not an opening protective.

3. Do not accept the submitter’s new sentence for 8.4.2.2.

Committee Statement: This better addresses the intent of the submitter and the committee. The committee believes that an exception is not necessary to indicate that the labeled glazing is to be considered a rated wall assembly rather than an opening protective.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 23

Explanation of Negative:

KHAN: It falls into the requirements of 8.2.2.4 which is “Walls”. However, this proposed code change does not indicate where or for what application it is allowed under. Not specifying this will mean that such glazing will be permitted in all types of fire resistance rated wall application.

Hence, the Committee should reject this proposal. The proponent can fix this during public comment process and suggest appropriate limitations.

KLUSER: It is not clear what this proposed new section intends since it simply states that “fire-resistance rating glazing...shall be permitted”. It does not indicate for what purpose or where such fire-resistance rated glazing shall be permitted. However, one can presume that it is intended to be permitted to be used as a fire resistance rated wall since this is a subsection of 8.2.2.4. Walls which addresses fire resistance rated walls required by NFPA 5000. Furthermore, the proposed new Annex A note indicates that fire-resistance rated glazing should be considered to be a wall rather than an opening protective.

With the presumption, we are very concerned that such glazing may be used in any type of fire resistance rated wall application, regardless of the degree of fire resistance required or the particular application where the integrity of the wall may be of critical importance to its overall function. For example, we do not believe it would be appropriate to allow fire-resistance rated glazing to be used for the following wall applications:

- Exterior walls
- Fire walls
- Horizontal exits
- Stair enclosures
- Shaft enclosures
- Elevator hoistways
- Hazardous area separations

These are just a few of the wall applications where we have grave concerns about allowing the use of a glazing material to substitute for more traditional fire resistance rated wall construction materials, even though the system of glazing has been tested in accordance with NFPA 251.

If the code is to be revised to clearly allow fire-resistance rated glazing to be used where fire resistance rated walls are required, then we should err on the side of caution and begin by allowing such walls in applications which may not be nearly as critical as some of the wall applications indicated above. For example, glazed walls may be suitable where one hour corridors are required or to separate multiple occupancies having low hazard contents. However, to allow fire-resistance rated glazing to be used as a fire wall which separates structures into separate buildings, we believe, is totally inappropriate and unacceptable and does not meet the intent of the code for providing the intended level of fire protection and fire safety.

Because of these concerns and the reasons indicated herein, we believe the more prudent approach at this time would be for the Committee to reject this proposal. Then the proponent can come back during the public comment process with limitations on the types of fire-resistance rated walls for which fire resistance rated glazing could be allowed by the code at this time.

Explanation of Abstention:

ROSENAUB: Abstain due to the criteria in Section 3-4 of the Guide for the Conduct of Participants in the NFPA Codes and Standards Development Process.

Committee Meeting Action: Reject

Submitter: Jesse J. Beitel, Hughes Assoc., Inc.

Recommendation: Part 1: Add a new section to read as follows:

8.2.2.4.2.1 Fire-resistance rated glazing complying with 8.2.2.4.2.1 shall not be restricted.

1. Accept the submitters proposed new 8.2.2.4.2.1 and revise to read as follows:

8.2.2.4.2.1 Fire-resistance rated glazing when tested in accordance with NFPA 251 and complying with the requirements of 8.2.2.4.2.1 shall be permitted. Fire-resistance rated glazing shall bear the identifier “W-XXX” where the “XXX” is the fire-resistance rating in minutes. Such identification shall be permanently affixed.

Part 2: Add a new Exception to read as follows:

Exception No. 2: Fire-resistance rated glazing complying with 8.2.2.4.2.1.

Part 3: Add a new sentence to read as follows:

8.4.2.2 The total glazing to any room. Fire-resistance rated glazing complying with 8.2.2.4.2.1 shall not be restricted.

Final Action: Reject

Submitter: Jesse J. Beitel, Hughes Assoc., Inc.

Recommendation: Move Section 8.3 Fire Walls and move into Chapter 7.

Substantiation: This section should be in Chapter 7 since the technical committee of Chapter 7 also has the responsibility of fire walls within their scope of work per the Standards Council.

Committee Meeting Action: Reject

Committee Statement: The committee has responsibility for fire walls within the context of NFPA 5000 and as such provisions for fire walls are appropriately located in Chapter 8.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 23

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TCC:

Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

Submitter: Jesse J. Beitel, Hughes Assoc., Inc.

Recommendation: Move Section 8.3 Fire Walls and move into Chapter 7.

Substantiation: This section should be in Chapter 7 since the technical committee of Chapter 7 also has the responsibility of fire walls within their scope of work per the Standards Council.

Committee Meeting Action: Reject

Committee Statement: The Technical Committee chose to reject this proposal. Relocating sections of the building code simply for the convenience of the committee responsible for the topic is not in the best interest of the intended code user.

However, this Technical Committee objects to the reasoning used by BLD-FIR 5000-394 (Log #658a) stating that they have responsibility for fire wall within the context of NFPA 5000. The Standards Council (Decision #03-7-27) has given this Technical Committee primary responsibility for documents on the selection and design of types of building construction, exterior walls, building height and area, firewalls, and fire barrier walls, as they relate to the protection of life and property from fire.
FRANCIS: To review the changes taken by the BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-FIR to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

Submitter: David S. Collins, Joe McElvaney
Sarah A. Rice Cincinnati, OH

Recommendation: 1. Replace Section 8.3 in its entirety with the following:
8.3 Fire wall shall be designed and constructed in accordance with Chapter 3 of NFPA 221.
2. Replace Section 8.4 in its entirety with the following:
8.4 Fire barrier walls shall be designed and constructed in accordance with Chapter 4 of NFPA 221.
3. Add a new Section 8.5 to read as follows:
8.5 MFL walls shall be designed and constructed in accordance with Chapter 2 of NFPA 221.

Substantiation: Through the development process of NFPA 5000, it has come to light that the design parameters for “fire walls” currently found in NFPA 221, which was the basis for the content of Sections 8.3 and 8.4 of NFPA 5000, are not in concert with the design parameters for “fire walls” in the traditional building code sense. Research has established that the “fire walls” found in NFPA 221 were initially developed in response to a perceived need from the insurance industry to design a physical barrier (wall) with a high fire resistance rating that when installed, would subdivide a building and limit the potential property loss should there be a fire. The industry term associated with this concept of limiting property loss is “maximum foreseeable loss” or MFL. In line with that concept, the “fire walls” designed in accordance with the current edition of NFPA 221 are often referred to as “maximum foreseeable loss walls” or MFL walls.

The wall defined as a “fire wall” cited in NFPA 5000, and other modern building codes, is one that is solely intended to be used as a physical barrier that defines the limits of a “building,” serving the same function as an exterior wall. The function of this type of fire wall is to create separate buildings and though partially associated with the occupancy of the buildings it divides, was not ever intended to serve the same purpose as a wall that is intended to limit fire losses to within the limits associated with “maximum foreseeable loss” in the insurance industry.

While there are some common design features between the “fire wall” found in NFPA 221 and the “fire wall” found in NFPA 5000, the differences are significant and the walls intended purpose is significantly different. Rather than try to establish two types of “fire walls,” it is proposed to view these issues and report back prior to the 1 October 2004 comment closing date.

Committee Meeting Action: Reject
Committee Statement: The committee does not believe the concept proposed by the submitter is necessary in NFPA 5000.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 20 Negative: 3

Explanation of Negative:
FRANCIS: While the submitter has left a flaw in the code with this proposal, it is easily fixed and this item should go forward as an “accept in principle” with the fix included. Mr. Collins was merely acknowledging the concept of Fire Wall as embraced for decades in the model codes. This issue has been widely debated and is clearly in need of explanation. His fix is to allow walls to terminate in a manner consistent with the previous model code conditions. However, this proposal fails to provide for the structural independence, so to speak, necessary for a fire wall to do its job. The only necessary addition to the text would be:
1. Replace Section 8.3 in its entirety with the following:
8.3 Fire wall shall be designed and constructed for structural independence in accordance with Chapter 2 of NFPA 221 and for all other design and construction issues in accordance with Chapter 3 of NFPA 221.
2. Replace Section 8.4 in its entirety with the following:
8.4 Fire barrier walls shall be designed and constructed in accordance with Chapter 4 of NFPA 221.
3. Add a new Section 8.5 to read as follows:
8.5 MFL walls shall be designed and constructed in accordance with Chapter 2 of NFPA 221.

HOLMES: Change my vote to Negative. I concur with the comments proposed by Messrs. Francis and Kapalczynski.
KAPALCZYNSKI: This issue was extensively commented upon and discussed in the last cycle. (Reference Mr Holmes letter to the TCC.) In brief, the new (at the time) NFPA 5000 borrowed many concepts from other existing codes. When building codes needed a method to create fire separations within buildings, they used fire walls rather than fire barriers. Based upon the numerous proposals for changes and the many exceptions which were rewritten for compliance with the NFPA manual of style, the major pattern in the proposed changes was to reduce the requirements of fire wall construction such that the resulting fire walls were becoming more and more like fire barriers. Had the submitters proposing diminished requirements for fire walls been queried whether fire barriers would meet their intent, acceptance of those proposals might not have occurred and the distinction between fire walls and fire barriers would not have been clouded. It is more functionally appropriate for NFPA 5000 and NFPA 221 to be in concert, than for both documents to be creating their own separate definitions and applications for the same protection features. It would appear to the end users that a fire wall and a fire barrier used within these documents address the same building elements and should not have separate definitions for these terms. Have these different definitions been developed and accepted under NFPA committee regulations? Are different NFPA committee regulations governing technical committees and the Standards Council? Should NFPA 5000 be ignoring NFPA 221? It is important that we maintain consistency between these documents especially for the end user and the adoption authorities for legal enforcement.

Comment on Affirmative:
GERDES: The design requirements for fire walls should be found in the building code. NFPA 221 should follow the lead of NFPA 5000, or NFPA 221 should be withdrawn. I have not seen the proposed changes to NFPA 221 nor their acceptance. I completely agree with the concepts noting the differences between MFL walls and building code fire walls. The problem is the current NFPA 221 only addresses MFL walls. Last cycle the Committee took great effort to separate itself from NFPA 221 requirements, to be consistent with traditional building code requirements.

5000-396 Log #786a BLD-FIR Final Action: Reject (8.3, 8.4, and 8.5)

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TC:
Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-FIR to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

Submitter: David S. Collins, Joe McElvaney
Sarah A. Rice Cincinnati, OH

Recommendation: 1. Replace Section 8.3 in its entirety with the following:
8.3 Fire wall shall be designed and constructed in accordance with Chapter 3 of NFPA 221.
2. Replace Section 8.4 in its entirety with the following:
8.4 Fire barrier walls shall be designed and constructed in accordance with Chapter 4 of NFPA 221.
3. Add a new Section 8.5 to read as follows:
8.5 MFL walls shall be designed and constructed in accordance with Chapter 2 of NFPA 221.

Substantiation: Through the development process of NFPA 5000, it has come to light that the design parameters for “fire walls” currently found in NFPA 221, which was the basis for the content of Sections 8.3 and 8.4 of NFPA 5000, are not in concert with the design parameters for “fire walls” in the traditional building code sense. Research has established that the “fire walls” found in NFPA 221 were initially developed in response to a perceived need from the insurance industry to design a physical barrier (wall) with a high fire resistance rating that when installed, would subdivide a building and limit the potential property loss should there be a fire. The industry term associated with this concept of limiting property loss is “maximum foreseeable loss” or MFL. In line with that concept, the “fire walls” designed in accordance with the current edition of NFPA 221 are often referred to as “maximum foreseeable loss walls” or MFL.

The wall defined as a “fire wall” cited in NFPA 5000, and other modern building codes, is one that is solely intended to be used as a physical barrier that defines the limits of a “building,” serving the same function as an exterior wall. The function of this type of fire wall is to create separate buildings and though partially associated with the occupancy of the buildings it divides, was not ever intended to serve the same purpose as a wall that is intended to limit fire losses to within the limits associated with “maximum foreseeable loss” in the insurance industry.

While there are some common design features between the “fire wall” found in NFPA 221 and the “fire wall” found in NFPA 5000, the differences are significant and the walls intended purpose is significantly different. Rather than try to establish two types of “fire walls,” it is proposed to view these issues and report back prior to the 1 October 2004 comment closing date.

Committee Meeting Action: Reject
Committee Statement: The committee does not believe the concept proposed by the submitter is necessary in NFPA 5000.

Number Eligible to Vote: 23
Ballot Results: Affirmative: 20 Negative: 3

Explanation of Negative:
FRANCIS: While the submitter has left a flaw in the code with this proposal, it is easily fixed and this item should go forward as an “accept in principle” with the fix included. Mr. Collins was merely acknowledging the concept of Fire Wall as embraced for decades in the model codes. This issue has been widely debated and is clearly in need of explanation. His fix is to allow walls to terminate in a manner consistent with the previous model code conditions. However, this proposal fails to provide for the structural independence, so to speak, necessary for a fire wall to do its job. The only necessary addition to the text would be:
While there are some common design features between the “fire wall” found in NFPA 221 and the “fire wall” found in NFPA 5000, the differences are significant and the walls intended purpose is significantly different. Rather than try to establish two types of “fire walls,” it is proposed:

1. The creation of a new term for those walls associated with the concept of “maximum foreseeable loss” - “maximum foreseeable loss walls” or MFL walls. The design or which would be in accordance with the provisions currently found in Chapter 2 of NFPA 5000.

2. That the term “fire wall” be only associated with the vertical physical barrier found in NFPA 5000 that is used to create two buildings. To do so a new chapter in NFPA 221 (Chapter 3) is proposed. It addresses the design criteria of a “fire wall,” as referenced in NFPA 5000.  

3. Revisions to the applicable chapters and sections within NFPA 221 to differentiate between provisions that apply to “MFL walls” and those that apply to “fire walls.”

Committee Meeting Action: Accept in Principle

1. Replace Section 8.3 in its entirety with the following:

- Fire wall shall be designed and constructed in accordance with Chapter 4 and Chapter 5 of NFPA 221.

2. Replace Section 8.4 in its entirety with the following:

- Fire barrier walls shall be designed and constructed in accordance with Chapter 4 and Chapter 7 of NFPA 221.

3. Insert a new Section 8.5 to read as follows:

- High challenge fire walls shall be designed and constructed in accordance with Chapter 4 and Chapter 5 of NFPA 221.

Committee Statement: Based upon the recommendation in Proposal 221-1 (Log #CP3), the Technical Committee accepts the concept of delining the requirements for fire walls and fire barrier walls 2A/3A found in NFPA 5000, Sections 8.3 and 8.4, in favor of a reference to NFPA 221 (2005). Additionally, in Proposal 221-1 (Log #CP3), the Technical Committee introduces the new concept of a ‘high challenge fire wall.” These requirements should be referenced in the building code.

During the comment phase, the Technical Committee will further refine these concepts and recommend that these requirements be extracted from NFPA 221, instead of simply referencing out to NFPA 221. This will ensure that the requirements for fire walls and fire barrier walls are complete and consistent between the two documents, while still presenting the user with the necessary design information within NFPA 5000.  

Number Eligible to Vote: 23

Ballot Results: Affirmative: 21  Negative: 2

Vote Not Returned: 4  BARBADORO, FOSTER, GEMENY, WESSEL

TCC Action: The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TCC:

Review the actions taken by BLD-FIR or extracting it from NFPA 221. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

Submitter: Joe McElvany, Phoenix, AZ

Recommendation: Delete Section 8.3 and 8.4 and replace with NFPA 221.

Substantiation: These two sections should be the same as NFPA 221.

Committee Meeting Action: Accept in Principle

See committee action on Proposal 5000-397 (Log #786b). The action taken on Proposal 5000-397 (Log #786b) meets the proponent’s intent.

Number Eligible to Vote: 23

Ballot Results: Affirmative: 18  Negative: 1

Vote Not Returned: 4  BARBADORO, FOSTER, GEMENY, WESSEL

Explanation of Negative:

FRANCIS: I ballot NEGATIVE on 5000-399 (Log #659b). Moving this material to NFPA 221 or extracting it from NFPA 221 is wrong. The material is properly placed in a building code not in a stand-alone document. In fact, there is no need for the document to continue to exist. When NFPA developed a building code, it obviated the need for individual documents with pieces and/or parts of building code items in them. This is one of those documents. It is also a violation of ANSI rules to develop two standards regulating the same material. In the case of NFPA 221 and NFPA 5000 they are not identical and therefore exacerbate the conflict. Having this material extracted from one standard into the other only adds another layer of confusion to this problem of multiple regulations. The clear solution is to withdraw NFPA 221.

TCC Action: I. The Technical Correlating Committee (TCC) notes that this proposal did not receive sufficient support to become committee action to confirm the committee action, thus the final action is REJECT.

2. The Technical Correlating Committee (TCC) directs that a public comment on this proposal be submitted in the TCC’s name to BLD-BLC requesting that the TCC:

Review the actions taken by BLD-FIR and the related requirements for fire walls, fire barrier walls and high challenge fire walls. The TCC notes that a task group has been formed under BLD-BLC to review these issues and report back prior to the 1 October 2004 comment closing date. The Task Group will have representatives from BLD-FIR participating as well.

Note: Since the ballot on this Proposal did not confirm the Committee Action, the Committee is soliciting public comment for review when the proposal is reconsidered by the Committee as a Public Comment.

Submitter: Joseph J. Messersmith, Jr., Portland Cement Association

Recommendation: Revise text and add a new Exception to read as follows:

8.3.1 Fire walls shall be of noncombustible construction in buildings of any type of noncombustible construction.

Exception: Where both buildings being separated are of Type V construction, fire walls of combustible construction are permitted.

The fire resistance rating of fire walls, regardless of the type of construction of the buildings being separated, shall be not less than the greater of the following:

1. Table 6.2.4.1 where separating buildings containing different occupancies;

2. Three hours where at least one of the buildings is industrial, bulk retail mercantile, or storage occupancy; or

Criteria:

Substantiation: The first portion of this change will require that fire walls separating buildings of other than Type V construction be of noncombustible materials. Generally, a building of Type I, II, III or IV construction with little or no horizontal separation is required to have noncombustible exterior walls. If both buildings are attached to each other with an interior separation, a fire wall is an option to constructing each building with its own exterior wall. It is inconsistent to permit the fire wall to be constructed of combustible materials in buildings of these types of construction. The proposal is consistent with the IBC and the BCMC Report on “Building Walls, Floor and Roof Assemblies and Occupancy Separations” dated October 5, 1993.

The second portion of the proposal will achieve a higher level of consistency between the fire resistance rating required for fire barrier walls separating different occupancies with the same building, and the rating required for fire walls separating buildings of different occupancies. To illustrate, consider an assembly occupancy with 300 or fewer occupants and an industrial occupancy with ordinary hazard contents in a building of Type V (000) construction. If considered as mixed occupancies according to 6.2.5, the maximum allowable area (disregarding frontage and sprinkler increases) is 5,500 square feet per 7.4.1.1. If the uses are separated according to 6.2.4.1 with a 3-hour fire wall, then per Table 6.2.4.1, the allowable area of the building varies from 5,500 to 8,500 square feet, depending upon the area devoted to each use (see 7.4.1.2.2). If separate building status is created by replacing the 3-hour rated occupancy separation with a 2-hour rated fire wall (see 8.5.1), the total area of both buildings can be 14,000 square feet (5,500 + 8,500 = 14,000). Thus by proposing the rating by one hour, and complying with the provisions of Section 8.3 for fire walls, an additional 5,500 to 8,500 can be constructed. Obviously this makes little sense. The proposal will rectify this by requiring the fire walls separating buildings of different occupancies to have the greater of the fire rating required by Table 6.2.4.1 or 2 hours, as presently required by 8.3.1. It will also require that where one of the buildings is industrial, bulk retail mercantile, or storage occupancy, the fire wall must have a fire resistance rating of 3 hours. This recommendation is based on Table 6.2.4.1, which in most cases requires that these occupancies be separated from other uses by a 3-hour fire barrier. These suggested ratings are also very similar to recommendations contained in the BCMC report cited above.
Committee Meeting Action: Accept in Principle

Revise 8.3.1 to read as follows:
8.3.1 Fire walls shall be of not less than 2-hour fire resistance rated construction in buildings of any type of noncombustible or limited construction.
8.3.1.1 Where both buildings being separated are of Type V construction, fire walls of combustible construction are permitted.
8.3.1.2 The fire resistance rating of fire walls, regardless of the type of construction of the buildings being separated, shall be not less than the greater of the following:
   (1) The fire resistance ratings required by Table 6.2.4.1 where separating buildings containing different occupancies;
   (2) The fire resistance ratings required by Table 34.3.4.3 where separating buildings containing high hazard contents;
   (3) Three hours where at least one of the buildings is an industrial occupancy with high hazard contents, bulk retail mercantile, or storage occupancy with ordinary hazard contents; or
   (4) 2 hours.

Committee Statement: This better addresses the concerns raised by the submitter and better addresses the intent of the committee.

Ballot Results: Affirmative: 14 Negative: 9

Explanation of Negative:

BENDER: Change my vote to negative as I concur with the comments of Klein, Koffel, and McCormick on this issue.
CAHANIN: Mr. Klein’s reasons for voting negative on changes to 8.3.1 are persuasive and are the reason for my ballot change to negative.
FRANCIS: First, the proposal includes an exception. The NFPA Manual of Style and policies on code language, while not prohibiting use of exceptions, discourages them. Since the code provision would be better served by language not including an exception, it should be removed. Secondly, the proposal does not address the basic performance expectations of individual types of construction but instead makes this a prescriptive materials requirement. I recommend that the proposal be Accept in Principle with the following wording which achieves the same performance goals:
8.3.1 Fire walls shall be of construction and materials permitted by the Type of Construction of the structure.
8.3.1.1 When two buildings of different types of construction are being separated by a fire wall, the fire wall shall be constructed of materials consistent with the highest type of construction.
8.3.1.2 The fire resistance rating of fire walls, regardless of the type of construction of the buildings being separated, shall be not less than the greater of the following:
   (1) Table 6.2.4.1 where separating buildings containing different occupancies;
   (2) Three hours where at least one of the buildings is industrial, bulk retail mercantile, or storage occupancy; or
   (3) Two hours.

GERDES: This change increases the requirements for some occupancies. This should be reviewed by the affected occupancy committees.
HUMBLE: Register my vote as negative on 5000-400 (Log #236a). This proposal assumes responsibility for decisions that are to be made by the occupancy committees to NFPA 5000. In this case I am referring to the assignment of a three-hour fire wall that separates occupancy groups. This is beyond our jurisdiction, and therefore should be rejected.
KAPALCZYNSKI: Submitter’s and committee’s intent could be met with fire barrier walls. Reference my comments for 5000-396 (Log #786a).
KLEIN: The changes made by this proposal to the minimum fire ratings for fire walls for certain types of occupancies under mercantile, industrial and storage [new Section 8.3.1.1(3)] are not consistent with Table 6.2.4.1 and are not within the scope of our committee to make such changes. The Mercantile Occupancy Committee and the Industrial/Storage Committee are responsible for determining the minimum fire wall ratings for its occupancies, not the Fire Protection Features Committee. There was no fire data to justify the increase from 2 hours to 3 hours for these occupancies. This code change should be sent to all of the Occupancy Committees to see if they warrant such minimum fire rating increases for fire walls over the minimum fire ratings in Table 6.2.4.1.
MADDOX: Resulting changes were not justified with a technical reason other than to be similar to other codes. This is an area where the other codes should change.
MCCORMICK: Please register my vote as negative on this code proposal. As noted by Marshall Klein, the changes made by this proposal to the minimum fire ratings for fire walls for certain types of occupancies under mercantile, industrial and storage [new Section 8.3.1.1(3)] are not consistent with Table 6.2.4.1 and are not within the scope of our committee to make such changes. The Mercantile Occupancy Committee and the Industrial/Storage Committee are responsible for determining the minimum fire wall ratings for its occupancies. No fire data was provided to justify the increase from 2 hours to 3 hours for these occupancies.

Comment on Affirmative:

KLIVER: As the proponent of this code change, we support the committee action; however the revised section appears to contain two errors. First, in item (2), Table 34.3.4.3 should be Table 34.3.2.3. Second, in item (3), “industrial occupancy with high hazard contents” should industrial occupancies with ordinary hazard contents.” This language is consistent with the reference “storage occupancy”.

Committee Meeting Action: Accept in Principle

Revise 8.3.1 to read as follows:
8.3.1 Fire walls shall be of not less than 2-hour fire resistance rated construction in buildings of any type of noncombustible or limited construction.
8.3.1.1 Where both buildings being separated are of Type V construction, fire walls of combustible construction are permitted.
8.3.1.2 The fire resistance rating of fire walls, regardless of the type of construction of the buildings being separated, shall be not less than the greater of the following:
   (1) The fire resistance ratings required by Table 6.2.4.1 where separating buildings containing different occupancies;
   (2) The fire resistance ratings required by Table 34.3.4.3 where separating buildings containing high hazard contents;
   (3) Three hours where at least one of the buildings is an industrial occupancy with high hazard contents, bulk retail mercantile, or storage occupancy with ordinary hazard contents; or
   (4) 2 hours.

Committee Statement: This better addresses the concerns raised by the submitter and better addresses the intent of the committee.

Ballot Results: Affirmative: 14 Negative: 9

Explanation of Negative:

BENDER: Change my vote to negative as I concur with the comments of Klein, Koffel, and McCormick on this issue.
CAHANIN: Mr. Klein’s reasons for voting negative on changes to 8.3.1 are persuasive and are the reason for my ballot change to negative.
FRANCIS: First, the proposal includes an exception. The NFPA Manual of Style and policies on code language, while not prohibiting use of exceptions, discourages them. Since the code provision would be better served by language not including an exception, it should be removed. Secondly, the proposal does not address the basic performance expectations of individual types of construction but instead makes this a prescriptive materials requirement. I recommend that the proposal be Accept in Principle with the following wording which achieves the same performance goals:
8.3.1 Fire walls shall be of construction and materials permitted by the Type of Construction of the structure.
8.3.1.1 When two buildings of different types of construction are being separated by a fire wall, the fire wall shall be constructed of materials consistent with the highest type of construction.
8.3.1.2 The fire resistance rating of fire walls, regardless of the type of construction of the buildings being separated, shall be not less than the greater of the following:
   (1) Table 6.2.4.1 where separating buildings containing different occupancies;
   (2) Three hours where at least one of the buildings is industrial, bulk retail mercantile, or storage occupancy; or
   (3) Two hours.

GERDES: This change increases the requirements for some occupancies. This should be reviewed by the affected occupancy committees.
HUMBLE: Register my vote as negative on 5000-400 (Log #236a). This proposal assumes responsibility for decisions that are to be made by the occupancy committees to NFPA 5000. In this case I am referring to the assignment of a three-hour fire wall that separates occupancy groups. This is beyond our jurisdiction, and therefore should be rejected.
KAPALCZYNSKI: Submitter’s and committee’s intent could be met with fire barrier walls. Reference my comments for 5000-396 (Log #786a).
KLEIN: The changes made by this proposal to the minimum fire ratings for fire walls for certain types of occupancies under mercantile, industrial and storage [new Section 8.3.1.1(3)] are not consistent with Table 6.2.4.1 and are not within the scope of our committee to make such changes. The Mercantile Occupancy Committee and the Industrial/Storage Committee are responsible for determining the minimum fire wall ratings for its occupancies, not the Fire Protection Features Committee. There was no fire data to justify the increase from 2 hours to 3 hours for these occupancies. This code change should be sent to all of the Occupancy Committees to see if they warrant such minimum fire rating increases for fire walls over the minimum fire ratings in Table 6.2.4.1.
MADDOX: Resulting changes were not justified with a technical reason other than to be similar to other codes. This is an area where the other codes should change.
MCCORMICK: Please register my vote as negative on this code proposal. As noted by Marshall Klein, the changes made by this proposal to the minimum fire ratings for fire walls for certain types of occupancies under mercantile, industrial and storage [new Section 8.3.1.1(3)] are not consistent with Table 6.2.4.1 and are not within the scope of our committee to make such changes. The Mercantile Occupancy Committee and the Industrial/Storage Committee are responsible for determining the minimum fire wall ratings for its occupancies. No fire data was provided to justify the increase from 2 hours to 3 hours for these occupancies.

Comment on Affirmative:

KLIVER: As the proponent of this code change, we support the committee action; however the revised section appears to contain two errors. First, in item (2), Table 34.3.4.3 should be Table 34.3.2.3. Second, in item (3), “industrial occupancy with high hazard contents” should industrial occupancies with ordinary hazard contents.” This language is consistent with the reference “storage occupancy”.