



## First Revision No. 1-NFPA 301-2015 [ Chapter 2 ]

### **Chapter 2** Referenced Publications

#### **2.1** General.

The documents or portions thereof listed in this chapter are referenced within this code and shall be considered part of the requirements of this document.

## 2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2010 2017 edition.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2010 2016 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2013 2016 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2013 2017 edition.

NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 2013 2017 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection*, 2008 2013 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2014 2017 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2015 2018 edition.

NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products*, 2014 2015 edition.

NFPA 70<sup>®</sup>, *National Electrical Code*<sup>®</sup>, 2014 2017 edition.

NFPA 72<sup>®</sup>, *National Fire Alarm and Signaling Code*, 2013 2016 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, 2013 2016 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2012 2018 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2014 2017 edition.

NFPA 99, *Health Care Facilities Code*, 2012 2018 edition.

NFPA 101<sup>®</sup>, *Life Safety Code*<sup>®</sup>, 2012 2018 edition.

NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, 2014 2015 edition.

NFPA 262, *Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-Handling Spaces*, 2014 2015 edition.

NFPA 270, *Standard Test Method for Measurement of Smoke Obscuration Using a Conical Radiant Source in a Single Closed Chamber*, 2008 2013 edition.

NFPA 286, *Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*, 2014 2015 edition.

NFPA 302, *Fire Protection Standard for Pleasure and Commercial Motor Craft*, 2010 2015 edition.

NFPA 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*, 2010 2015 edition.

NFPA 750, *Standard on Water Mist Fire Protection Systems*, 2010 2015 edition.

NFPA 1964, *Standard for Spray Nozzles*, 2008 2013 edition.

NFPA 1971, *Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*, 2013 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2007 2013 edition.

NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, 2012 2015 edition.

## 2.3 Other Publications.

### 2.3.1 ABS Publications.

American Bureau of Shipping, ABS Plaza, 16855 Northchase Drive, Houston, TX 77060.

*Rules for Building and Classing Steel Vessels Under 90 Meters (295 feet Feet ) in Length*, 2014 2012 .

### 2.3.2 ABYC Publications.

American Boat & Yacht Council, Inc., 613 Third Street, Suite 10, Annapolis, MD 21403.

ABYC-H-25, *Marine Gasoline Fuel Systems*, 2010, reaffirmed 2013 .

ABYC-P-1, *Installation of Exhaust Systems for Propulsion and Auxiliary Engines*, 2010 2009 .

### 2.3.3 ASME Publications.

~~American Society of Mechanical Engineers~~ ASME International , Three Two Park Avenue, New York, NY 10016-5990.

ASME A17.1, *Safety Code for Elevators and Escalators*, 2007 2013 .

ASME A17.2, *Guide for Inspection of Elevators, Escalators, and Moving Walks*, 2007 2012 .

### 2.3.4 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM C411, *Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation* , 2011.

ASTM D-2859 D2859 , *Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials*, 2006, (2011) .

ASTM E-84 E84 , *Standard Test Method for Surface Burning Characteristics of Building Materials*,2011a 2015a .

ASTM E-119 E119 , *Standard Test Methods for Fire Tests of Building Construction and Materials*,2011 2014 .

ASTM E-136 E136 , *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C*, 2009b 2012 .

ASTM E-648 E648 , *Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*,2010 e1 2014c .

ASTM E-814 E814 , *Standard Test Method for Fire Tests of Through-Penetration Firestops*,2011a 2013a .

ASTM E-1317 E1317 , *Standard Test Method for Flammability of Marine Surface Finishes*,2008b 2012 .

ASTM E-1354 E1354 , *Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*,2011a 2015a .

ASTM E-1537 E1537 , *Standard Test Method for Fire Testing of Upholstered Furniture Items*,2007 2013 .

ASTM E-1590 E1590 , *Standard Test Method for Fire Testing of Mattresses*,2007 2013 .

ASTM E-1594 E1591 , *Standard Guide for Obtaining Data for Deterministic Fire Models*,2007 2013 .

ASTM E-1995 E1995 , *Standard Test Method for Measurement of Smoke Obscuration Using a Conical Radiant Source in a Single-Closed Chamber, with the Specimen Oriented Horizontally*,2008 2012 .

ASTM E-2234 E2231 , *Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics*,2009 2015 .

ASTM E-2257 E2257 , *Standard Test Method Room Fire Test of Wall and Ceiling Materials and Assemblies*,2008 2013a .

ASTM E-2652 E2652 , *Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C*, 2009 2012 .

ASTM F-840 F840 , *Standard Specification for Ladders, Fixed, Vertical, Steel, Ship's*, 1983 (2003) (withdrawn) .

ASTM F-1384 F1384 , *Standard Test Method for Fire Tests of Marine Joiner Doors*, 1993 (withdrawn) .

ASTM F-1626 F1626 , *Standard Practice for Preparing Shipboard Fire Control Plans*, 1995 (2006) (withdrawn) .

### 2.3.5 CGA Publications.

Compressed Gas Association, 4224 Walney Road, ~~5th Floor~~ 14501 George Carter Way, Suite 103 , Chantilly, VA 20154-2933 20151-1788 .

CGA G-7.1, *Commodity Specifications for Air*, G-7.1, 2004 2011 .

### 2.3.6 CSA Publications.

Canadian Standards Association, 5060 Spectrum Way, Mississauga, ON, L4W 5N6, Canada.

CSA C 22.2, No. 0-3-09 0.3 , *Test Methods for Electrical Wires and Cables*, 2009, reaffirmed 2014 .

### 2.3.7 IEEE Publications.

Institute of Electrical and Electronics Engineers IEEE , 445 Hoes Lane, Piscataway, NJ 08854-4141.

IEEE 45, *Recommended Practice for Electric Installations on Shipboard*, 2002.

IEEE 515, *Standard for Testing, Design Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications*, 2004 2011 .

IEEE 844, *Recommended Practice for Electrical Impedance, Induction, and Skin Effect Heating of Pipelines and Vessels*, 2000, reaffirmed 2006 .

IEEE 1202, *Standard for Flame Testing of Cables for Use in Cable Tray in Industrial and Commercial Occupancies*, 2002 2012 .

IEEE 1580, *Recommended Practice for Marine Cable for Use on Shipboard and Fixed or Floating Facilities*, 2010.

### 2.3.8 IMO Publications.

International Maritime Organization, 4 Albert Embankment, London, SE1 7SR.

Assembly Resolution A752(18), *Guidelines for the Evaluation, Testing, and Application of Low-Location Lighting on Passenger Ships*, 1993.

Assembly Resolution A757(18), *Standard for the Calculation of the Width of Stairways Forming Means of Escape on Passenger Ships*, 1993.

Assembly Resolution A760(18), *Symbols Related to Life-Saving Appliances and Arrangements*, 1993.

*Fire Test Procedures Code: International Code for the Application of Fire Test Procedures (FTP Code)*, 1998 2012 .

*IMO International Code of Safety for the High-Speed Craft (HSC Code)*, 2008.

*IMO International Maritime Dangerous Goods (IMDG) Code*, 2010 2014 .

*International Convention for Safety of Life at Sea (SOLAS)*, Chapter II-2, 1974 as amended (consolidated edition 2009 2014 ).

Maritime Safety Committee Circular (MSC/Circ.) 732, *Interim Guidelines on the Test Procedure for Demonstrating the Equivalence of Composite Materials to Steel Under the Provisions of the 1974 SOLAS Convention*, 2000.

### 2.3.9 ISO Publications.

International Standards Organization for Standardization , 1 rue de Varembé ISO Central Secretariat, 8, Chemin de Blondonne , Case Postale 56, CH-1211, Geneve 20 401, 1214 Vernier, Geneva , Switzerland.

ISO 834-1, *Fire Resistance Tests — Elements of Building Construction, Part 1: "General Requirements,"* 1999 2012 .

ISO 1716, *Reaction to Fire Tests for Products — Determination of the Gross Heat of Combustion*, 2010.

ISO 9705, *Fire Tests — Full Scale Room Test of Surface Products*, 1993.

ISO 15370, *Ships and Marine Technology — Low-Location Lighting (LLL) on Passenger Ships — Arrangement*, 2010.

~~ISO 15370, *Low-Location Lighting on Passenger Ships*, 2001.~~

### 2.3.10 NVIC Publications.

~~Coast Guard Headquarters, 2100 2nd Street, SW, Washington, DC 20593-0001.~~

~~NVIC 9-97, *Guide to Structural Fire Protection Aboard Merchant Vessels* , 1997.~~

**2.3.10** UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 13, *Standard for Power-Limited Circuit Cables*, 2007, Revised 2011.

ANSI/UL 19, *Standard for Safety Lined Fire Hose and Hose Assemblies*, 2001, Revised 2008 2013.

ANSI/UL 217, *Single and Multiple Station Smoke Alarms*, 2006, Revised 2010 2012.

ANSI/UL 444, *Standard for Communications Cables*, 2008, Revised 2010.

ANSI/UL 555S, *Smoke Dampers*, 1999, Revised 2011 2014.

UL 1309, *Standard for Marine Shipboard Cable*, 2011 2014.

ANSI/UL 1581, *Reference Standard for Electrical Wires, Cables and Flexible Cords*, 2001, Revised 2011 2013.

ANSI/UL 1666, *Standard for Test for Flame Propagation Height of Electrical and Optical Fiber Cable Installed Vertically in Shafts*, 2007, Revised 2011 2012.

ANSI/UL 1685, *Standard for Vertical-Tray Fire Propagation and Smoke-Release Tests for Electrical and Optical Fiber Cables*, 1997, Revised 2010 2010.

**2.3.11** U.S. Coast Guard Publications.

U.S. Coast Guard Headquarters, 2703 Martin Luther King Jr. Avenue, SE, Washington, DC 20593-7000.

Navigation and Vessel Inspection Circular (NVIC) 9-97, Change 1, Guide to Structural Fire Protection Aboard Merchant Vessels, 2010.

**2.3.12** U.S. Government Publications.

U.S. Government Printing Publishing Office, Washington, DC 20402.

Title 16, Code of Federal Regulations, "Commercial Practices," Parts 1630 and 1632, 2010.

Title 46, Code of Federal Regulations, "Shipping," Parts 1–199, 2009.

Title 49, Code of Federal Regulations, "Transportation," Part 173, 2009.

**2.3.13** Other Publications.

*Merriam-Webster's Collegiate Dictionary*, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2008.

**2.4** References for Extracts in Mandatory Sections.

NFPA 101<sup>®</sup>, *Life Safety Code*<sup>®</sup>, 2012 2015 edition.

NFPA 307, *Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves*, 2011 2016 edition.

NFPA 914, *Code for Fire Protection of Historic Structures*, 2010 2015 edition.

NFPA 1405, *Guide for Land-Based Fire Departments That Respond to Marine Vessel Fires*, 2011 2016 edition.

NFPA 5000<sup>®</sup>, *Building Construction and Safety Code*<sup>®</sup>, 2012 2015 edition.

**Submitter Information Verification**

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Thu Oct 22 10:20:38 EDT 2015

**Committee Statement**

**Committee Statement:** References used in this Code are updated (organization name, address, publication name and edition date). The Technical Committee incorporated the changes that were recommended in Public Input No. 21-NFPA 301-2015 (for Section No. 2.3.4) and Public Input No. 19-NFPA 301-2015 (for Section 2.3.11). The reference for ASTM C411 was added in accordance with a first revision for section 8.2.7.2.2 (see FR-13-NFPA 301-2015).

**Response Message:**

[Public Input No. 10-NFPA 301-2014 \[Chapter 2\]](#)



## First Revision No. 19-NFPA 301-2015 [ New Section after 3.3.9 ]

### 3.3.12 Contents and Furnishings.

Any objects in a ship that normally are secured or otherwise put in place for functional or decorative reasons, excluding parts of the structure of the ship but including contents of spaces such as furniture, carpet and padding, rugs, draperies, curtains, decorations, and cushions.

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Fri Oct 23 15:43:08 EDT 2015

### Committee Statement

**Committee Statement:** This definition is added to replace the definition for “furnishings”. This new definition more closely matches similar definitions found in NFPA 101, NFPA 555, NFPA 556 and NFPA 5000. The examples of contents and furnishings used in this definition were taken from Navigation and Inspection Circular (NVIC) 9-97, Guide to Structural Fire Protection, Change 1, 02 July 2000; and 46 CFR 166.423. This revision incorporates recommendations made in Public Input No. 23-NFPA 301-2015 and Public Input No. 24-NFPA 301-2015.

**Response Message:**



## First Revision No. 2-NFPA 301-2015 [ Section No. 3.3.15 ]

### 3.3.16\* Deck Covering.

A material applied to a deck for purposes of increasing the fire ~~or thermal endurance~~ resistance of the deck.

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 10:30:39 EDT 2015

### Committee Statement

**Committee Statement:** The term "fire endurance" is obsolete and has been replaced throughout most of the NFPA system of documents (as well as in other areas, such as ASTM and ICC) by the term "fire resistance". In fact, the only NFPA document where the word "endurance" is still found is NFPA 301. This is the first of several public inputs intended to replace the term "fire endurance" by "fire resistance". The term "thermal endurance" is not defined and is superfluous when the term "fire resistance" is used.

**Response**

**Message:**

[Public Input No. 1-NFPA 301-2014 \[Section No. 3.3.15\]](#)





## First Revision No. 3-NFPA 301-2015 [ Section No. 3.3.19 ]

### 3.3.20 Door.

#### 3.3.20.1 C-Class Door.

A door constructed of noncombustible material that does not have A- or B-class fire endurance ~~resistance~~ .

#### 3.3.20.2 Horizontal Sliding Door.

A door installed in the vertical plane that slides in a direction that is perpendicular to the direction of egress travel.

#### 3.3.20.3 Weathertight Door.

~~Door~~ A door that prevents the penetration of rain, snow, wind-driven spray, and water on deck into the interior spaces.

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Thu Oct 22 10:33:43 EDT 2015

### Committee Statement

**Committee Statement:** This just replaces "fire endurance" by the term "fire resistance".

**Response Message:**

[Public Input No. 2-NFPA 301-2014 \[Section No. 3.3.19\]](#)



## First Revision No. 5-NFPA 301-2015 [ New Section after 3.3.28 ]

### 3.3.29 Fire Protection Rating.

The designation indicating the duration of the fire test exposure to which an opening protective assembly was exposed. [ 101 , 2015]

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 10:45:14 EDT 2015

### Committee Statement

**Committee Statement:** The definition of fire protection rating should be brought into NFPA 301 as extracted from NFPA 101. It should be extracted from the latest (2015) edition and not from the 2012 edition. The new edition complies with the manual of style by eliminating references to the test method and the criteria. A parallel definition will also be proposed for fire resistance rating.

**Response**

**Message:**

Public Input No. 8-NFPA 301-2014 [New Section after 3.3.28]



## First Revision No. 6-NFPA 301-2015 [ New Section after 3.3.30 ]

### 3.3.31 Fire Resistance.

The ability of a material, product, or assembly to withstand fire or give protection from it for a period of time. [ 556 , 2016]

### 3.3.32 Fire Resistance Rating.

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. [ 101 , 2015]

## Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 10:48:09 EDT 2015

## Committee Statement

**Committee Statement:** The terms fire resistance and fire resistance rating, used extensively in this code (NFPA 301) should be defined and this should be done by extraction from NFPA 556 (for fire resistance) and NFPA 101 (for fire resistance rating). The Technical Committee added the current edition dates for the extract source documents.

**Response Message:**

Public Input No. 9-NFPA 301-2014 [New Section after 3.3.30]



## First Revision No. 7-NFPA 301-2015 [ Section No. 3.3.30 ]

### 3.3.34\* Fire-Rated Glazing.

Glazing systems installed in fire-rated bulkhead or overhead assemblies that have been tested to achieve specified with either a fire protection rating or a fire resistance ratings .

## Supplemental Information

<u>File Name</u>	<u>Description</u>
FR-7_A.3.3.30.docx	

## Submitter Information Verification

**Submitter Full Name:** Lawrence Russell  
**Organization:** [ Not Specified ]  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Thu Oct 22 10:49:32 EDT 2015

## Committee Statement

**Committee Statement:** The term "fire rated glazing" is defined in both NFPA 101 and NFPA 5000 as proposed in this public input. Typically fire rated glazing is tested for a fire protection rating but it can also be tested for a fire resistance rating (that depends on the test used and the use of the hose stream). The information previously contained in the definition is proposed to be moved to the Annex. Neither the definition nor the annex are enforceable sections. If the technical committee feels that the information needs to be enforceable it needs to be placed in a mandatory section of the document.

The NFPA Glossary Advisory Committee on Terminology was set up to get consistency in definitions throughout the NFPA system and that is what this public input is attempting to do.

### **Response Message:**

[Public Input No. 5-NFPA 301-2014 \[Section No. 3.3.30\]](#)

[Public Input No. 6-NFPA 301-2014 \[Section No. A.3.3.30\]](#)

FR-7, Revised annex material

#### **A.3.3.30 Fire-Rated Glazing.**

The glass could be or could not be wire reinforced. Fire-rated glazing systems can be installed in fire-rated bulkhead or overhead assemblies.



## First Revision No. 4-NFPA 301-2015 [ Section No. 3.3.54 ]

### 3.3.58\* Structural Fire Protection.

Fire protection that is intended to limit the spread of fire and smoke to as small an area as reasonable, by specifying fire ~~endurance~~ resistance capabilities of structural elements.

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 10:34:20 EDT 2015

### Committee Statement

**Committee Statement:** Replace fire endurance by fire resistance

**Response Message:**

Public Input No. 3-NFPA 301-2014 [Section No. 3.3.54]

**First Revision No. 9-NFPA 301-2015 [ Section No. 7.2.2.7 [Excluding any Sub-Sections] ]**

Stairs shall be provided with approved signage within the enclosure at each deck landing.

**Submitter Information Verification**

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 11:15:32 EDT 2015

**Committee Statement**

**Committee Statement:** Signage needs to be approved by the authority having jurisdiction to ensure that the sign is easily identifiable and legible due to color of and size of letters and background in order to be easily recognized by crew, passengers, and first responders during an emergency.

**Response Message:**

Public Input No. 14-NFPA 301-2014 [Section No. 7.2.2.7 [Excluding any Sub-Sections]]

**First Revision No. 10-NFPA 301-2015 [ Sections 7.9.1.2.1, 7.9.1.2.2 ]****7.9.1.2.1**

Where emergency lighting is provided by a prime mover–operated electric generator, a delay of not more than 45-seconds shall be permitted, a transitional source of power such as battery backup shall be required during the 45 second transition time .

**7.9.1.2.2**

~~If the emergency generator cannot meet the 45-second requirement, then a transitional power source shall be required.~~

**Submitter Information Verification**

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 11:42:39 EDT 2015

**Committee Statement**

**Committee Statement:** A 45 second delay during an emergency situation will result in total pitch black conditions in spaces aboard a vessel that do not normally have any natural lighting from windows, etc., and may contribute to both panic and injury to passengers and crew. Battery backup would allow almost immediate emergency lighting to occur while transitioning from normal power to the prime mover-operated electric generator.

**Response Message:**

Public Input No. 16-NFPA 301-2014 [Sections 7.9.1.2.1, 7.9.1.2.2]





## First Revision No. 11-NFPA 301-2015 [ Section No. 7.10.5.2 ]

### 7.10.5.2 Special Signs.

Any door, passageway, or stairway that is neither an exit nor a way of exit access, and that is located or arranged so that it is likely to be mistaken for an exit, shall be identified by ~~a sign~~ an approved sign reading NO EXIT. Such sign shall have, at a minimum, the word NO in letters 5 cm (2 in.) high with stroke width of 1 cm (0.4 in.) and the word EXIT in letters 2.5 cm (1 in.) high, with the word EXIT below the word NO.

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Thu Oct 22 12:54:43 EDT 2015

### Committee Statement

**Committee Statement:** Signage needs to be approved by the authority having jurisdiction to ensure that the sign is easily identifiable and legible due to color of letters and background, etc. Also the size of the lettering should be the minimum size approved so that the AHJ can require larger letters in areas where 2 in. by 1 in. letters may not be large enough to be easily recognized in an emergency.

**Response**

**Message:**

[Public Input No. 15-NFPA 301-2014 \[Section No. 7.10.5.2\]](#)



## First Revision No. 23-NFPA 301-2015 [ Section No. 8.2.3 ]

### 8.2.3\* Steel or Equivalent Material.

A material shall be considered as having equivalent load-carrying capability compared to steel when tested in accordance with MSC/Circ. 732, *Interim Guidelines on the Test Procedure for Demonstrating the Equivalence of Composite Materials to Steel Under the Provisions of the 1974 SOLAS Convention*.

### Supplemental Information

<u>File Name</u>	<u>Description</u>
FR-23_A.8.2.3.docx	

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell  
**Organization:** [ Not Specified ]  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Fri Oct 30 13:58:03 EDT 2015

### Committee Statement

**Committee Statement:** The International Maritime Organization (IMO) 2010 Fire Test Procedures (FTP) Code superseded certain fire test standards within MSC/Circ.732. A guidance note is added to Annex A for this section to identify the applicable sections of the FTP that should be used. This revision is linked to first revision, FR-24-NFPA 301-2015.

**Response Message:**

FR-23, New annex material

#### A.8.2.3

References to certain fire testing requirements found in MSC/Circ. 732 have been superseded by the International Maritime Organization (IMO) 2010 *Fire Test Procedures* (FTP Code) and should be replaced as follows:

(1) Use the provisions outlined in FTP Code Part 1 instead of, *Improved Recommendations on Test Method for Qualifying Marine Construction Materials as Non-combustible*, as per IMO Resolution A.472 (XII).

(2) Use the provisions outlined in FTP Code Part 2 instead of, *Interim Standards for Measuring Smoke and Toxic Products of Combustion*, as per IMO Resolution MSC. 41(64).

(3) Use the provisions outlined in FTP Code Part 3 instead of, *Recommendations on Fire Test Procedures for "A", "B", and "F" Class Divisions*, as per IMO Resolution A.745(18).



## First Revision No. 12-NFPA 301-2015 [ Section No. 8.2.4.9.2 ]

### 8.2.4.9.2

Pipes, conduits, bus ducts, cables, wires, air ducts, pneumatic tubes and ducts, drive shafts, and similar service equipment that pass through fire barriers shall be protected in accordance with 8.2.4.9.2.1 through 8.2.4.9.2.4.

#### 8.2.4.9.2.1

The space between the penetrating item and the fire barrier shall be filled with a listed material capable of maintaining the fire resistance rating of the barrier, or it shall be protected by a listed device that is designed for that specific purpose and that maintains the fire resistance rating of the barrier.

#### 8.2.4.9.2.2

Where the penetrating item uses a sleeve to penetrate the fire barrier, the sleeve shall be continuously welded on at least one side of the fire barrier, and the space between the item and the sleeve shall be filled with a material capable of maintaining the fire resistance rating of the barrier, or it shall be protected by a device that is designed for that specific purpose and that maintains the fire resistance rating of the barrier.

#### 8.2.4.9.2.3

Insulation and coverings for pipes and ducts shall not pass through the fire barrier unless the material is capable of maintaining the fire resistance rating of the barrier or is protected by a device that is designed for that specific purpose and that maintains the fire resistance rating of the barrier.

#### 8.2.4.9.2.4

Where designs take transmission of vibration into consideration, any vibration isolation shall be made on either side of the fire barrier or shall be made by a device that is designed for that specific purpose and that does not degrade the fire resistance rating of the barrier.

## Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submittal Date:** Thu Oct 22 12:56:26 EDT 2015

## Committee Statement

**Committee Statement:** The value of the fire resistance is the fire resistance rating

**Response Message:**

[Public Input No. 7-NFPA 301-2014 \[Section No. 8.2.4.9.2\]](#)



## First Revision No. 13-NFPA 301-2015 [ Section No. 8.2.7.2.2 ]

### 8.2.7.2.3

Coverings and linings for pipes and ducts, including all pipe and duct insulation materials, shall not flame, glow, smolder, or smoke when tested in accordance with ASTM C411, *Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation*, at the temperature to which they are exposed in service, and in no case shall the test temperature be below 121°C (250°F).

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell  
**Organization:** [ Not Specified ]  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Thu Oct 22 13:02:13 EDT 2015

### Committee Statement

**Committee Statement:** It was pointed out that (as also required in NFPA 90A and in mechanical codes) insulation and coverings for pipes and ducts in areas where there is the potential for hot temperatures need to be assessed to ensure they work at the appropriate high temperatures. The proposed language is based on the language in NFPA 90A.

**Response Message:**

Public Input No. 27-NFPA 301-2015 [Section No. 8.2.7.2.2]



## First Revision No. 14-NFPA 301-2015 [ Section No. 8.4.5 ]

### 8.4.5\* Draperies.

Draperies or other vertically hung textiles shall be constructed with materials that pass Test 1 or Test 2, as appropriate, of NFPA 701, ~~Standard Methods of Fire Tests for Flame Propagation of Textiles and Films~~, or Part 7 of the IMO *Fire Test Procedures Code*.

### Submitter Information Verification

**Submitter Full Name:** Lawrence Russell

**Organization:** [ Not Specified ]

**Street Address:**

**City:**

**State:**

**Zip:**

**Submission Date:** Thu Oct 22 13:04:44 EDT 2015

### Committee Statement

**Committee Statement:** It has been pointed out that, unless reference is made to Test 1 or Test 2, some users will interpret this as referring to the old "small scale test" in NFPA 701, eliminated in the 1980s because it does not provide appropriate protection. This change has been made throughout codes and standards, including NFPA 101 and 5000.

**Response**

**Message:**

[Public Input No. 28-NFPA 301-2015 \[Section No. 8.4.5\]](#)



## First Revision No. 15-NFPA 301-2015 [ Section No. 9.1.1 ]

### 9.1.1 Application.

Fire detection, alarm, and communications systems shall meet the requirements of Section 9.1 and comply with 46 CFR 161.002 or meet the requirements of *NFPA 72, National Fire Alarm and Signaling Code*. ~~Nothing in this system shall be construed as a restriction on new technologies or alternatives to those requirements, provided that the level of protection is maintained.~~

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**Submittal Date:** Thu Oct 22 13:05:52 EDT 2015

### Committee Statement

**Committee Statement:** Section 1.4 already addresses equivalencies and alternative levels of protection and is not needed here. By placing in this section it appears that only this section can have an equivalent or alternate level of protection. Removes redundant text.

**Response Message:**

[Public Input No. 17-NFPA 301-2014 \[Section No. 9.1.1\]](#)



## First Revision No. 18-NFPA 301-2015 [ Section No. 9.2.15.2 ]

### 9.2.15.2

Extinguishers shall be classed in accordance with NFPA 10, ~~Standard for Portable Fire Extinguishers~~ or requirements for portable extinguishers in 46 CFR .

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**Submittal Date:** Thu Oct 22 13:45:26 EDT 2015

### Committee Statement

**Committee Statement:** The change allows the user to follow either NFPA 10 or the applicable requirements in 46 CFR.

**Response Message:**





## First Revision No. 20-NFPA 301-2015 [ Section No. 9.4.3.1 ]

### 9.4.3.1

Fire dampers listed for 1½-hour fire ~~endurance~~ resistance that are capable of manual operation and fitted adjacent to the bulkhead shall be permitted.

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**Submittal Date:** Fri Oct 23 16:49:48 EDT 2015

### Committee Statement

**Committee Statement:** The term "fire endurance" is being replaced in all NFPA documents by the preferred term "fire resistance". The term "fire endurance classification" is being replaced by "fire resistance rating".

**Response Message:**

[Public Input No. 20-NFPA 301-2015 \[Section No. 9.4.3.1\]](#)

**First Revision No. 22-NFPA 301-2015 [ Section No. B.1 [Excluding any Sub-Sections] ]**

The *American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)* design guidelines and *Handbook — Fundamentals* ; *Handbook — HVAC Applications* ; *Handbook — Refrigeration* ; and *The Society of Naval Architects and Marine Engineers (SNAME) Technical and Research Bulletin No. T&R 4-16* should be used as a guides when designing vessel heating, ventilation, and air-conditioning (HVAC) systems in terms of heating, cooling, dehumidification, and other design requirements. ASTM F1005, *Standard Practice for HVAC Duct Shapes; Identification and Description of Design Configurations*, should be used as guidance when determining HVAC duct shapes, identification, description, and related criteria.

The following information is ventilation guidance for various spaces.

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**Committee Statement**

**Committee Statement:** The current text of the Code refers to ASHRAE Design Guidelines which is not a precise reference to any document in particular. This revision identifies three specific ASHRAE handbooks that pertain to HVAC and refrigeration systems in marine vessels.

**Response Message:**



## First Revision No. 21-NFPA 301-2015 [ Chapter D ]

### **Annex D** Informational References

#### **D.1** Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this code and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

##### **D.1.1** NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2010 2016 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2013 2016 edition.

NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems*, 2014 2015 edition.

NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, 2014 2015 edition.

NFPA 72<sup>®</sup>, *National Fire Alarm and Signaling Code*, 2013 2016 edition.

NFPA 75, *Standard for the Fire Protection of Information Technology Equipment*, 2013 2016 edition.

NFPA 92, *Standard for Smoke Control Systems*, 2012 2015 edition.

NFPA 99 . *Health Care Facilities Code* . 2018 edition.

NFPA 101<sup>®</sup>, *Life Safety Code*<sup>®</sup>, 2012 2018 edition.

NFPA 269, *Standard Test Method for Developing Toxic Potency Data for Use in Fire Hazard Modeling*, 2012 2017 edition.

NFPA 312, *Standard for Fire Protection of Vessels During Construction, Conversion, Repair, and Lay-Up*, 2014 2016 edition.

NFPA 496, *Standard for Purged and Pressurized Enclosures for Electrical Equipment*, 2008 2017 edition.

NFPA 551, *Guide for the Evaluation of Fire Risk Assessments*, 2010 2016 edition.

NFPA *Fire Protection Handbook*, 2003 2008 edition.

##### **D.1.2** Other Publications.

###### **D.1.2.1** ABS Publications.

American Bureau of Shipping, ABS Plaza, 16855 Northchase Drive, Houston, TX 77060.

*Rules for Building and Classing Steel Vessels*, 2011.

###### **D.1.2.2** ASHRAE Publications.

American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329-2305.

*ASHRAE Handbook* — HVAC Applications, 2015.

*ASHRAE Handbook* — Fundamentals, 2013.

*ASHRAE Handbook* — Refrigeration, 2014.

**D.1.2.3** ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, 2011a 2015a .

ASTM E1354, *Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*, 2011a 2015a .

ASTM E1355, *Standard Guide for Evaluating the Predictive Capability of Deterministic Fire Models*, 2011 2012 .

ASTM E1472, *Standard Guide for Documenting Computer Software for Fire Models*, 2007 (withdrawn) .

ASTM E1537, *Standard Test Method for Fire Testing of Upholstered Furniture*, 2007 2013 .

ASTM E1590, *Standard Test Method for Fire Testing of Mattresses*, 2007 2013 .

ASTM E1822, *Standard Method for Fire Testing of Stacked Chairs*, 2009 2013 .

ASTM E2280, *Standard Guide for Fire Hazard Assessment of the Effect of Upholstered Seating Furniture Within Patient Rooms of Health Care Facilities*, 2009 2013 .

ASTM F1005, *Standard Practice for HVAC Duct Shapes; Identification and Description of Design Configurations*, 2013.

ASTM F1138, *Standard Specification for Spray Shields for Mechanical Joints*, 1998(2007) , 2014 .

**D.1.2.4** California Department of Consumer Affairs Publications.

Bureau of Home Furnishings and Thermal Insulation, 3485 Orange Grove Avenue, North Highlands, CA 95660-5595.

Technical Bulletin CA TB 129, *Flammability Test Procedure for Mattresses for Use in Public Buildings*, 1992.

Technical Bulletin CA TB 133, *Flammability Test Procedure for Seating Furniture for Use in Public Occupancies*, 1991.

**D.1.2.5** IEEE Publications.

Institute of Electrical and Electronics Engineers, 445 Hoes Lane, Piscataway, NJ 08854-4141

IEEE 45, *Recommended Practice for Electrical Installations on Shipboard*, 2002.

IEEE 1580, *Recommended Practice for Marine Cable for Use on Shipboard and Fixed or Floating Facilities*, 2010.

**D.1.2.6** IMO Publications.

International Maritime Organization, 4 Albert Embankment, London, SE1 7SR.

Assembly Resolution A.472(XII), *Improved Recommendation on Test Method for Qualifying Marine Construction Materials as Non-combustible* , 1981.

Assembly Resolution A.754(18), *Recommendation on Fire Resistance Tests for "A", "B" and "F" Class Divisions* , 1993.

*Fire Test Procedures Code: International Code for the Application of Fire Procedures (FTP Code)* , 2010.

*Gas Carrier Code*, 1983 (with 1993 supplement).

*IMO International Code of Safety for High-Speed Craft (HSC Code)*, 2008.

*International Code for the Construction and Equipment of Ships Carrying Chemicals in Bulk (IBC)*, 2007.

*International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH)*, 2007 2008 .

*International Convention for Safety of Life at Sea (SOLAS)*, Chapter II-2, 1974, as amended (consolidated edition 2009 2014 ).

*International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers*, 1978, (as amended 1995 consolidated edition 2011 ).

*International Gas Carrier Code (IGC)*, 1993.

Maritime Safety Committee Circular (MSC/Circ.) 41(64), *Interim Standard for Measuring Smoke and Toxic Products of Combustion* , 1994.

Maritime Safety Committee Circular (MSC/Circ.) 732, *Interim Guidelines on the Test Procedure for Demonstrating the Equivalence of Composite Materials to Steel Under the Provisions of the 1974 SOLAS Convention* , 2000.

**D.1.2.7** NAVSEA Publications.

Naval Sea Systems Command (NAVSEA), Washington, DC 20024.

NAVSEA Technical Manual 0938-LP-018-0010, *Heating, Ventilation and Air Conditioning Design Criteria Manual for Surface Ships of the U.S. Navy*, 1991.

**D.1.2.8** SFPE Publications.

Society of Fire Protection Engineers, 7315 Wisconsin Avenue, Suite 620E, Bethesda , MD 20814 9711 Washington Blvd, Suite 380, Gaithersburg, MD 20878 .

*The Code Official's Guide to Performance-Based Design Review*, 2004.

*SFPE Computer Software Directory*.

*SFPE Engineering Guide — Evaluation of the Computer Fire Model DETACT-QS*, 2002.

*SFPE Engineering Guide — Human Behavior in Fire*, 2003 2008 .

*SFPE Engineering Guide to Performance-Based Fire Protection Analysis and Design of Buildings*, 2nd edition, 2007.

*SFPE Guidelines for Peer Review in the Fire Protection Design Process*, 2002, revised 2009 .

*SFPE Handbook of Fire Protection Engineering*, 3rd edition, 2002 2008 .

**D.1.2.9** SNAME Publications.

Society of Naval Architects and Marine Engineers, 601 Pavonia Avenue, Jersey City, NJ 07306 99 Canal Center Plaza, Suite 310, Alexandria, VA 22314 .

*The Society of Naval Architects and Marine Engineers Technical and Research Bulletin, No. T&R 2-21*, "Aluminum Fire Protection Guidelines," 1974.

*The Society of Naval Architects and Marine Engineers Technical and Research Bulletin, No. T&R 4-16*, "Calculations for Merchant Ship Heating, Ventilation and Air Conditioning Design," 1980.

**D.1.2.10** Transport Canada Publications.

Transport Canada, 330 Sparks Street, Ottawa, ON K1A 0N5.

CSA 20/TP 4813, Canada Shipping Act 2001, *Fire Detection and Extinguishing Equipment Regulations*, 2001.

**D.1.2.11** U.S. Government Publications.

U.S. Government Printing Office Publishing, Washington, DC 20402.

Title 46, Code of Federal Regulations, "~~Shipping~~," 2009 Part 10, "Licensing of Maritime Personnel."

Title 46, Code of Federal Regulations, Part 10, "Licensing of Maritime Personnel."

Title 46, Code of Federal Regulations, Part 12, "Certification of Seamen."

Title 46, Code of Federal Regulations, Part 32, Subchapter D, "Tank Vessels."

Title 46, Code of Federal Regulations, Part 50, Subchapter F, "Marine Engineering."

Title 46, Code of Federal Regulations, Part 111, "Electric Systems — General Requirements."

Title 46, Code of Federal Regulations, Part 146, "Transportation or Storage of Military Explosives on Board Vessels."

Title 46, Code of Federal Regulations, Part 147, Subchapter N, "Dangerous Cargoes."

Title 46, Code of Federal Regulations, Part 194, "Handling, Use, and Control of Explosives and Other Hazardous Materials."

Title 46, Code of Federal Regulations, Part 194, 15–5, "Chemicals in the Chemistry Laboratory."

**D.1.2.12** Additional Publications.

*Australian Fire Engineering Guidelines*, Victoria Department of Human Services, 2001.

*British Standard Firesafety Engineering in Buildings*, British Standards Institution, London, U.K., 1997.

Carpenter, D., "An Updated International Survey of Computer Models for Fire and Smoke," *Journal of Fire Protection Engineering*, 13(2), 2003.

Gann, R. G., et al., "Fire Conditions for Smoke Toxicity Measurement," *Fire and Materials*, 18, 1994.

Hirschler, M. M., et al., *Carbon Monoxide and Human Lethality: Fire and Non-Fire Studies*, Elsevier, 1993.

*International Safety Guide of Oil Tankers and Terminals (ISGOTT)*, 5th Edition, International Chamber of Shipping, London, UK, 2006.

Kaplan, H. L., et al., "Acute Inhalation Toxicity of the Smoke Produced by Five Halogenated Polymers," *Journal of Fire Sciences*, 2, 1984.

**D.2** Informational References. (Reserved)**D.3** References for Extracts in Informational Sections.

NFPA 101<sup>®</sup>, *Life Safety Code*<sup>®</sup>, 2012 2015 edition.

NFPA 5000<sup>®</sup>, *Building Construction and Safety Code*<sup>®</sup>, 2012 2015 edition.

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**Committee Statement**

**Committee Statement:** Referenced publications have been updated with names, addresses and edition dates. ASHRAE publications that were included in Annex B (see FR-22-NFPA 301-2015) are included here as D.1.2.2 and subsequent sections renumbered. ASTM references have been updated as per the recommendation in PI-22-NFPA 301-2015. IMO publication references were added due to first revisions: FR-23-NFPA 301-2015 and FR-24-NFPA 301-2015.

**Response Message:**

[Public Input No. 11-NFPA 301-2014 \[Chapter D\]](#)