Enclosed is the agenda for the NFPA 750 First Draft meeting of the Technical Committee on Water Mist Fire Suppression Systems, which will be held on **Tuesday, October 25th through Wednesday, October 26th, 2016 in Memphis, TN.**

In preparation for the First Draft Meeting also enclosed is a Technical Memorandum from FM Global for your review to substantiate Public Inputs 72, 73 and 74.

Please review the attached Public Inputs in advance, and if you have alternate suggestions, please come prepared with proposed language and respective substantiation.

If you have any questions prior to the meeting, please do not hesitate to contact me at:

Office: (617) 984-7376  
Email: ctuttle@nfpa.org

For administrative questions, please contact Yvonne Smith at (617) 984-7489.

I look forward to working with everyone.
Technical Committee on Water Mist Fire Suppression Systems
(WAM-AAA)
NFPA 750 First Draft Meeting (Annual 2018)
Tuesday, October 25 to Wednesday, October 26, 2016
Springhill Suites Memphis Downtown
85 Court Ave. Memphis, TN

AGENDA
Tuesday, October 25, 2016

1. Call to Order – 8:00 am UTC (10/25)

2. Introductions and Attendance

3. Chairman Comments

4. Approval of Previous Meeting Minutes

5. Staff Liaison Presentation on NFPA Revision Process and A2018 Cycle

6. Preparation of the First Draft
   • Review Public Inputs
   • Create First Revisions

7. New Business
   • Next Meeting

8. Adjournment

Please submit requests for additional agenda items to the chair and staff liaison at least seven days prior to the meeting.
**Technical Committee on Water Mist Fire Suppression Systems**  
(WAM-AAA)  
NFPA 750 First Draft Meeting (Annual 2018)  
Tuesday, October 25 to Wednesday, October 26, 2016  
Springhill Suites Memphis Downtown  
85 Court Ave. Memphis, TN

---

**Key Dates for the Annual 2018 Revision Cycle**

<table>
<thead>
<tr>
<th><strong>Event</strong></th>
<th><strong>Date</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Input Closing Date</td>
<td>June 29, 2016</td>
</tr>
<tr>
<td><strong>Final Date for First Draft Meeting</strong></td>
<td>December 7, 2016</td>
</tr>
<tr>
<td>Posting of Ballot by</td>
<td>January 25, 2017</td>
</tr>
<tr>
<td><strong>First Draft Ballot Due Date</strong></td>
<td>February 15, 2017</td>
</tr>
<tr>
<td><strong>Posting of First Draft Report</strong> for Public Comment</td>
<td>March 1, 2017</td>
</tr>
<tr>
<td>Public Comment Closing Date</td>
<td>May 10, 2017</td>
</tr>
<tr>
<td><strong>Final Date for Second Draft Meeting</strong></td>
<td>November 8, 2017</td>
</tr>
<tr>
<td>Posting of Ballot by</td>
<td>December 20, 2017</td>
</tr>
<tr>
<td><strong>Ballots due by</strong></td>
<td>January 10, 2018</td>
</tr>
<tr>
<td>Posting of Second Draft Report for NITMAM Review</td>
<td>January 24, 2018</td>
</tr>
<tr>
<td><strong>Closing Date for Notice of Intent to Make a Motion (NITMAM)</strong></td>
<td>February 21, 2018</td>
</tr>
<tr>
<td><strong>Issuance of Consent Document (No NITMAMs)</strong></td>
<td>April 29, 2018</td>
</tr>
<tr>
<td><strong>NFPA Annual Meeting</strong></td>
<td>TBA</td>
</tr>
<tr>
<td><strong>Issuance of Document with NITMAM</strong></td>
<td>August 14, 2018</td>
</tr>
</tbody>
</table>

Technical Committee deadlines are in **bold.**
Technical Committee on Water Mist Fire Suppression Systems

Second Draft Meeting

January 29-31, 2013

Palm Beach Gardens, Florida

Meeting Minutes

Date: January 29, 2013

1. **Call to Order.** Meeting was called to order by Chair Larry Owen at 8:00 AM.

2. **Building Safety Message.** Building safety was discussed and exits identified by Chair Larry Owen.

3. **Self-Introductions of Members and Guests.** Committee members introduced themselves followed by self-introductions of guests. (See attached attendance list)

4. **Training.** NFPA Re-Engineering Process Update, presented by Sandra Stanek, NFPA

5. **Committee Member Statement.** Jack Mawhinney, Hughes Associates, Principal Member of Committee, stated that he would recuse himself from voting on any comment as his firm (Hughes Associates) has been retained by UTC Marioff to represent them.

6. **Committee Action on Public Comments.**

7. **Break for Lunch:** Noon to 1:00 PM

8. **Committee Action on Public Comments, cont.**

9. **Committee Forms Task Group 1:**
   - **Purpose:** Task Group 1 to develop terminology related to Occupancy Protection Systems.
   - **Members:** Karl Wiegand - Chair, Jack Mawhinney, Bob Kasiski, Kerry Bell, Milosh Puchovsky, Terry Victor, John LeBlanc (FM), Allan Rhodes

10. **Adjournment of Tuesday Meeting:** The meeting was adjourned at 6:00 PM.

Date: January 30, 2013
Technical Committee on Water Mist Fire Suppression Systems

Second Draft Meeting

January 29-31, 2013

Palm Beach Gardens, Florida

Meeting Minutes

1. **Call to Order.** Meeting was called to order by Chair Larry Owen at 8:05 AM.

2. **Committee Action on Public Comments, cont.**

3. **Task Group 1 Report:** Task Group 1 compiled a list of affected sections relative to the proposed definitions for committee action.

4. **Break for Lunch:** Noon to 1:00 PM

5. **Committee Action on Public Comments, cont.**

6. **Committee Forms Task Group 2:**
   Purpose: Task Group 2 to develop proposed changes to Chapter 12 related to data from Chapter 10.
   Members - Chair, Karl Wiegand; Jack Mawhinney Bob Kasiski, Eric Houin, Dan Hubert.

7. **Adjournment of Wednesday Meeting:** The meeting was adjourned at 5:40 PM.

Date: January 31, 2013

1. **Call to Order.** Meeting was called to order by Chair Larry Owen at 8:09 AM.

2. **Committee Action on Public Comments.**

3. **Task Group 2 Report:** Task Group 2 compiled a list of affected sections relative to the proposed changes for committee action.

8. **Next Meeting.** Next meeting proposed for February 12, 2013, 10:00 AM Eastern via Adobe Connect. Meeting notice to be sent to Committee Members.

9. **Adjournment:** The meeting adjourned at 12:05 PM.
# Technical Committee on Water Mist Fire Suppression Systems

## Second Draft Meeting

### January 29-31, 2013

Palm Beach Gardens, Florida

### Meeting Minutes

<table>
<thead>
<tr>
<th>CHAIR</th>
<th>REPRESENTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larry Owen</td>
<td>Dooley Tackaberry, Inc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PRINCIPAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthony Cacioppo</td>
<td>United Assn. of Journeymen &amp; Apprentices</td>
</tr>
<tr>
<td>Eric Houin</td>
<td>Securiplex LLC Products</td>
</tr>
<tr>
<td>Daniel Hubert</td>
<td>Fire Suppression Systems Association</td>
</tr>
<tr>
<td>William Janz</td>
<td>XL Global Asset Protection Services</td>
</tr>
<tr>
<td>Robert Kasiski</td>
<td>FM Global</td>
</tr>
<tr>
<td>George Laverick</td>
<td>Underwriters Laboratories LLC</td>
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<tr>
<td>Jack Mawhinney</td>
<td>Hughes Associates, Inc.</td>
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<tr>
<td>Thomas Prymak</td>
<td>The RJA Group, Inc.</td>
</tr>
<tr>
<td>Milosh Puchovsky</td>
<td>Worcester Polytechnic Institute</td>
</tr>
<tr>
<td>William Reilly</td>
<td>Victaulic Company of America</td>
</tr>
<tr>
<td>Allan Rhodes</td>
<td>UTC/Marioff</td>
</tr>
<tr>
<td>Robert Stubblefield</td>
<td>AREVA Inc.</td>
</tr>
<tr>
<td>Thomas Suehr</td>
<td>Property Casualty Insurers Association</td>
</tr>
<tr>
<td>Tom Ziegler</td>
<td>Verizon</td>
</tr>
<tr>
<td>Karl Wiegand</td>
<td>Property Casualty Insurers Association</td>
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<tr>
<td>ALTERNATE</td>
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<tr>
<td>Kerry Bell</td>
<td>Underwriters Laboratories LLC</td>
</tr>
<tr>
<td>Jeffry Dudley</td>
<td>National Aeronautics &amp; Space</td>
</tr>
<tr>
<td>Paul Felch</td>
<td>National Fire Sprinkler Association</td>
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<tr>
<td>Michael Koczera</td>
<td>Property Casualty Insurers Association</td>
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</tr>
<tr>
<td>Zachary Magnone</td>
<td>Tyco Fire Suppression &amp; Building Products</td>
</tr>
<tr>
<td>Jim Scoggins</td>
<td>WorleyParsons, Inc.</td>
</tr>
<tr>
<td>Chen-Hsiang Su</td>
<td>Aon Fire Protection Engineering</td>
</tr>
<tr>
<td>Hong-Zeng Yu</td>
<td>FM Global</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>GUESTS</td>
<td></td>
</tr>
<tr>
<td>Wesley Jolin</td>
<td>West Palm Beach Fire Rescue</td>
</tr>
</tbody>
</table>
# Technical Committee on Water Mist Fire Suppression Systems

## Second Draft Meeting

**January 29-31, 2013**

**Palm Beach Gardens, Florida**

### Meeting Minutes

<table>
<thead>
<tr>
<th>GUESTS CONT.</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Derrick Daniels</td>
<td>West Palm Beach Fire Rescue</td>
</tr>
<tr>
<td>Brian Jones</td>
<td>Fike Corporation</td>
</tr>
<tr>
<td>Bryan Siewert</td>
<td>UTC-CCS</td>
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<tr>
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<tr>
<td>Mike Wallace</td>
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</tr>
<tr>
<td>Terry Victor</td>
<td>Tyco/Simplex Grinnell</td>
</tr>
<tr>
<td>Scott Franson</td>
<td>The Viking Corp.</td>
</tr>
<tr>
<td>Eric Rosenbaum</td>
<td>Hughes Associates Rep. Marioff</td>
</tr>
<tr>
<td>Lance Harry</td>
<td>UTC/Marioff</td>
</tr>
</tbody>
</table>

### NFPA STAFF

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandra Stanek</td>
<td>NFPA Staff Liaison</td>
</tr>
<tr>
<td>Richard Bielen</td>
<td>NFPA</td>
</tr>
</tbody>
</table>
Technical Committee on Water Mist Fire Suppression Systems

Second Draft Meeting

January 29-31, 2013

Palm Beach Gardens, Florida

Meeting Minutes

Meeting Resumed via Web/Teleconference on Feb.12, 2013

Meeting was called to order at 10AM. (EST)

Introductions and Attendance:

The following members and guests were in attendance:

<table>
<thead>
<tr>
<th>CHAIR</th>
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<td>International Water Mist Association</td>
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<td>Savannah River Nuclear Solutions</td>
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Technical Committee on Water Mist Fire Suppression Systems

Second Draft Meeting

January 29-31, 2013

Palm Beach Gardens, Florida

Meeting Minutes

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<td>NFPA</td>
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</table>

There was a review of the completed Terra software involving the Second Revisions due to the staff liaison’s computer hardware issue at the meeting. All was reviewed and revisions were made to Chapter 5 & Chapter 10 information.

The meeting was adjourned at 12:00 noon EST.
Chapter 2 Referenced Publications

2.1 General.
The documents or portions thereof listed in this chapter are referenced within this standard 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.

2.3 Other Publications.
2.3.1 ASME Publications.
ASME B16.18, Cast Copper Alloy Solder Joint Pressure Fittings, 2012.
2.3.2 ASTM Publications.
ASTM International, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959.
2.3.3 AWS Publications.
American Welding Society, 550 N.W. LeJeune Road, 8869 NW 36 Street, #130, Miami, FL 33126 33166-6672 .
2.3.4 IMO Publications.
International Maritime Organization, 4 Albert Embankment, London, SEI 7SR, United Kingdom.
IMO Assembly Resolution A.800(19), Revised Guidelines for Approval of Sprinkler Systems.
IMO MSC/Circ. 668, Alternative Arrangements for Halon Fire-Extinguishing Systems in Machinery Spaces and Pumprooms.
IMO MSC/Circ. 728, Revised Test Method for Equivalent Water-Based Fire-Extinguishing Systems for Machinery Spaces of Category A and Cargo Pump-Rooms Contained in MSC/Circ. 668.
IMO MSC/Circ. 913, Guidelines for the Approval of Fixed Water-Based Local Application Fire-Fighting Systems for Use in Category A Machinery Spaces, 1999.
2.3.5 ISO Publications.

International Organization for Standardization, 1 rue de Varembé, Case postale 56, CH-1211 Geneva 20, ISO Central Secretariat, BIBC II, 8, Chemin de Blandonnet, CP 401, 1214 Vernier, Geneva, Switzerland.


2.3.6 ULC Publications.

Underwriters’ Laboratories of Canada, 7 Underwriters Road, Toronto, Ontario M1R 3B4, Canada.


2.3.7 U.S. Coast Guard Publication.

2100 Second Street, S.W., Washington, DC 20593-0001.


2.3.8 U.S. Government Publication.


Title 46, Code of Federal Regulations, Parts 56.50 and 56.75, “Shipping.”

Title 49, Code of Federal Regulations, “Transportation.”

2.3.9 Other Publications.


2.4 References for Extracts in Mandatory Sections.


Statement of Problem and Substantiation for Public Input

Referenced current SDO names, addresses, standard names, numbers, and editions.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Input No. 3-NFPA 750-2015 [Chapter E]</td>
<td></td>
</tr>
</tbody>
</table>

Submitter Information Verification

Submitter Full Name: Aaron Adamczyk
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jul 22 00:51:38 EDT 2015
Public Input No. 49-NFPA 750-2016 [Section No. 2.2]

2.2 NFPA Publications.

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


Statement of Problem and Substantiation for Public Input

Adding NFPA 4 standard since referenced in this document (if Public Input 47 is approved for First Revision).

Submitter Information Verification

Submitter Full Name: Kimberly Gruner
Organization: Fike Corporation
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 06 15:13:07 EST 2016
2.3.4 IMO Publications.

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

IMO Assembly Resolution A.800(19), Revised Guidelines for Approval of Sprinkler Systems and Resolution MSC. 265(84) (adopted on 9 May 2008) amendments to the revised guidelines for Approval of Sprinkler Systems equivalent to that referred to in SOLAS regulation II-2/12 (Resolution A.800(19))


IMO MSC/Circ. 668, Alternative Arrangements for Halon Fire-Extinguishing Systems in Machinery Spaces and Pumprooms.

IMO MSC/Circ. 728, Revised Test Method for Equivalent Water-Based Fire-Extinguishing Systems for Machinery Spaces of Category A and Cargo Pump-Rooms Contained in MSC/Circ. 668.

IMO MSC/Circ. 913, Circ. 1165, Revised Guidelines for the Approval of equivalent water-based fire-extinguishing systems for Machinery Spaces and Cargo Pump-Rooms.

MSC Circ. 1387 Revised Guidelines for the Approval of Fixed Water-Based Local Application Fire-Fighting Systems for Use in Category A Machinery Spaces, 1999 (MSC/CIRC.913)


Statement of Problem and Substantiation for Public Input

IMO Standards referred in this section have been replaced by new versions during last year. There is the need to upgrade NFPA750 to refer to latest published standards.

Submitter Information Verification

Submitter Full Name: Alex Palau
Organization: Tyco Fire Protection Products
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 08 10:57:32 EDT 2016
Public Input No. 57-NFPA 750-2016 [ New Section after 2.3.5 ]

TITLE OF NEW CONTENT

2.3.6

Underwriters Laboratories Publications

Statement of Problem and Substantiation for Public Input

Currently the UL 213 and UL 852 standards are not currently referenced by NFPA 750 but are widely used standards for Rubber Gasketed Fittings and Metallic Pipe for Fire Protection Service. The addition of the publications coincides with the related public input submittals and will help to more clearly identify accepted reference standards for fire protection pipe and fittings.

Proposing addition of UL reference standard would come first in section 2.3.6 and adjusting the numbers on all following sections.

There is no fiscal impacts associated with this proposal.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
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<tbody>
<tr>
<td>Public Input No. 56-NFPA 750-2016 [Section No. 6.4.2.1]</td>
<td>Addition of UL 213 to Fittings Table</td>
</tr>
</tbody>
</table>

Submitter Information Verification

Submitter Full Name: Mark Fasel  
Organization: Viega Llc  
Street Address:  
City:  
State:  
Zip:  
Submittal Date: Sat Jun 11 11:25:55 EDT 2016
Public Input No. 71-NFPA 750-2016 [ Section No. 2.3.6 ]

2.3.6 ULC Publications.

Underwriters’ Laboratories of Canada, 7 Underwriters Road, Toronto, Ontario M1R 3B4, Canada.


Statement of Problem and Substantiation for Public Input

This proposal updates the UL Standards to the current referenced edition.

Submitter Information Verification

Submitter Full Name: Ronald Farr
Organization: UL LLC
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 28 10:23:23 EDT 2016
3.3.24.1 Deluge Water Mist System.

A water mist system utilizing nonautomatic mist nozzles (open) attached to a piping network connected to the fluid supply(ies) directly or through a valve controlled by an independent detection system installed in the same area as the mist nozzles.

Statement of Problem and Substantiation for Public Input

There are listed solutions that do not require a valve to be installed between nozzles and water supply. This clause is forcing the use of these valves which in these cases are not needed to properly operate. By adding “directly” we will allow the use of this listed solutions.

Submitter Information Verification

Submitter Full Name: Alex Palau
Organization: Tyco Fire Protection Products
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Wed Jun 15 12:29:19 EDT 2016
6.2.2.5 Excess Pressure.

Each pressurized container shall be provided with a safety device to release excess pressure. and for applications with multiple pressure containers with a common manifold where no individual container can be isolated a single safety device is allowed.

Statement of Problem and Substantiation for Public Input

This would allow systems with a common manifold to use only one safety device to accomplish the intent of this section.

Submitter Information Verification

Submitter Full Name: Joseph Barter
Organization: Marioff North America
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 11:26:44 EDT 2016
Pipe or tube used in low pressure water mist systems shall meet or exceed one of the standards in Table 6.3.3.1 or shall be in accordance with 6.3.2.

Table 6.3.3.1 Pipe or Tube Standards

<table>
<thead>
<tr>
<th>Copper Tube (Drawn, Seamless)</th>
<th>Standard No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Specification for Solder Metal [95-5 (Tin-Antimony-Grade 95TA)]</td>
<td>ASTM B 32</td>
</tr>
<tr>
<td>Standard Specification for Seamless Copper Tube</td>
<td>ASTM B 75</td>
</tr>
<tr>
<td>Standard Specification for Seamless Copper Water Tube</td>
<td>ASTM B 88</td>
</tr>
<tr>
<td>Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube</td>
<td>ASTM B 251</td>
</tr>
<tr>
<td>Standard Specification for Liquid and Paste Fluxes for Soldering Applications of Copper and Copper-Alloy Tube</td>
<td>ASTM B 813</td>
</tr>
<tr>
<td>Specification for Filler Metals for Brazing and Braze Welding (Classification BCuP-3 or BCuP-4)</td>
<td>AWS A5.8</td>
</tr>
<tr>
<td>Standard for Metallic Sprinkler Pipe for Fire Protection Service</td>
<td>UL 852</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stainless Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service</td>
</tr>
<tr>
<td>Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing (Small-Diameter) for General Service</td>
</tr>
<tr>
<td>Standard Specification for Welded, Unannealed Austenitic Stainless Steel Tubular Products</td>
</tr>
<tr>
<td>Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service</td>
</tr>
<tr>
<td>Standard for Metallic Sprinkler Pipe for Fire Protection Service</td>
</tr>
</tbody>
</table>

*Denotes pipe or tube suitable for bending (see 5.3.6) according to ASTM standards.

Statement of Problem and Substantiation for Public Input

Current table does not recognize UL 852 which is a widely used standard for both copper and stainless steel pipe specifications for Fire Protection Service and is in full compliance with the requirements of NFPA 750. This addition will help to harmonize the most widely used standards in the industry and prevent confusion of acceptable standard specification requirements. There is no fiscal impact associated with the proposal.

Submitter Information Verification

Submitter Full Name: Mark Fasel
Organization: Viega Llc
Street Address: 
City: 
State:
<table>
<thead>
<tr>
<th><strong>Zip:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Submittal Date:</strong> Sat Jun 11 11:38:12 EDT 2016</td>
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</tbody>
</table>
Bending of Type K and Type L copper tube or stainless steel tube or pipe shall be permitted, provided that all bending details are in accordance with the tubing manufacturer’s recommendations, the strength requirements of ASME B31.1, Power Piping Code, or EN-13480-3, Metallic Industrial Piping Code, or the following, whichever is greatest:

1. For Type K or Type L copper tubing and stainless steel pipe, the minimum bending radius is six pipe or tube diameters.

2. For Type 304L or Type 316 stainless steel tube, the minimum bending radius is two diameters up to 38 mm (1 1/2 in.) OD, and four diameters for 51 mm (2 in.) tubing.

Statement of Problem and Substantiation for Public Input

This would include the EN standards for bending much as the EN standards for pressurized tubing were added in section 6.3.4.3 of the last revision.

Submitter Information Verification

Submitter Full Name: Joseph Barter
Organization: Marioff North America
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 11:36:38 EDT 2016
6.4.2.1
Fittings used in water mist systems shall meet or exceed the standards in Table 6.4.2.1 or shall be in accordance with 6.4.2.2.

Table 6.4.2.1 Fitting Standards

<table>
<thead>
<tr>
<th>Materials and Dimensions and Standard Titles</th>
<th>Standard No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td></td>
</tr>
<tr>
<td><em>Cast Copper Alloy Solder Joint Pressure Fittings</em></td>
<td>ANSI/ASME B16.18</td>
</tr>
<tr>
<td><em>Wrought Copper and Copper Alloy Solder Joint Pressure Fittings</em></td>
<td>ANSI/ASME B16.22</td>
</tr>
<tr>
<td><em>Standard for Rubber Gasketed Fittings for Fire Protection Service</em></td>
<td>UL 213</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td><em>Standard Specification for Castings, Austenitic, Austenitic-Ferritic (Duplex) for Pressure-Containing Parts</em></td>
<td>ASTM A 351/A 351M</td>
</tr>
<tr>
<td><em>Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings</em></td>
<td>ASTM A 403/A 403M</td>
</tr>
<tr>
<td><em>Standard Specification for As-Welded Wrought Austenitic Stainless Steel Fittings for General Corrosive Service at Low and Moderate Temperatures</em></td>
<td>ASTM A 774/A 774M</td>
</tr>
<tr>
<td><em>Standard Specification for Wrought Ferritic, Ferritic/Austenitic, and Martensitic Stainless Steel Piping Fittings</em></td>
<td>ASTM A 815/A 815M</td>
</tr>
<tr>
<td><em>Standard for Rubber Gasketed Fittings for Fire Protection Service</em></td>
<td>UL 213</td>
</tr>
</tbody>
</table>

Statement of Problem and Substantiation for Public Input

UL 213 is currently not referenced by NFPA 750-2016. UL 213 is a widely used standard for Rubber Gasketed Fittings for Fire Protection Service for copper, steel, and stainless steel and should be referenced as Press-Connect fittings among many other type of fittings are listed to this standard for fire protection. Adding this standard reference will harmonize the standards used for Rubber Gasketed fittings for Fire Protection services.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
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<tbody>
<tr>
<td>Public Input No. 57-NFPA 750-2016 [New Section after 2.3.5]</td>
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</table>

Submitter Information Verification

Submitter Full Name: Mark Fasel  
Organization: Viega Llc  
Street Address:  
City:  
State:  
Zip:  
Submittal Date: Sat Jun 11 11:15:47 EDT 2016
6.10.1.1.2 Systems that are integrated with the Watermist Fire Protection System shall be planned, tested, documented, and maintained in accordance with NFPA 4 Standard for Integrated Fire Protection and Life Safety System Testing.

Statement of Problem and Substantiation for Public Input

Many installations utilize various individual systems (Watermist Fire Protection, Fire Alarm or signaling system, emergency communication system, fire doors, dampers, elevators, smoke control, HVAC, supervising station, etc.) for fire protection and life safety where each may utilize their own code, standard, or acceptance criteria. NFPA 4 is a new standard that provides requirements for testing integrated systems together so that the entire fire protection and life safety system objective is accomplished.

Submitter Information Verification

Submitter Full Name: Kimberly Gruner
Organization: Fike Corporation
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 06 15:04:55 EST 2016
Public Input No. 48-NFPA 750-2016 [Section No. 6.10.1.1]

6.10.1.1 Installation, Testing, and Maintenance Standards.

6.10.1.1.1 Detection, actuation, alarm, and control systems shall be installed, tested, and maintained in accordance with the following protective signaling systems standards as applicable:

(1) NFPA 70, National Electrical Code
(2) NFPA 72, National Fire Alarm and Signaling Code
(3) CAN/ULC S524-06, Standard for the Installation of Fire Alarm Systems (in Canada)

Statement of Problem and Substantiation for Public Input

Adding section number to comply with manual of style if Public Input 47 is approved.

Submitter Information Verification

Submitter Full Name: Kimberly Gruner
Organization: Fike Corporation
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jan 06 15:10:18 EST 2016
7.7.1 * Media System Types.  

Water mist systems shall be classified by two media system types:

(1) (1) Single fluid

(2) (2) Twin fluid

Statement of Problem and Substantiation for Public Input

Provide continuity of technical information of the four parameter types. This is existing Section 7.5 Media System Types being moved to Section 7.1, General.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
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Submitter Information Verification

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Submitter Full Name</td>
<td>Robert Kasiski</td>
</tr>
<tr>
<td>Organization</td>
<td>FM Global</td>
</tr>
<tr>
<td>Street Address</td>
<td></td>
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<tr>
<td>City</td>
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<tr>
<td>Submittal Date</td>
<td>Mon Jun 27 15:39:50 EDT 2016</td>
</tr>
</tbody>
</table>
### 7.4.3 Preaction Systems.

**7.4.3.1** Preaction systems shall employ automatic nozzles attached to a piping network containing a pressurized gas with a supplemental, independent detection system installed in the same area as the automatic nozzles.

**7.4.3.2**

- Preaction systems shall be one of the following types:
  1. A single interlock system, which admits water to the water mist system piping upon actuation of detection devices.
  2. A non-interlock system, which admits water to the water mist system upon operation of the detection devices or automatic water mist nozzles.
  3. A double interlock system, which admits water to the water mist system piping upon operation of both detection devices and automatic nozzles.

**7.4.3.3** Preaction systems shall be designed and installed in accordance with the specifications developed for their listing in accordance with Section 9.5.

**7.4.3.4** All preaction systems shall not use a gridded piping configuration.

**7.4.3.5** The preaction system size shall be designed to deliver water to the most remote nozzle at the maximum water delivery time delay from the listing for the application, starting at the normal air pressure on the system, with the detection system activated and the inspection test connection located for the most remote automatic nozzle fully opened simultaneously.

**7.4.3.6** System operation tests shall be conducted to verify the actual water delivery delay in accordance with Section 14.2.6.

**7.4.3.7** The pressurized piping in all preaction systems shall be supervised to ensure system integrity.

**7.4.3.8** Operation of the detection system shall actuate a listed tripping device that opens the valve, pressurizing the pipe network with water to the automatic nozzles.

### Statement of Problem and Substantiation for Public Input

Additional guidance is needed to properly design and install preaction water mist systems. Section 7.4.3.1 is the current requirement in NFPA 750

Section 7.4.3.2 is based upon the current requirements of NFPA 13, 2013 edition, Section 7.3.2.1 for preaction systems

Section 7.4.3.3 is based upon testing conducted by FM Global. Please reference the associated Technical Memorandum

Section 7.4.3.4 is based upon current design practices by manufacturers in order to achieve the proper venting of air in the piping configuration for proper water delivery delay.

Section 7.4.3.5 is based upon the current requirements of NFPA 13, 2013 edition, Section 7.3.2.3.1.1 for preaction systems

Section 7.4.3.6 is proposed in order to confirm the proper operation of the preaction system

Section 7.4.3.7 is the current Section 7.4.3.3 in NFPA 750, 2015 edition
Section 7.4.3.8 is the current Section 7.4.3.2 in NFPA 750, 2015 edition modified to included "listed" tripping device and "automatic" nozzless for which are required with preaction systems.

Section 7.4.3.8.1 is based upon the current requirements of NFPA 13, 2013 edition, Section 7.3.1.2 for preaction systems.

Section 7.4.3.9 is proposed to provide guidance for detection which is an integral part of a preaction system.

**Related Public Inputs for This Document**

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<tr>
<th>Related Input</th>
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<tr>
<td>Public Input No. 74-NFPA 750-2016 [New Section after 14.2.6.5]</td>
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</table>

**Submitter Information Verification**

Submitter Full Name: Robert Kasiski
Organization: FM Global
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Tue Jun 28 15:27:30 EDT 2016
Media System Types.

Water mist systems shall be classified by two media system types:

(1) Single fluid
(2) Twin fluid

Statement of Problem and Substantiation for Public Input

Provide continuity of technical information. Section 7.5 has been moved to new Section 7.1.1 as Medium System Types. This is one of the four parameters covered in Section 7.1

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
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</table>

Submitter Information Verification

Submitter Full Name: Robert Kasiski
Organization: FM Global
Street Address:
City:
State:
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Submittal Date: Mon Jun 27 15:35:36 EDT 2016
8.5.5.3.2
When any cylinder is removed for maintenance, automatic means shall be provided to prevent leakage from the manifold if the system is operated.

Statement of Problem and Substantiation for Public Input

Automatic is a very restrictive word which limits use of other solutions that provide same level of safety. There are other non-automatic listing means to prevent leakages from the manifold.

Submitter Information Verification

Submitter Full Name: Alex Palau
Organization: Tyco Fire Protection Products
Street Address:
City:
State:
Zip:
8.5.5.3.2
When any cylinder is removed for maintenance, automatic means shall be provided to prevent leakage from the manifold if the system is operated. or the system shall be taken out of service. Per the manufacturer's recommendation.

Statement of Problem and Substantiation for Public Input
This would allow the manufacturer to determine if the system is still functional when a cylinder is removed.

Submitter Information Verification
Submitter Full Name: Joseph Barter
Organization: Marioff North America
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 11:42:50 EDT 2016
9.2.1 Scope.

Listing of water mist fire protection systems or devices shall be based on a comprehensive evaluation designed to include fire test protocols, system components, and the contents of the manufacturer's design and installation manual. Components from different manufacturer's systems shall not be combined into one system unless listed as such.

Statement of Problem and Substantiation for Public Input

This is intended to stop end users from mixing different manufacturers components/systems in to one systems that was never designed or tested together.

Submitter Information Verification

Submitter Full Name: Joseph Barter
Organization: Marioff North America
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 11:46:28 EDT 2016
9.5 Preaction Systems. The listing requirements for a preaction water mist system shall be based upon the following:

(1) type of preaction system

(2) determining the maximum water delivery time:
   (a) from the fire test(s) for listing of the specific hazard or occupancy
   (b) not to exceed 60 seconds

(3) validation of the calculation method to determine the water delivery delay time.

Statement of Problem and Substantiation for Public Input

Additional guidance is needed to properly design a preaction water mist system. The specifications to be used for a preaction water mist system need to be developed from testing as part of the listing process. This Public Input identifies the critical parameters that need to be evaluated for those specifications.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
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<tbody>
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<td>Public Input No. 74-NFPA 750-2016 [New Section after 14.2.6.5]</td>
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</table>

Submitter Information Verification

Submitter Full Name: Robert Kasiski
Organization: FM Global
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Tue Jun 28 15:59:32 EDT 2016
### 12.5.4.5

Each pressurized container or cylinder shall be provided with a safety device to release excess pressure. Applications with multiple pressurized containers or cylinders with a common manifold can be used provided no individual container or cylinder is isolated from the safety device.

### Statement of Problem and Substantiation for Public Input

This addition will allow manufacturers with a common manifold system to use just one safety device to accomplish the intent of this section.

### Submitter Information Verification

**Submitter Full Name:** Joseph Barter  
**Organization:** Marioff North America  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Wed Jun 29 11:53:09 EDT 2016
12.5.4.6

A reliable means shall be provided to indicate the pressure and level in all storage containers that will be pressurized, including applications with multiple pressure containers where a common manifold can be used provided no individual container is isolated from the pressure indicator.

Statement of Problem and Substantiation for Public Input

This addition will allow manufacturers with a common manifold system to use just one device to accomplish the intent of this section across all pressurized storage containers.

Submitter Information Verification

Submitter Full Name: Joseph Barter
Organization: Marioff North America
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 29 11:57:18 EDT 2016
14.2.6.6 It shall be verified for preaction water mist systems the actual water delivery time delay is in accordance with the design of the water mist system.

Statement of Problem and Substantiation for Public Input

Preaction water mist systems need to validated for proper installation to their design specification as part of their listing in order to ensure proper performance for fire suppression.

Related Public Inputs for This Document

<table>
<thead>
<tr>
<th>Related Input</th>
<th>Relationship</th>
</tr>
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<tbody>
<tr>
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<td>Public Input No. 73-NFPA 750-2016 [New Section after 9.4]</td>
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</table>

Submitter Information Verification

Submitter Full Name: Robert Kasiski
Organization: FM Global
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Tue Jun 28 16:08:27 EDT 2016
16.3.9.1 Systems for machinery spaces shall be capable of fire extinguishment without the necessity of engine shutdown, personnel evacuation, shutdown of forced ventilation fans, or the sealing of the space as demonstrated by fire testing in accordance with IMO MSC\textsuperscript{c} CIRC. 913, 1387 Revised Guidelines for the Approval of Fixed Water-Based Local Application Fire-Fighting Systems for Use in Category A Machinery Spaces, (MSC/CIRC 913).

Statement of Problem and Substantiation for Public Input

IMO Standards referred in this section have been replaced by new versions during last year. There is the need to upgrade NFPA750 to refer to latest published standards.

Submitter Information Verification

Submitter Full Name: Alex Palau
Organization: Tyco Fire Protection Products
Street Address:
City:
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Zip:
Submittal Date: Wed Jun 15 12:33:30 EDT 2016
16.3.9.2
Component testing shall be in accordance with the following provisions of Appendix A of IMO MSC/Circ. 728 1165, Revised Test Method, Guidelines for the Approval of Equivalent Water-Based Fire-Extinguishing Systems for Machinery Spaces of Category A and Cargo Pump Rooms - Contained in MSC/Circ. 668.

(1) MSC/Circ. 668 1165, Section 3.4, “Water Flow and Distribution”
(2) MSC/Circ. 668 1165, Section 3.6, “Strength of Body”
(3) MSC/Circ. 668 1165, Section 3.11, “Corrosion”
(4) MSC/Circ. 668 1165, Section 3.15, “Resistance to Heat”
(5) MSC/Circ. 668 1165, Section 3.16, “Resistance to Vibration (Plus Functional Test in 3.5.2 Only)”
(6) MSC/Circ. 668 1165, Section 3.17, “Impact”
(7) MSC/Circ. 668 1165, Section 3.22, “Clogging”

Statement of Problem and Substantiation for Public Input

IMO Standards referred in this section have been replaced by new versions during last year. There is the need to upgrade NFPA750 to refer to latest published standards.

Submitter Information Verification

Submitter Full Name: Alex Palau
Organization: Tyco Fire Protection Products
Street Address:
City:
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Zip:
Submittal Date: Wed Jun 15 12:35:12 EDT 2016
A water mist system is a water-based fire protection system using very fine water sprays (i.e., water mist). The very small water droplets allow the water mist to control or extinguish fires by cooling of the flame and fire plume, oxygen displacement by water vapor, radiant heat attenuation, and prevention of fire spread by pre-wetting of combustibles. 

Water mist systems have proved effective in controlling, suppressing, or extinguishing many types of fires. Potential applications include the following:

1. Gas jet fires
2. Flammable and combustible liquids, including storages
3. Hazardous solids, including fires involving plastic foam furnishings
4. Protection of aircraft occupants from an external pool fire long enough to provide time to escape
5. Ordinary (Class A) combustible fires such as paper, wood, and textiles
6. Occupancy classifications in accordance with Chapter 5
7. Electrical hazards, such as transformers, switches, circuit breakers, and rotating equipment, and cable tunnels
8. Electronic equipment, including telecommunications equipment
9. Highway and railway tunnels (see NFPA 502, Standard for Road Tunnels, Bridges, and Other Limited Access Highways)
10. Fighter aircraft hangars, Light aircraft hangars, and Helicopter hangars

Statement of Problem and Substantiation for Public Input

Item (2) VdS has issued a type approval for water mist systems for liquid storage.
Item (7) High pressure water mist has been fire tested against cable fires in simulated cable tunnel conditions. There are number of projects where those systems have been installed to protect cable tunnels either in terms of control, suppression or even extinguishment. A fire test protocol for cable tunnels is included in the CEN/TS 14972:2011 technical specification, and VdS has issued type approvals for water mist systems for cable tunnels.
Item (10) There are existing fire test programs where high pressure water mist performance have been successfully evaluated for Fighter aircraft and helicopter hangars (Sintef and VTT). There are also some projects where water mist have been applied for such a use.

Submitter Information Verification

Submitter Full Name: Joseph Barter
Organization: Marioff North America
Street Address:
City:
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Zip:
Submittal Date: Wed Jun 29 12:02:03 EDT 2016
A7.1.1

Single-fluid and twin-fluid systems can be operated in the low, intermediate, or high pressure range.

(1) Single-Fluid Media Systems. A single-fluid media system requires one set of distribution piping to transport the fluid to each nozzle. Single-fluid media systems should produce water mist (droplet production) by one of the means specified as follows:

(2) Liquid should be discharged at a high velocity with respect to the surrounding air. The difference in velocities between the liquid and surrounding air should shear the liquid into small droplets.

(3) A liquid stream is impinged upon a fixed surface. The impact of the liquid on the surface breaks the liquid stream into small droplets.

(4) Two liquid streams of similar composition collide with one another. The collision of the two streams breaks the individual streams into small droplets.

(5) Liquid is either vibrated or electrically broken into small droplets (ultrasonic and electrostatic atomizers).

(6) Liquid is heated above its boiling point in a pressurized container and released suddenly to atmospheric pressure (flashing liquid sprays).

(7) Twin-Fluid Media Systems. Twin-fluid media systems produce water mist (droplet production) by impingement of two fluids delivered from separate piping systems. One set of piping provides a liquid (water) to the nozzle, and the second piping network provides an atomizing fluid/media.

Statement of Problem and Substantiation for Public Input

Align Annex A7.5 material with the movement of Section 7.5 to Section 7.1.1.

Submitter Information Verification

Submitter Full Name: Robert Kasiski
Organization: FM Global
Street Address: 
City: 
State: 
Zip: 
Submittal Date: Mon Jun 27 16:02:42 EDT 2016
A.7.5 —

Single-fluid and twin-fluid systems can be operated in the low, intermediate, or high pressure range.

(1) - Single-Fluid Media Systems. A single-fluid media system requires one set of distribution piping to transport the fluid to each nozzle. Single-fluid media systems should produce water mist (droplet production) by one of the means specified as follows:

(2) - Liquid should be discharged at a high velocity with respect to the surrounding air. The difference in velocities between the liquid and surrounding air should shear the liquid into small droplets.

(3) - A liquid stream is impinged upon a fixed surface. The impact of the liquid on the surface breaks the liquid stream into small droplets.

(4) - Two liquid streams of similar composition collide with one another. The collision of the two streams breaks the individual streams into small droplets.

(5) - Liquid is either vibrated or electrically broken into small droplets (ultrasonic and electrostatic atomizers).

(6) - Liquid is heated above its boiling point in a pressurized container and released suddenly to atmospheric pressure (flashing liquid sprays).

(7) - Twin-Fluid Media Systems. Twin-fluid media systems produce water mist (droplet production) by impingement of two fluids delivered from separate piping systems. One set of piping provides a liquid (water) to the nozzle, and the second piping network provides an atomizing fluid/media.

Statement of Problem and Substantiation for Public Input

Material from Annex Section A.7.5 is proposed to be part of A.7.1.1 as this is part of the four parameters.

Submitter Information Verification

Submitter Full Name: Robert Kasiski
Organization: FM Global
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 27 15:54:04 EDT 2016
C.1.2
Table C.1.2 identifies several organizations with wide international recognition that currently develop or administer test protocols for water mist fire suppression systems. The following sections provide brief descriptions of the scope of application and the acceptance criteria of the test protocols that are the basis for the 1998 listings for water mist systems. The testing laboratories can add or subtract certain fire tests, at their discretion, based on their interpretation of the system performance limits. The reader should refer to the original test protocols for complete test details.

Table C.1.2 Internationally Recognized Agencies with Published Fire Test Protocols for Water Mist Fire Protection Systems

<table>
<thead>
<tr>
<th>Agency</th>
<th>Water Mist Fire Test Protocol</th>
</tr>
</thead>
</table>
| 2. FM Approvals, 1151 Boston-Providence Turnpike, P.O. Box 9102, | IMO Res. A.800 (19), *Revised Guidelines for Approval of Sprinkler Systems*, Equivalent to that referred to in SOLAS Regulations II-2/12.  
(a) Appendix 1, “Component Manufacturing Standards for Water Mist Nozzles.”  
Agency
Norwood, MA, 02062.

Water Mist Fire Test Protocol


(a) Fire Tests for Water Mists Systems for the Protection of Combustion Turbines with Volumes up to, and including, 2825 ft³ (80 m³)

(b) Fire Tests for Water Mists Systems for the Protection of Combustion Turbines with Volumes up to, and including, 9175 ft³ (260 m³)

(c) Fire Tests for Water Mists Systems for the Protection of Combustion Turbines with Volumes Exceeding 9175 ft³ (260 m³)

(d) Fire Tests for Water Mists Systems for the Protection of Wet Benches and Other Similar Processing Equipment

(e) Fire Tests for Water Mists Systems for the Protection of Local Applications

(f) Fire Tests for Water Mists Systems for the Protection of Industrial Oil Cookers

(g) Fire Tests for Water Mists Systems for the Protection of Computer Room Sub Floors


(a) Fire Tests for Water Mists Systems for the Protection of Machinery in Enclosures with Volumes not Exceeding 2825 ft³ (80 m³)

(b) Fire Tests for Water Mists Systems for the Protection of Combustion Turbines in Enclosures with Volumes not Exceeding 2825 ft³ (80 m³)

(h) General Requirements

(i) Performance Requirements (Water Mist Nozzles and System Components)

(j) Operations Requirements
Water Mist Fire Test Protocol

(c) Fire Tests for Water Mists Systems for the Protection of Machinery in Enclosures with Volumes not Exceeding 9175 ft³ (260 m³)

(d) Fire Tests for Water Mists Systems for the Protection of Combustion Turbines in Enclosures with Volumes not Exceeding 9175 ft³ (260 m³)

(e) Fire Tests for Water Mists Systems for the Protection of Machinery in Enclosures with Volumes Exceeding 9175 ft³ (260 m³)

(f) Fire Tests for Water Mists Systems for the Protection of Combustion Turbines in Enclosures with Volumes Exceeding 9175 ft³ (260 m³)

(g) Fire Tests for Water Mists Systems for the Protection of Light Hazard Occupancies

(h) Fire Tests for Water Mists Systems for the Protection of Wet Benches and Other Similar Processing Equipment

(i) Fire Tests for Water Mists Systems for the Protection of Local Applications

(j) Fire Tests for Water Mists Systems for the Protection of Industrial Oil Cookers

(k) Fire Tests for Water Mists Systems for the Protection of Continuous Wood Board Presses

(l) Fire Tests for Water Mists Systems for the Protection of Continuous Wood Board Presses Chemical Fume Hoods

(m). General Requirements

(n). Performance Requirements (Water Mist Nozzles and System Components)


(n) Fire Tests for Water Mists Systems for the Protection of Data Processing Equipment
### Statement of Problem and Substantiation for Public Input

Updating references to FM Approvals Standard Class 5560, Water Mist Systems, to be in line with current published version of the document.

### Submitter Information Verification

**Submitter Full Name:** Jonathan Carpenter  
**Organization:** FM Approvals  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Mon Jun 27 14:10:43 EDT 2016
Sections C.3.12, C.3.13

C.3.12 Computer Room Subfloors.

Typical occupancies within the scope of this application are Continuous Wood Board Presses.
This application is further defined in FM Global Property Loss Prevention Data Sheet Numbers 4 Number 7-2, Water Mist Systems, and 5-32, Electronic Data Processing Systems. System installations are limited to computer room subfloor areas and heights not exceeding those tested. Additionally, the equivalent opening area of the subfloor cannot exceed those tested. The agent supply should be capable of supplying agent to all nozzles at the maximum rated operating pressure. 10. Wood Processing and Woodworking Facilities. Application of the water mist system is limited to the protection of the continuous wood board press only and does not include the protection of other equipment unless tested for other applications. All hazards included under the scope of this application are to be protected for a minimum of twice the longest time to extinguish the test fires or 10 minutes, whichever is greater. This protocol evaluates only the fire extinguishment capabilities of the water mist system. An evaluation of the smoke-cleansing capabilities is not made. Consultation with FM Global Property Loss Prevention Data Sheet Numbers 4-2, Water Mist Systems, and 7-10, Electronic Data Processing Systems, Wood Processing and Woodworking Facilities, is required for installation of these systems.


This application includes protection of data center processing equipment rooms/halls which include control rooms, process control rooms, diagnostic equipment, and critical systems and equipment associated with data centers. This application is further defined in FM Global Property Loss Prevention Data Sheet Number 7-10, Wood Processing and Woodworking Facilities. Application of the water mist system is limited to the protection of the continuous wood board press only and does not include the protection of other equipment unless tested for other applications. All hazards included under the scope of this application are to be protected for a minimum of twice the longest time to extinguish the test fires or 30 minutes, whichever is greater. Consultation with FM Global Property Loss Prevention Data Sheet Numbers 4-2, Water Mist Systems, and 7-10, Wood Processing and Woodworking Facilities, is required for installation of these systems.

Datasheet 5-32, Data Centers and Related Facilities. Forced ventilation is included in the evaluation to a maximum nominal upward velocity of 3.3 ft/s (1 m/s) through perforated floor openings and a maximum 4 ft/sec (1.2 m/s) horizontal airflow from server cabinets. Preaction systems are limited to single interlock configurations with a maximum 30 second water delivery time delay.

For above raised floor protection the water supply shall be capable of supplying 60 minutes of water to the hydraulically most remote nozzles. The design area of the water mist system shall be 6 nozzles or 1.5 times the number of operated nozzles during fire performance testing, whichever is greater. For below raised floor protection the water supply shall be capable of supplying 60 minutes of water to the hydraulically most remote nozzles. The design area of the water mist system shall be a minimum of 6 nozzles for an area of coverage design and a minimum of 4 nozzles for a local application design. For an installation including both above and below raised floor protection the design area of the water mist system shall be based on the most hydraulically demanding protection.

The systems are for the protection of data and power cables with a maximum Fire Propagating Index (FPI) of 26 in the metric unit when tested in accordance with FM Approval Standard Class 3972, Test Standard for Cable Fire Propagation. Alternative cables with a higher FPI may be used based on the manufacturer's intended applications for protection, and Approval shall be limited to cables FPIs less than or equal to the tested cable. The systems are not intended to protect data processing equipment with packaging awaiting installation. Packaged equipment is to be located in storage and staging areas separate from data processing equipment rooms (i.e., where fire involving the storage will not expose critical equipment). Where storage and staging areas are not available, limit in-process packaged equipment in data processing equipment rooms to a temporary basis with regular removal of the packaging during the installation.

The systems are tested and listed to provide primary protection of the occupancy. The systems have been proven to extinguish fire involving cables but are not intended to provide equipment protection.

Statement of Problem and Substantiation for Public Input


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Annex E  Informational References

E.1  Referenced Publications.

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

E.1.1  NFPA Publications.

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

E.1.2  Other Publications.

E.1.2.1  ANSI/ASME Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th floor, New York, NY 10036.

E.1.2.2  ASME Publications.

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

E.1.2.3  ASTM Publications.

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


E.1.2.4  Austrian Standards Publications.

Austrian Standards Institute, Heinestrasse 38, 1020 Vienna, Austria.

E.1.2.5  CSA Publications.

Canadian Standards Association, 5060 Spectrum Way, Mississauga, Ontario, L4W 5N6, Canada CSA Group, 178 Rexdale Blvd., Toronto, ON, Canada, M9W 1R3.
FM Approvals. Publications.

FM Approvals, 1151 Boston-Providence Turnpike, Global, 270 Central Avenue, P.O. Box 9102, 7500, Norwood, MA, 02062, Johnston, RI 02919-4923.


FSSA Publications.

Fire Suppression Systems Association, 5024-R Campbell Blvd, (FSSA), 3601 East Joppa Road, Baltimore, MD 21236-5974, 21234.


ISA Publications.

International Society of Automation, 67 T.W. Alexander Drive, P.O. Box 12277, Research Triangle Park, NC 27709.

ISA 84.00.01 P1, Functional Safety: Safety Instrumented Systems for the Process Industry Sector - Part 1: Framework, Definitions, System, Hardware and Software Requirements, 2004. (Supersedes ISA S84.01)

IEEE Publications.

IEEE, 3 Park Avenue, 17th Floor, New York, NY 10016-5997.


IMO Publications.

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


IMO MSC/Circ. 668, Alternative Arrangements for Halon Fire-Extinguishing Systems in Machinery Spaces and Pump-Rooms.

IMO MSC/Circ. 728, Amendments to the Test Method for Equivalent Water-Based Fire Extinguishing Systems for Machinery Spaces of Category A and Cargo Pump-Rooms Contained in MSC/Circ. 668.

IMO MSC/Circ. 913, Guidelines for the Approval of Fixed Water-Based Local Application Fire-Fighting Systems for Use in Category A Machinery Spaces.

IMO MSC/Circ 1165, Revised Guidelines for Approval of Equivalent Water-Based Fire Extinguishing Systems for Machinery Spaces and Cargo Pump Rooms.

IMO Resolution A.800(19), Revised Guidelines for Approval of Sprinkler Systems.

SOLAS Resolution 10, Fixed Pressure Water Spray Systems.

ISA Publications.

Instrumentation, Systems, and Automation Society, 67 Alexander Drive, P.O. Box 12277, Research Triangle Park, NC 27709.

ISA S84.01, Application of Safety Instrumentation to the Process Industries, 1996.

UL Publications.

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


U.S. Coast Guard Publication.

2100 Second Street, S.W., Washington, DC 20593-0001.

E.1.2.12  VDS Publication.
VDS, Pasteurstrasse 17A, Koln 50735, Germany.

E.2  Informational References.
The following documents or portions thereof are listed here as informational resources only. They are not part of the requirements of this document.

E.3  References for Extracts in Informational Sections.

Statement of Problem and Substantiation for Public Input
Referenced current SDO names, addresses, standard names, numbers, and editions.

Related Public Inputs for This Document

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[Chapter 2]

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E.1.2.6  FM Approvals Publications.

FM Approvals, 1151 Boston-Providence Turnpike, P.O. Box 9102, Norwood, MA, 02062.

Statement of Problem and Substantiation for Public Input

Updating reference to FM Approvals Standard Class 5560, Water Mist Systems, to the current revision date of April 2016.

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