AGENDA

NFPA Building Code/Safety to Life Technical Committee on Assembly Occupancies (BLD/SAF-AXM)
NFPA 101/5000 Second Draft Meeting (A2023)

August 8-9, 2022
11:00 a.m. – 5:00 p.m. (EDT)

Microsoft Teams Meeting
To join the meeting, please contact kcarey@nfpa.org

1. **Call to order.** J. Lambert
2. **Introductions.** See committee roster attached, p. 3.
3. **Chair report.** J. Lambert
4. **Staff liaison report.** G. Harrington
5. **Previous meeting minutes.** July 28, 2021 Microsoft Teams meeting. See attached, p. 7.
6. **Review Correlating Committee on Building Code previous meeting minutes**. See attached, p. 11.
   a. NFPA 13, 13D, 13R references: No proposed revisions for BLD-AXM.
   b. Damper terminology task group recommendations: Public comments submitted where applicable.
   c. Use of "draftstop" versus "draft stop": "draft stop" not used by BLD-AXM.
   d. Modular rooms/sleep pods: CC task group will review TC second draft actions for any needed correlation.
7. **Review Correlating Committee on Safety to Life previous meeting minutes.** See attached, p. 15.
   a. NFPA 13, 13D, 13R references: No proposed revisions for SAF-AXM.
   b. Damper terminology task group recommendations: Public comments submitted where applicable.
   c. Use of "draftstop" versus "draft stop": "draft stop" not used by SAF-AXM.
   d. Modular rooms/sleep pods: CC task group will review TC second draft actions for any needed correlation.
   e. SAF-AXM is notified of potential revisions to egress requirements for assembly occupancies in mall structures via CI-6604 by SAF-MER. See attached, p. 34.
8. **Task group reports.**
   a. "Special assembly occupancies" task group – F. Babson

b. Crowd manager task group – V. Quinterno

c. Festival seating task group – H. Hansen

9. NFPA 101 Second Draft.

a. **Referenced publications.** See attached, p. 35.

b. **Extracts.** No extract updates needed.

c. **Public Comments.** See attached, p. 44.

d. **Committee Inputs.** See attached, p. 71.

10. NFPA 5000 Second Draft.

a. **Referenced publications.** See attached, p. 73.

b. **Extracts.** See attached, p. 95.

c. **Public Comments.** No public comments received.

d. **Committee Inputs.** See attached, p. 96.

11. Other business.

12. Future meetings.

13. Adjournment.

Address List No Phone

06/20/2022
Gregory E. Harrington
SAF-AXM

Assembly Occupancies

Safety to Life

Josh Lambert — **U** 07/29/2013
Chair — **SAF-AXM**
University of Texas at Austin
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Gregory E. Harrington — 2/3/2016
Secretary (Staff-Nonvoting) — **SAF-AXM**
National Fire Protection Association
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Mohammed Alhajri — **E** 04/02/2020
Principal — **SAF-AXM**
Qatar Civil Defense
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Laura Bennett-Hourigan — **U** 08/11/2020
Principal — **SAF-AXM**
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Principal — **SAF-AXM**
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Eric Center — **E** 08/09/2012
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Assembly Occupancies

Safety to Life

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Gregory E. Harrington 2/3/2016
Staff Liaison **SAF-AXM**
National Fire Protection Association
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MINUTES

NFPA Building Code/Safety to Life Technical Committee on Assembly Occupancies (BLD/SAF-AXM)
NFPA 101 and NFPA 5000 First Draft Meeting (A2023)

July 28, 2021

Microsoft Teams Web Conference

1. **Call to order.** The meeting was called to order by Chair Josh Lambert on July 28, 2021, at 11:04 a.m. (EDT).

2. **Attendance.** Staff Liaison Gregory Harrington called the roll of committee members and guests. Meeting attendance follows:

TECHNICAL COMMITTEE MEMBERS PRESENT

NAME	COMPANY
Josh Lambert, Chair	University of Texas at Austin
Mohammed Alhajri, Principal	Qatar Civil Defense
Frederick Augustus Babson, Principal	Babson Industries LLC
Laura Bennett-Hourigan, Principal	Walt Disney World Parks & Resorts
George Bushey, Principal	Ewing Cole
Eric Center, Principal	Cedar Hammock Fire Rescue Rep.: Florida Fire Marshals & Inspectors Association
William Conner, Principal	Bill Conner Associates LLC Rep.: American Society of Theater Consultants
Michael Connor, Principal	Champion Fire Protection Rep.: Automatic Fire Alarm Association, Inc.
David Cook, Principal	Ralph Gerdes Consultants, LLC
Nils Deacon, Principal	Mutual Service Office, Inc.
Daniel Finnegan, Principal	Siemens Smart Infrastructure Rep.: National Electrical Manufacturers Association
Harold Hansen, Principal	Venue Management Consultants Group, LLC
Stephen Hesson, Principal	Gainesville Fire Rescue Rep.: International Fire Marshals Association

David Hollinger, Principal	Drexel University
Jonathan Humble, Principal	American Iron and Steel Institute
Kevin Morin, Principal	Code Consultants, Inc. Rep.: National Association of Theatre Owners
Jake Pauls, Principal	Jake Pauls Consulting Services
Ryan Lee Peterson, Principal	Wayne Automatic Fire Sprinklers, Inc. Rep.: National Fire Sprinkler Association
Vincent Quinterno, Principal	Rhode Island State Fire Marshal's Office
Ed Roether, Principal	Ed Roether Consulting LLC
Karl Ruling, Principal	Entertainment Services & Technology Association Rep.: US Institute for Theatre Technology, Inc.
Steven Scandaliato, Principal	SDG, LLC Rep.: American Fire Sprinkler Association
Charles Schweitzer, Principal	City of Lincoln/Bureau of Fire Prevention
Philip R. Sherman, Principal	Philip R. Sherman, PE
Jeffrey Shirey, Principal	University of Maryland – Office of the Fire Marshal
John August Denhardt, Alternate to S. Scandaliato	American Fire Sprinkler Association
Jerrold Gorrell, Alternate to K. Ruling	Theatre Safety Programs Rep.: US Institute for Theatre Technology, Inc.
Shawn Hanson, Alternate to E. Center	Greater Naples Fire Rescue District Rep.: Florida Fire Marshals & Inspectors Association
Christopher Jenkins, Alternate to M. Gandy	Church of Jesus Christ of Latter-day Saints
Jason Lupa, Alternate to D. Finnegan	Siemens Industry, Inc. Rep.: National Electrical Manufacturers Association
Janet Washburn, Alternate to S. Hesson	Bonita Springs Fire Control District Rep.: International Fire Marshals Association
Gregory Harrington, Staff Liaison	NFPA

TECHNICAL COMMITTEE PRINCIPAL MEMBERS NOT PRESENT (NOT LISTED WHERE ALTERNATE ATTENDED)

NAME	COMPANY
Donald Goosman, Principal	Wiss, Janney, Elstner Associates, Inc.
Van Hoover Patterson, Principal	State of Florida NE Regional Jacksonville Office

Elbert R. Thomas, Jr., Principal	New Orleans Fire Department
Jeffrey Tubbs, Principal	Arup

GUESTS PRESENT

NAME	COMPANY
Steven Adelman	Adelman Law Group, PLLC
Andrew Bevis	National Fire Sprinkler Association
Kevin Hall	American Fire Sprinkler Association
Jody Kovalick	Schuler Shook
Mark Larson	National Disability Rights Network
Bridget Mourão	Emory University

3. **Chair report.** The chair welcomed all those present and thanked them for attending the meeting; advised the primary purpose of the meeting was to prepare the first drafts for the 2024 editions of NFPA 101 and NFPA 5000; and provided an overview of the Teams remote meeting platform.

4. **Staff liaison report.** Staff added his welcome and thanks to all those present on behalf of NFPA and delivered a presentation on the NFPA first draft meeting process. See the meeting agenda for the PowerPoint slides.

5. **Previous meeting minutes.** The minutes of the July 8, 2019 meeting were approved as submitted.

6. **Correlating committee direction for 2024 editions.** The committee reviewed the correlating committee pre-first draft meeting minutes and took the following actions:

   a. TC scopes: The committee reviewed and discussed the BLD-AXM and SAF-AXM committee scopes and determined no action was needed.

   b. Integrated system testing: No action.

   c. Carbon monoxide detection/alarms: The committee deferred discussion on the FPRF report to related 101 PI-211; see the first draft report for the committee action.

   d. Coordinate occupant load factor tables: No action.

   e. Flammable and combustible liquid terminology: Several first revisions were developed for NFPA 101 and NFPA 5000 to coordinate terms with NFPA 30; see the first draft report for committee actions.

7. **Sightline-constrained guards FPRF project.** The chair and H. Hansen updated the committee on the status of the project, the report for which has been released. At this time there is no obvious, good code solution for the issue of spectator fall injuries, which have largely been attributed to behavior and/or impairment considerations. The number of incidents has appeared to decline anecdotally, although that might be partially attributed to the pandemic. Additional research might be needed if incidents continue to occur in the future. No action was taken and the issue is resolved for the time being. (It was noted in the meeting that the related task group was discharged with thanks; however, no task group appointments had been documented in previous minutes.)

8. **Public Input (PI) review.** The committee reviewed and resolved all assigned public inputs on NFPA 101 and NFPA 5000 and developed first revisions and committee inputs where applicable. See the first draft report for the committee actions. Note that Chair J. Lambert stepped down for the discussion, vote, and task group appointment related to 101 PI-397 and yielded the chair to K. Morin. The following task groups were appointed to further review the specified items:

   a. "Special assembly occupancies" task group: The task group is charged with reviewing the nightclub-type assembly occupancies identified in NFPA 101, 12.3.5.1 and 13.3.5.1, and NFPA 5000, 16.3.5.1.1, which were added to the codes following The Station nightclub fire in 2003. The task group will review the types of venues identified and provide recommendations for any needed revisions at the second draft stage in response to NFPA 101 PIs-374, -375, -376, and -377. Task group members: F. Babson (TG chair), A. Bevis, D. Hollinger, J. Humble, V. Quinterno, J. Shirey, and J. Washburn.

   b. Crowd manager task group: The task group is charged with reviewing the criteria for which crowd managers are required in assembly occupancies and provide recommendations for any needed revisions at the second draft stage in response to 101 PI-397. Task group members: V. Quinterno (TG chair), G. Bushey, Waymon Jackson, and P. Sherman.

   c. Festival seating task group: The task group is charged with reviewing the terminology and requirements associated with festival seating and provide recommendations for any needed revisions at the second draft stage in response to 101 PIs-36 and -38, and 5000 PI-40. Task group members: H. Hansen (TG chair), S. Adelman, F. Babson, K. Morin, J. Shirey, V. Quinterno.

9. **Aisle accessway requirements for tablet arms.** The chair reviewed the draft revisions provided in the agenda with the committee. FRs were developed accordingly.

10. **Other business.** Jake Pauls led a discussion about assembly seating arrangements and spacing criteria resulting from the current and future pandemics. This might be a topic for consideration in future code editions. No action taken at this time.

11. **Future meetings.** The NFPA 101 and NFPA 5000 second draft meetings will likely be held during the summer of 2022. Dates and locations are to be determined.

12. **Adjournment.** The meeting adjourned on July 28, 2021, at 5:40 p.m. (EDT).

MINUTES

NFPA Correlating Committee on Building Code (BLD-AAC)
NFPA 5000 First Draft Meeting (A2023)

January 19, 2022
11:00 a.m. – 1:30 p.m. (ET)

Microsoft Teams Meeting

1. **Call to order.** P. Willse, chair, called the meeting to order at 11:05 on January 19, 2022.
2. **Introductions.** NFPA staff took attendance.
3. **Chair report.** P. Willse welcomed attendees and provided an overview of the meeting.
4. **Staff liaison report.** T. Vecchiarelli provided an overview of the meeting procedures.
5. **Previous meeting minutes.** The minutes from March 2021 Web/Teleconference meeting were approved without revision.
6. **Liaison reports.**
   a. Sprinkler Project. W. Koffel provided a report on the sprinkler project. NFPA 13's First Draft meetings will be held this summer and no correlation issues were reported.
   b. Fire Alarm Project: W. Koffel presented on behalf of S. Clary. NFPA 72's First Draft meetings will be held this summer. Cyber security was noted as a significant topic for the next cycle.
7. **Correlating Committee task group reports.**
   a. Exterior Walls. K. Carr reported on behalf of the task group. The task group submitted several PIs which resulted in multiple FRs during First Draft. SCM has asked the task group to continue their work evaluating some of the PIs.
   b. Means of escape (grab bars). C. Carson provided a report. No recent action to report. J. Rickard will take over chairing the task group.
   c. Floor area terminology. No report. The task group has been discharged with thanks.
   d. Sprinkler supervision task group. J. Hugo provided a report. Nine PIs were submitted by the task group and subsequent FRs were developed by the TCs. The task group will continue their work into Second Draft.
8. **Subject areas for TC focus during 2024 edition revision cycle.**
   a. TC Scopes. Scope change requests from BLD-END, BLD-FIR and BLD-HEA were reviewed. The NFPA 101 CC established a task group to review scope changes to the SAF

TCs. Since there is an overlap in the requests, no changes are recommended until the SAF task group completes their work and the changes can be correlated between the two documents.

b. Actions from the TCs were reviewed related to integrated system testing, CO alarms, flammable and combustible liquid terminology, and disability terminology. Various CNs and FCRs were developed on some of these topics.

9. NFPA 5000 First Draft.

a. **Correlating Review.** The Correlating Committee reviewed the work of the Technical Committees and developed Correlating Notes and First Correlating Revisions as necessary. These will be available in the First Draft Report at www.nfpa.org/5000.

10. Technical Committee Items. T. Vecchiarelli provided a report on various items reported in the TC's meeting minutes. Many of the items were informational in nature and TCs are encouraged to review the January 19, 2022 agenda for a summary of those items. The following items were discussed and are directed to the TCs:

a. All TCs: NFPA 13, 13R and 13D references. There is inconsistency in the way NFPA 5000 references NFPA 13, 13R, 13D and Chapter 55. The TCs are requested to review the supplemental meeting minute document (to be provided at a later date) and make changes as necessary to create consistency throughout the document. The supplemental document will be posted.

b. All TCs: Per the request in CI-8006, all TCs are requested to review recommendations from the damper definitions/terminology task group during the Second Draft.

c. All TCs: Per the request of BLD-FIR, all TCs are requested to review the use of "draft stop" and change it to "draftstop" as needed for consistency with Chapter 3.

d. All TCs: A joint task group was established to review the requirements for modular rooms and sleep pods.

e. BLD-BSY: No objections were discussed related to the proposed withdrawal of NFPA 900.

f. BLD-INT: No objections were discussed related to inflatable amusement devices or modular rooms/sleep pods being addressed within NFPA 5000.

g. BSF: Per the request of BLD-END, BLD-BSF is requested to add new definitions of CO detectors and alarms.

11. Other Business. No other business was discussed.

12. Future meetings. The next committee meeting will be held in the summer of 2022. A meeting notification will be posted at www.nfpa.org/5000next when the meeting is scheduled. Discussion was heard on returning to in-person meetings.

13. Adjournment. The meeting was adjourned at 1:30 p.m. ET on January 19, 2022.

Attendees

Committee Members:

✓	Willse, Peter	Chair	Portland Fire Marshal's Office
✓	Wooldridge, Jerry	Secretary	Reedy Creek Improvement District
✓	Bellamy, Tracey	Principal	American Fire Sprinkler Association
✓	Frable, David	Principal	US General Services Administration
✓	Hansen, Raymond	Principal	US Department of the Air Force
✓	Hopper, Howard	Principal	UL LLC
✓	Hugo, Jeffrey	Principal	National Fire Sprinkler Association
	Humble, Jonathan	Principal	American Iron and Steel Institute
	Jones, Gerald	Principal	Building Seismic Safety Council/Code
✓	O'Connor, Daniel	Principal	American Hotel & Lodging Association
✓	Quiter, James	Principal	Retired-Arup
✓	Roberts, Richard	Principal	National Electrical Manufacturers
✓	Shah, Faimeen	Principal	Vortex Fire Engineering Consultancy
✓	Vinci, Leon	Principal	American Public Health Association
✓	Denhardt, John	Alternate	American Fire Sprinkler Association
	Keays, Jack	Alternate	Vortex Fire Consulting Inc.
✓	Laramee, Scott	Alternate	American Hotel & Lodging Association
✓	Manley, Bonnie	Alternate	American Iron and Steel Institute
✓	Pauls, Jake	Alternate	American Public Health Association
	Simone, Joseph	Alternate	US Department of the Navy
	Tubbs, Jeffrey	Alternate	Arup
✓	Chrisman, Mark	Nonvoting Member	TC on Building Construction
✓	Collins, David	Nonvoting Member	TC on Means of Egress
	Dawe, Nicholas	Nonvoting Member	TC on Interior Finish & Contents
✓	Greene, Joshua	Nonvoting Member	TC on Building Systems
✓	Grill, Raymond	Nonvoting Member	TC on Building Service and Fire Protection Equipment
✓	Jelenewicz, Chris	Nonvoting Member	TC on Fundamentals
	Kaplan, Moriel	Nonvoting Member	TC on Structures, Construction, and Materials

✓	Koffel, William	Nonvoting Member	TC on Health Care Occupancies
✓	Lambert, Josh	Nonvoting Member	TC on Assembly Occupancies
	Lathrop, James	Nonvoting Member	TC on Residential Occupancies
✓	Mertens, Matthew	Nonvoting Member	TC on Educational and Day-Care Occupancies
✓	Murdock, Amy	Nonvoting Member	TC on Mercantile & Business Occupancies
✓	Rickard, John	Nonvoting Member	TC on Board & Care Facilities
	Sheldon, Steven	Nonvoting Member	TC on Industrial, Storage, and Miscellaneous Occupancies
✓	Wittasek, Nathan	Nonvoting Member	TC on Fire Protection Features
✓	Vecchiarelli, Tracy	Staff Liaison	National Fire Protection Association

Guests:

Kevin Carr, NFPA
Wayne Chip Carson, Carson Associates (SAF-AAC)
Stephen Ganoe, NFPA
Gregory Harrington, NFPA
Robert James, UL
Camille Levy, NFPA
Maria Marks, Siemens Industry, Inc. (SAF-AAC)
Baran Ozden, NFPA
Michael Schmeida, Gypsum Associates
Janna Shapiro, Code Red Consultants
Jennifer Sisco, NFPA

Total number in attendance: 39

MINUTES

NFPA Correlating Committee on Safety to Life (SAF-AAC)
NFPA 101 First Draft Meeting (A2023)

January 18, 2022

Microsoft Teams Meeting

1. **Call to order** – The meeting was called to order by Chair Wayne "Chip" Carson on January 18, 2022 at 11:01 a.m. (EST).
2. **Introductions** – Staff Liaison/Secretary Gregory Harrington called the roll of committee members and guests (**pgs. 5-6**).
3. **Chair report** – Chair Carson thanked the members and guests for attending virtually and expressed his hope that the committee might be able to meet in person in the near future.
4. **Staff liaison report** – G. Harrington. Staff reviewed the available correlating committee first draft meeting actions as provided in the agenda and reminded the committee of the process being followed for updating referenced publications in NFPA 101 as described in the previous meeting minutes.
5. **Previous meeting minutes.** The March 25, 2021 remote meeting minutes were approved as submitted.
6. **Liaison reports.**
   i. Sprinkler Project – W. Koffel. The sprinkler standards are currently open for public input with a PI closing date of June 1, 2022. There are no apparent subjects that will create correlation issues with NFPA 101. It was requested that the NFPA 101/5000 staff coordinate with the sprinkler project staff to avoid overlapping meeting dates between the NFPA 13/13R/13D first draft meetings and the NFPA 101/5000 second draft meetings. Staff indicated that every effort will be made to avoid conflicts but there are numerous committees that need to meet within a tight timeframe and staffing and logistical considerations that will likely make it challenging to completely avoid conflicts.
   ii. Fire Alarm Project – S. Clary. NFPA 72 is currently open for public input with a PI closing date of June 1, 2022. Cybersecurity is a major subject that was introduced as an annex in the 2022 edition and will likely be considered for inclusion in the body of the code for the 2025 edition. Two new technical committee chairs have been appointed: David Lowrey (Fundamentals of Fire Alarm and Signaling Systems) and Andrew Poole (Notification Appliances).
7. **Correlating committee task groups**
   a. Means of escape (grab bars) – W. Carson. The task group met once since the last report and significant progress has not been made. John Rickard has accepted his appointment as

the new task group chair. A web meeting/teleconference will be scheduled in the coming weeks. The task group was retained on the agenda.

b. Floor area terminology – (chair vacant). No report. The task group was discharged with thanks.

c. Sprinkler system supervision – J. Hugo. Numerous public inputs were submitted for the first draft. Some, but not all, were incorporated as first revisions. Public comments will be submitted on behalf of the task group for the second draft stage and a report will be given at the CC second draft meeting. The task group was retained on the agenda.

8. Subject areas for TC focus during 2024 edition revision cycle

a. TC scopes. The committee reviewed the scope revisions proposed by each technical committee as attached to the meeting agenda. Discussion centered on whether property protection should be included in the SAF-XXX technical committee scopes. It was determined that all of the NFPA 101 TC scopes should be reviewed as a group and the NFPA 5000 BLD-XXX scopes should be reviewed concurrently for consistency. A task group was appointed to review the NFPA 101 and NFPA 5000 TC scopes with the recommended revisions to determine the applicability of property protection for each, to evaluate what constitutes property within the context of each scope, and the inclusion of alcohol based hand rub requirements and special hazard protection within the scope of the TC on Fire Protection Features (SAF-FIR, see item 9.b.iii.3). Task group roster: E. Rosenbaum (TG chair), D. Collins, H. Hopper, W. Koffel, M. Marks, and M. Mertens.

b. Integrated system testing. Each technical committee reviewed its requirements and determined no action was needed.

c. Carbon monoxide detection/alarms. Current requirements and the need for any additional requirements were reviewed by the occupancy technical committees with actions taken as indicated in the attached table (**pg. 7**). See also item 9.b.ii.

d. Coordinate occupant load factor tables. Each technical committee reviewed its occupant load factors in NFPA 101, Table 7.3.1.2, and determined no action was needed.

e. Valet trash (SAF-RES). The TC on Residential Occupancies developed first revisions to regulate valet trash services in new and existing apartment buildings.

f. Flammable and combustible liquid terminology. Each technical committee reviewed its use of the term ‘flammable and combustible liquids’ and developed first revisions as needed for consistency with NFPA 30.

g. Disability terminology. Each technical committee reviewed public inputs submitted by the NFPA Disability Access Review Advisory Committee (DARAC) and updated language accordingly via first revisions as needed.

9. NFPA 101 First Draft

a. Correlating committee review/actions on First Draft Report as prepared by the SAF-XXX technical committees. The correlating committee developed correlating notes (CNs) and first correlating revisions (FCRs) based on the review of TC responses to public inputs, TC committee inputs, TC first revisions, and TC ballot final reports. See the first draft report for the correlating committee actions.

b. Technical committee items.

i. The CC reviewed the actions by various TCs on Global PI-390, assigned to the TC on Building Service and Fire Protection Equipment (SAF-BSF), at the request of the TC on Board and Care Facilities (SAF-BCF, agenda item 9.b.i) and the TC on Residential Occupancies (SAF-RES, agenda item 9.b.vii). TCs are not referencing NFPA 13/13R/13D and 9.7.1.1(1), 9.7.1.1(2), and 9.7.1.1(3) consistently throughout the Code. A suggested approach developed by staff is attached (**pg. 8**). The SAF-XXX TCs are directed to review the attachment and incorporate the suggestions via second revisions if deemed appropriate. The CC will review the TC actions at its second draft meeting and determine the need for any additional revisions for correlation.

ii. The CC considered the request of the TC on Educational Occupancies (SAF-END) to create definitions for carbon monoxide detectors and alarms in NFPA 101. The addition of new definitions was determined to be technical rather than correlative and must be initiated by a technical committee. The TC on Building Service and Fire Protection Equipment is directed to consider extracting the appropriate definitions from NFPA 72 during the next revision cycle if appropriate for NFPA 101.

iii. The CC considered the following requests by the TC on Fire Protection Features (SAF-FIR):

1. Direct TCs to review task group recommendations on smoke and fire damper terminology, to be provided for the second draft meetings – so directed.
2. Direct TCs to review the use of ‘draft stop’ and change to ‘draftstop’ as needed for consistency with Ch. 3 (28.3.5.4, 29.3.5.4, 30.3.5.4, 31.3.5.5, 36.3.1, 37.3.1) – so directed (SAF-RES and SAF-MER).
3. Review whether Ch. 8 ABHR requirements are within its scope – see item 8.a for action on TC scopes.

iv. The CC reviewed the following requests by the TC on Fundamentals of Safety to Life (SAF-FUN):

1. Review to determine which TC should own definition of 'fuel-burning appliance' (FR-6554) and direct applicable TC to consider adding annex note from 720-2015: "Fuel-burning appliances include, but are not limited to, devices used for cooking, heating, lighting, or decorative purposes. Examples are wood stoves, portable space heaters, ranges, furnaces, water heaters, clothes dryers, gas refrigerators, gas lamps, and fuel-burning fireplaces." The CC determined the definition should remain with SAF-FUN since the term is used by multiple technical committees in their carbon monoxide detection requirements. The CC recommends SAF-FUN consider adding the cited annex note during the second draft stage.
2. Review proposed definitions of ‘modular room’ (FR-6555) and ‘sleep pod’ (FR-6556) for TC ownership and assign as appropriate. The CC chair intends to appoint a task group after consulting with the TC chairs to review the proposed modular room and sleep pod requirements for their applicability and consistency across the Code. The task group chair, roster,

and specific charge and deliverables are to be determined. See also item 9.b.vi.3 for related request by the TC on Mercantile and Business Occupancies (SAF-MER).

v. The CC considered the request by the TC on Industrial and Storage Occupancies (SAF-IND) to explain why Ch. 41 is reserved for a future chapter on existing industrial occupancies, but Ch. 43 is not reserved for a future chapter on existing storage occupancies. The CC is not aware of significant confusion by users resulting from Ch. 43 not being reserved. Staff recalled that Ch. 43 was added to the end of the Code body when it was developed for the 2006 edition rather than grouping it with the other core chapters as a new Ch. 12, as that would have resulted in renumbering all the occupancy chapters, which had just been renumbered in the 2000 edition. It was noted if a new chapter is ever developed for existing storage occupancies in the future, it could be numbered as Ch. 43 and the current Ch. 43 could be renumbered as Ch. 44.

vi. The CC reviewed the following requests by the TC on Mercantile and Business Occupancies (SAF-MER):

1. Alert the TC on Assembly Occupancies (SAF-AXM) of potential revisions to egress requirements for assembly occupancies in mall structures (CI-6604) – SAF-AXM is hereby alerted.

2. Direct the TC on Building Service and Fire Protection Equipment (SAF-BSF) to review proposed 36.4.4.12.2 (FR-6632) and 37.4.4.12.2 (FR-6633) for consistency with Ch. 9 fire alarm and sprinkler requirements – SAF-BSF is so directed.

3. Appoint a multicommittee task group to review the proposed modular room and sleep pod requirements – see item 9.b.iv.2 for the pending appointment of a task group.

vii. The CC reviewed the request by the TC on Residential Occupancies (SAF-RES) for the CC to provide direction to the TCs on PI-390 as it relates to referencing Sec. 9.7 in lieu of direct references to NFPA 13, NFPA 13R, and NFPA 13D – see item 9.b.i.

10. Other business. There was no other business.

11. Future meetings. The NFPA 101 second draft technical committee meetings will be held in July-August 2022. The NFPA 101 second draft correlating committee meeting will likely be held in December 2022. Staff reported the return to in-person meetings is under discussion and a decision on the upcoming meetings will be made in the coming weeks.

12. Adjournment. The meeting adjourned at 3:37 p.m. (EST).

Attendees:

Committee Members:

X	Carson, Wayne "Chip"	Chair	Carson Associates, Inc.
X	Harrington, Gregory	Secretary (Staff-	National Fire Protection Association
X	Bush, Kenneth	Principal	Maryland State Fire Marshals Office
X	Gilyeat, Sharon	Principal	Koffel Associates, Inc.
X	Harbuck, Stanley	Principal	American Public Health Association
X	Hopper, Howard	Principal	UL LLC
X	Hugo, Jeffrey	Principal	National Fire Sprinkler Association
X	Lucas, Jeffrey	Principal	International Fire Marshals Association
X	Quiter, James	Principal	Retired-Arup
X	Reiswig, Rodger	Principal	National Electrical Manufacturers
X	Rosenbaum, Eric	Principal	American Health Care Association
	Taluba, Jon	Principal	Greenwood Sales
X	James, Robert	Alternate	UL LLC
X	Marks, Maria	Alternate	National Electrical Manufacturers
X	Pauls, Jake	Alternate	American Public Health Association
	Tubbs, Jeffrey	Alternate	Arup
X	Collins, David	Nonvoting Member	TC on Means of Egress
	Dawe, Nicholas	Nonvoting Member	TC on Interior Finish & Contents
X	Grill, Raymond	Nonvoting Member	TC on Building Service & Fire Protection Equipment
X	Jelenewicz, Chris	Nonvoting Member	TC on Fundamentals
X	Koffel, William	Nonvoting Member	TC on Health Care Occupancies
X	Lambert, Josh	Nonvoting Member	TC on Assembly Occupancies
X	Larrimer, Peter	Nonvoting Member	TC on Alternative Approaches to Life Safety
	Lathrop, James	Nonvoting Member	TC on Residential Occupancies
X	Mertens, Matthew	Nonvoting Member	TC on Educational & Day-Care Occupancies
X	Murdock, Amy	Nonvoting Member	TC on Mercantile & Business Occupancies
X	Rickard, John	Nonvoting Member	TC on Board & Care Facilities
X	Sheldon, Steven	Nonvoting Member	TC on Industrial, Storage, and Miscellaneous Occupancies

X	Wittasek, Nathan	Nonvoting Member	TC on Fire Protection Features
X	Clary, Shane	Alt. to Nonvoting	Signaling Systems Correlating Committee

Guests:

Tracey Bellamy – Telgian (BLD-AAC)
Dorn Bellow – Lee County School District
Kevin Carr - NFPA
John Denhardt – AFSA (BLD-AAC)
David Frable – US General Services Administration (BLD-AAC)
Stephen Ganoe - NFPA
Marvin Garriss – Synergy Consortium Group LLC
Scott Laramee – Aon
Camille Levy - NFPA
Joshua McDonald – AFSA
Baran Ozden - NFPA
Richard Roberts – Honeywell Fire Safety (BLD-AAC)
Michael Schmeida – Gypsum Association
Janna Shapiro – Code Red Consultants, LLC
Puneet Sharma – Jensen Hughes
Jen Sisco - NFPA
Tracy Vecchiarelli - NFPA
Leon Vinci – Health Promotion Consultants (BLD-AAC)
Peter Willse – Portland Fire Marshal's Office (BLD-AAC)
Jerry Wooldridge – Reedy Creek Improvement District (BLD-AAC)

Total number in attendance: 46

NFPA 101 OCCUPANCY COMMITTEE ACTIONS ON CARBON MONOXIDE DETECTION

TECHNICAL COMMITTEE	ACTION
ASSEMBLY	Resolved PI-211 for existing: "The proposed revision is too onerous to be required retroactively in all existing assembly occupancies lacking additional substantiating data."
BOARD AND CARE	Task group appointed to provide recommendations for existing
DETENTION AND CORRECTIONAL	FR-6662 (New) FR-6663 (Existing)
EDUCATIONAL AND DAY CARE	FR-6747 (Existing Educational) FR-6680 (New Day Care) FR-6681 (Existing Day Care)
HEALTH CARE	CI-6689 (New Health Care) CI-6690 (Existing Health Care) Task group appointed
INDUSTRIAL AND STORAGE	No Action
MERCANTILE AND BUSINESS	No Action
RESIDENTIAL	FR-6640 (Existing One- and Two Family) FR-6646 (Existing Lodging or Rooming) FR-6660 (Existing Apartment Buildings)

NFPA 101 REFERENCES TO NFPA 13/13D/13R

Items highlighted in green: Retain reference to NFPA 13/13D/13R as these are not requirements for sprinkler systems to be installed in accordance with the applicable standard.

Items highlighted in yellow: Revise standard reference to applicable item in 9.7.1.1 as these are requirements for sprinkler systems to be installed in accordance with the applicable standard.

Items highlighted in pink: Revert reference from 9.7.1.1(X) back to NFPA 13/13D/13R as these are not requirements for sprinkler systems to be installed in accordance with the applicable standard.

7.14.2.3
The absence of sprinklers in the normally unoccupied building service equipment support area, as permitted by ~~9.7.1.1(1)~~NFPA 13, shall not cause a building to be classified as nonsprinklered for purposes of applying the provisions of 7.14.2.2.

7.14.3.3
The absence of sprinklers in the normally unoccupied building service equipment support area, as permitted by ~~9.7.1.1(1)~~NFPA 13, shall not cause a building to be classified as nonsprinklered for purposes of applying the provisions of 7.14.3.2.

7.14.5.3
The absence of sprinklers in the normally unoccupied building service equipment support area, as permitted by ~~9.7.1.1(1)~~NFPA 13, shall not cause a building to be classified as nonsprinklered for purposes of applying the provisions of 7.14.5.2.

8.6.9.2

Where permitted by Chapters 11 through 43, unenclosed vertical openings created by convenience stairways shall comply with all of the following:

(1) The convenience stair openings shall not serve as required means of egress.

(2) The building shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

(3)* The convenience stair openings shall be protected in accordance with the method detailed for the protection of vertical openings in NFPA 13.

(4) In new construction, the area of the floor opening shall not exceed twice the horizontal projected area of the stairway.

(5) For new construction, such openings shall not connect more than four contiguous stories, unless otherwise permitted by Chapters 11 through 43.

8.6.9.7

Any escalators and moving walks not constituting an exit shall have their floor openings enclosed or protected as required for other vertical openings, unless otherwise permitted by one of the following:

(1) The requirement of 8.6.9.7 shall not apply to escalators in large open areas, such as atriums and enclosed shopping malls.

(2)* In existing buildings protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, escalator and moving walk openings shall be permitted to be protected in accordance with the method detailed in NFPA 13 or in accordance with a method approved by the authority having jurisdiction.

(3) In new buildings protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, escalator and moving walk openings shall be permitted to be protected in accordance with the method detailed in NFPA 13 or in accordance with a method approved by the authority having jurisdiction, and the opening shall not connect more than four contiguous stories unless otherwise permitted by Chapters 11 through 43.

(4) In buildings protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, escalator and moving walk openings shall be permitted to be protected by rolling steel shutters appropriate for the fire resistance rating of the vertical opening and complying with all of the following:

(a) The shutters shall close automatically and independently of each other upon smoke detection and sprinkler operation.

(b) A manual means of operating and testing the operation of the shutters shall be provided.

(c) The shutters shall be operated not less than once a week to ensure that they remain in proper operating condition.

(d) The shutters shall operate at a speed not to exceed 30 ft/min (0.15 m/s) and shall be equipped with a sensitive leading edge.

(e) The leading edge shall arrest the progress of a moving shutter and cause it to retract a distance of approximately 6 in. (150 mm) upon the application of a force not exceeding 20 lbf (90 N) applied to the surface of the leading edge.

(f) The shutter, following the retraction specified in 8.6.9.7(4)(e), shall continue to close.

(g) The operating mechanism for the rolling shutter shall be provided with standby power complying with the provisions of *NFPA70*.

9.7.1.1*

Each automatic sprinkler system required by another section of this *Code* shall be in accordance with one of the following:

(1) NFPA 13

(2) NFPA 13D

(3) NFPA 13R

9.7.1.3

Sprinkler piping serving hazardous areas as described in 9.7.1.2 shall be provided with an indicating shutoff valve, supervised in accordance with ~~9.7.1.1(1)~~NFPA 13 or 9.7.2, and installed in an accessible, visible location between the sprinklers and the connection to the domestic water supply.

9.10.2

Where standpipe and hose systems are installed in combination with automatic sprinkler systems, installation shall be in accordance with the appropriate provisions established by ~~9.7.1.1(1)~~NFPA 13 and NFPA 14.

12.4.7.7.1

Where required by 12.4.7.6, the proscenium opening shall be protected by a listed, minimum 20-minute opening protective assembly, a fire curtain complying with NFPA 80 or an approved water curtain complying with NFPA 13.

12.7.5.3.7.1

The requirements of 12.7.5.3.7 shall not apply where otherwise permitted by the following:

(1) Ceilings that are constructed of open grate design or listed dropout ceilings in accordance with NFPA 13 shall not be considered ceilings within the context of 12.7.5.3.7.

(2) Vehicles, boats, and similar exhibited products having over 100 ft^2 (9.3 m^2) of roofed area shall be provided with smoke detectors acceptable to the authority having jurisdiction.

(3)* The requirement of 12.7.5.3.7(2) shall not apply where fire protection of multilevel exhibit booths is consistent with the criteria developed through a life safety evaluation of the exhibition hall in accordance with 12.4.2, subject to approval of the authority having jurisdiction.

13.7.5.3.7.1

The requirements of 13.7.5.3.7 shall not apply where otherwise permitted by the following:

(1) Ceilings that are constructed of open grate design or listed dropout ceilings in accordance with NFPA 13 shall not be considered ceilings within the context of 13.7.5.3.7.

(2) Vehicles, boats, and similar exhibited products having over 100 ft^2 (9.3 m^2) of roofed area shall be provided with smoke detectors acceptable to the authority having jurisdiction.

(3)* The requirement of 13.7.5.3.7(2) shall not apply where fire protection of multilevel exhibit booths is consistent with the criteria developed through a life safety evaluation of the exhibition hall in accordance with 13.4.2, subject to approval of the authority having jurisdiction.

18.3.5.10*

Sprinklers shall not be required in clothes closets of patient sleeping rooms in hospitals where the area of the closet does not exceed 6 ft^2 (0.55 m^2), provided that the distance from the sprinkler in the patient sleeping room to the back wall of the closet does not exceed the maximum distance permitted by NFPA 13.

18.3.5.11*

Sprinklers in areas where cubicle curtains are installed shall be in accordance with NFPA 13.

18.3.5.10*

Sprinklers shall not be required in clothes closets of patient sleeping rooms in hospitals where the area of the closet does not exceed 6 ft^2 (0.55 m^2), provided that the distance from the sprinkler in the patient sleeping room to the back wall of the closet does not exceed the maximum distance permitted by NFPA 13.

18.3.5.11*

Sprinklers in areas where cubicle curtains are installed shall be in accordance with NFPA 13.

24.3.5.3

Automatic sprinkler systems in accordance with ~~NFPA 13~~9.7.1.1(1), ~~NFPA 13R~~9.7.1.1(2), or ~~NFPA 13D~~9.7.1.1(3) shall be permitted.

26.3.6.2.2

In buildings four or fewer stories in height and not exceeding 60 ft (18.3 m) in height above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

26.3.6.2.3*

Systems in accordance with ~~NFPA 13D~~9.7.1.1(2) shall be permitted where all of the following requirements are met:

(1) The lodging or rooming house shall not be part of a mixed occupancy.

(2) Entrance foyers shall be sprinklered.

(3) Lodging or rooming houses with sleeping accommodations for more than eight occupants shall be treated as two-family dwellings with regard to the water supply.

26.3.6.2.4

In buildings sprinklered in accordance with ~~NFPA 13~~9.7.1.1(1) closets less than 12 ft^2 (1.1 m^2) in area in individual dwelling units shall not be required to be sprinklered.

26.3.6.2.5

In buildings sprinklered in accordance with ~~NFPA 13~~9.7.1.1(1) closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered, regardless of size.

28.1.5.2

For the design of automatic sprinkler systems, the classification of contents in NFPA 13 shall apply.

28.3.5.3

Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be in accordance with Section 9.7, as modified by 28.3.5.4. In hotel or dormitory occupancies up to and including four stories in height that are located-in buildings not exceeding 60 ft (18.3 m) in height above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

28.3.5.4

The provisions for draft stops and closely spaced sprinklers in NFPA 13 shall not be required for openings complying with 8.6.9.1 where the opening is within the guest room or guest suite.

29.1.5.2

For the design of automatic sprinkler systems, the classification of contents in NFPA 13 shall apply.

29.3.5.3*

Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be in accordance with Section 9.7, as modified by 29.3.5.4 and 29.3.5.5. In buildings four or fewer stories in height and not exceeding 60 ft (18.3 m) in height above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

29.3.5.4

The provisions for draft stops and closely spaced sprinklers in NFPA 13 shall not be required for openings complying with 8.6.9.1 where the opening is within the guest room or guest suite.

30.3.5.1.2

In apartment buildings up to and including four stories in height, that are located in buildings not exceeding 60 ft (18.3 m) in height above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

30.3.5.3* Closets.

In buildings sprinklered in accordance with ~~NFPA 13~~9.7.1.1(1), closets shall meet the following requirements:

(1) Closets of less than 12 ft^2 (1.1 m^2) in individual dwelling units shall not be required to be sprinklered.

(2) Closets that contain equipment such as washers, dryers, furnaces, or water heaters shall be sprinklered, regardless of size.

30.3.5.4 Convenience Openings.

The draft stop and closely spaced sprinkler requirements of NFPA 13 shall not be required for convenience openings complying with 8.6.9.1 where the convenience opening is within the dwelling unit.

31.3.5.2*

Where an automatic sprinkler system is installed, either for total or partial building coverage, the system shall be installed in accordance with Section 9.7, as modified by 31.3.5.3 and 31.3.5.4. In buildings four or fewer stories in height and not exceeding 60 ft (18.3 m) in height above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

31.3.5.4*

In buildings sprinklered in accordance with ~~NFPA 13~~9.7.1.1(1) bathrooms not greater than 55 ft^2 (5.1 m^2) in individual dwelling units shall not be required to be sprinklered.

31.3.5.5

The draft stop and closely spaced sprinkler requirements of NFPA 13 shall not be required for convenience openings complying with 8.6.9.1 where the convenience opening is within the dwelling unit.

31.3.5.6.4

Where Option 3 is being used to permit the use of 13⁄4 in. (44 mm) thick, solid-bonded wood-core doors in accordance with 31.2.2.1.3, sprinklers shall be provided within the exit enclosures in accordance with ~~NFPA 13~~9.7.1.1(1).

32.2.3.5.3

Where an automatic sprinkler system is installed, for either total or partial building coverage, all of the following requirements shall be met:

(1) The system shall be in accordance with ~~NFPA 13~~9.7.1.1(1) and shall initiate the fire alarm system in accordance with 32.2.3.4.1.

(2) The adequacy of the water supply shall be documented to the authority having jurisdiction.

32.2.3.5.3.1

In buildings four or fewer stories in height and not exceeding 60 ft (18.3 m) in height above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted. All habitable areas, closets, roofed porches, roofed decks, and roofed balconies shall be sprinklered.

32.2.3.5.3.2*

An automatic sprinkler system with a 30-minute water supply, and complying with all of the following requirements and with ~~NFPA 13D~~9.7.1.1(2) shall be permitted:

(1) All habitable areas, closets, roofed porches, roofed decks, and roofed balconies shall be sprinklered.

(2) Facilities with more than eight residents shall be treated as two-family dwellings with regard to water supply.

32.2.3.5.4

Automatic sprinkler systems installed in accordance with ~~NFPA 13~~9.7.1.1(1) and ~~NFPA 13R~~9.7.1.1(3) shall be provided with electrical supervision in accordance with 9.7.2.

32.2.3.5.5

Automatic sprinkler systems installed in accordance with ~~NFPA 13D~~9.7.1.1(2) shall be provided with valve supervision by one of the following methods:

Single listed control valve that shuts off both domestic and sprinkler systems and separate shutoff for the domestic system only

(2) Electrical supervision in accordance with 9.7.2

(3) Valve closure that causes the sounding of an audible signal in the facility

32.2.3.5.8

Systems installed in accordance with ~~NFPA 13D~~9.7.1.1(2) shall be inspected, tested, and maintained in accordance with 32.2.3.5.8.1 through 32.2.3.5.8.15, which reference specific sections of NFPA 25. The frequency of the inspection, test, or maintenance shall be in accordance with this *Code*, whereas the purpose and procedure shall be from NFPA 25.

33.2.3.5.3.1*

In prompt evacuation capability facilities, all of the following shall apply:

(1) An automatic sprinkler system in accordance with ~~NFPA 13D~~9.7.1.1(2) shall be permitted.

(2) Automatic sprinklers shall not be required in closets not exceeding 24 ft^2 (2.2 m^2) and in bathrooms not exceeding 55 ft^2 (5.1 m^2), provided that such spaces are finished with lath and plaster or materials providing a 15-minute thermal barrier.

33.2.3.5.3.2

In slow and impractical evacuation capability facilities, all of the following shall apply:

(1) An automatic sprinkler system in accordance with ~~NFPA 13D~~9.7.1.1(2) with a 30-minute water supply, shall be permitted.

(2) All habitable areas and closets shall be sprinklered.

(3) Automatic sprinklers shall not be required in bathrooms not exceeding 55 ft^2 (5.1 m^2), provided that such spaces are finished with lath and plaster or materials providing a 15-minute thermal barrier.

33.2.3.5.3.3

In prompt and slow evacuation capability facilities, where an automatic sprinkler system is in accordance with ~~NFPA 13~~9.7.1.1(1) sprinklers shall not be required in closets not exceeding 24

ft^2 (2.2 m^2) and in bathrooms not exceeding 55 ft^2 (5.1 m^2), provided that such spaces are finished with lath and plaster or materials providing a 15-minute thermal barrier.

33.2.3.5.3.4*

In prompt and slow evacuation capability facilities in buildings four or fewer stories above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

33.2.3.5.3.5*

In impractical evacuation capability facilities in buildings four or fewer stories above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted. All habitable areas and closets shall be sprinklered. Automatic sprinklers shall not be required in bathrooms not exceeding 55 ft^2 (5.1 m^2), provided that such spaces are finished with lath and plaster or materials providing a 15-minute thermal barrier.

33.2.3.5.8

Systems installed in accordance with ~~NFPA 13D~~9.7.1.1(2) shall be inspected, tested, and maintained in accordance with 33.2.3.5.8.1 through 33.2.3.5.8.15, which reference specific sections of NFPA 25. The frequency of the inspection, test, or maintenance shall be in accordance with this *Code*, whereas the purpose and procedure shall be from NFPA 25.

33.3.3.5.1.1*

In buildings four or fewer stories above grade plane, systems in accordance with ~~NFPA 13R~~9.7.1.1(3) shall be permitted.

36.3.1 Protection of Vertical Openings.

Any vertical opening shall be protected in accordance with Section 8.6, except under any of the following conditions:

(1) In Class A or Class B mercantile occupancies protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1), unprotected vertical openings shall be permitted at one of the following locations:

(a) Between any two floors

(b) Among the street floor, the first adjacent floor below, and the adjacent floor (or mezzanine) above

(2) In Class C mercantile occupancies, unprotected openings shall be permitted between the street floor and the mezzanine.

(3) The draft stop and closely spaced sprinkler requirements of NFPA 13 shall not be required for unenclosed vertical openings permitted in 36.3.1(1) and 36.3.1(2).

(4) Unenclosed vertical openings in accordance with 8.6.9.2 shall be permitted and the provision of 8.6.9.2(5) shall not apply.

(5) Unenclosed vertical openings in accordance with 8.6.9.7 shall be permitted and the number of contiguous stories shall not be limited.

36.4.4.9.2*

Rooms housing building service equipment, janitor closets, and service elevators shall be permitted to open directly onto exit passageways, provided that all of the following criteria are met:

(1) The required fire resistance rating between such rooms or areas and the exit passageway shall be maintained in accordance with 7.1.3.2.

(2) Such rooms or areas shall be protected by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1), but the exceptions in NFPA 13 allowing the omission of sprinklers from such rooms shall not be permitted.

(3) Service elevators opening into the exit passageway shall not open into areas other than exit passageways.

(4) Where exit stair enclosures discharge into the exit passageway, the provisions of 7.2.1.5.7 shall apply, regardless of the number of stories served.

36.4.5.3 Storage, Arrangement, Protection, and Quantities of Hazardous Commodities.

The storage, arrangement, protection, and quantities of hazardous commodities shall be in accordance with the applicable provisions of the following:

(1) The fire code *(see 3.3.99)*

(2) NFPA 13

(3) NFPA 30

(4) NFPA 30B

(5) NFPA 400, Chapter 14, for organic peroxide formulations

(6) NFPA 400, Chapter 15, for oxidizer solids and liquids

(7) NFPA 400, various chapters, depending on characteristics of a particular pesticide

37.3.1 Protection of Vertical Openings.

Any vertical opening shall be protected in accordance with Section 8.6, except under any of the following conditions:

(1) In Class A or Class B mercantile occupancies protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1), unprotected vertical openings shall be permitted at one of the following locations:

(a) Between any two floors

(b) Among the street floor, the first adjacent floor below, and the adjacent floor (or mezzanine) above

(2) In Class C mercantile occupancies, unprotected openings shall be permitted between the street floor and the mezzanine.

(3) The draft stop and closely spaced sprinkler requirements of NFPA 13 shall not be required for unenclosed vertical openings permitted in 36.3.1(1) and 37.3.1(2).

(4) Unenclosed vertical openings in accordance with 8.6.9.2 shall be permitted.

37.4.4.9.2*

Rooms housing building service equipment, janitor closets, and service elevators shall be permitted to open directly onto exit passageways, provided that all of the following criteria are met:

(1) The required fire resistance rating between such rooms or areas and the exit passageway shall be maintained in accordance with 7.1.3.2.

(2) Such rooms or areas shall be protected by an approved automatic sprinkler system in accordance with 9.7.1.1(1), but the exceptions in NFPA 13 allowing the omission of sprinklers from such rooms shall not be permitted.

(3) Service elevators opening into the exit passageway shall not open into areas other than exit passageways.

(4) Where exit stair enclosures discharge into the exit passageway, the provisions of 7.2.1.5.7 shall apply, regardless of the number of stories served.

37.4.5.3 Storage, Arrangement, Protection, and Quantities of Hazardous Commodities.

The storage, arrangement, protection, and quantities of hazardous commodities shall be in accordance with the applicable provisions of the following:

(1) The fire code *(see 3.3.99)*

(2) NFPA 13

(3) NFPA 30

(4) NFPA 30B

(5) NFPA 400, Chapter 14, for organic peroxide formulations

(6) NFPA 400, Chapter 15, for oxidizer solids and liquids

(7) NFPA 400, various chapters, depending on characteristics of a particular pesticide

40.2.6.2* Power-Generation Buildings.

Buildings of noncombustible construction used exclusively for the enclosure of steam generators, steam turbines, gas turbines, heat recovery generators, and flue gas treatment equipment shall be permitted to have a maximum travel distance of 400 ft (122 m), where all special hazards are protected by approved automatic suppression systems in accordance with one or more of the following standards, as applicable:

(1) NFPA 11

(2) NFPA 12

(3) NFPA 13

(4) NFPA 15

(5) NFPA 16

(6) NFPA 17

(7) NFPA 750

(8) NFPA 2001

Committee Input No. 6604-NFPA 101-2021 [Section No. 36.4.4.6.7]

36.4.4.6.7

Each assembly occupancy with an occupant load of 500 or more shall have not less than one-half of its required means of egress independent of the mall concourse and mall concourse means of egress .

Submitter Information Verification

Committee: SAF-MER

Submittal Date: Mon Aug 02 15:29:34 EDT 2021

Committee Statement and Meeting Notes

Committee Statement: The intent and implications of this public input is unclear. Firstly, the term "mall" is no longer a defined term, and use of the term could cause confusion. Secondly, the proposed change appears that it would not permit an assembly occupancy (occupant load >500) to have more than 50 percent of its means of egress to egress through the mall concourse or share the means of egress, including exit enclosures, with the mall concourse.

A task group has been formed to review these requirements and the history of the intent of these requirements.

The MER technical committee is requesting that the correlating committee inform the AXM committee of this CI and the potential second revision.

Response Message: CI-6604-NFPA 101-2021

Public Input No. 1-NFPA 101-2020 [Section No. 36.4.4.6.7]

Ballot Results

This item has not been balloted

2.3 Other Publications.
2.3.1 ACI Publications.

American Concrete Institute, 38800 Country Club Drive, Farmington Hills, MI 48331-~~34343~~3439. www.concrete.org

ACI 216.1~~/TMS 0216.1~~, *Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies*, 2014 (reapproved 2019).

2.3.2 ANSI Publications.

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

ANSI ASC A14.3, *American National Standard for Ladders — Fixed — Safety Requirements*, 2008 (~~R2018~~reaffirmed 2018).

~~ANSI/BHMA A156.3, *Exit Devices*, 2014.~~
~~ANSI/BHMA A156.10, *Power Operated Pedestrian Doors*, 2017.~~
~~ANSI/BHMA A156.19, *Power Assist and Low Energy Power Operated Doors*, 2013.~~
~~ANSI/BHMA A156.27, *Power and Manual Operated Revolving Pedestrian Doors*, 2019.~~

~~ANSI/BHMA A156.38, *Low Energy Power Operated Sliding and Folding Doors*, 2014.~~

2.3.3 ASCE Publications.

American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191-4400. www.asce.org

ASCE/SEI 7, *Minimum Design Loads for Buildings and Other Structures*, ~~2016, including Supplement 1, 2017~~2022.

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2.3.4 ASME Publications.

~~ASME International~~The American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990. www.asme.org

ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*, ~~2016~~2019.

ASME A17.3, *Safety Code for Existing Elevators and Escalators*, ~~2017~~2020.

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2.3.5 ASSP Publications.

American Society of Safety Professionals, 520 N. Northwest Highway, Park Ridge, IL 60068.

ANSI/ASSP A1264.1, *Safety Requirements for Workplace Walking/Working Surfaces and Their Access; Workplace, Floor, Wall and Roof Openings; Stairs and Guardrail/Handrail Systems*, 2017.

2.3.6 ASTM Publications.

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

ASTM C1629/C1629M, *Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels*, ~~2018a~~2019.

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ASTM D2859, *Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials*, 2016 (2021).

ASTM D2898, *Standard ~~Test Methods~~Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing*, 2010 (2017).

ASTM D3201/D3201M, *Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products*, ~~2013~~2020.

ASTM D5516, *Standard Test Method for Evaluating the Flexural Properties of Fire-Retardant~~-~~ Treated Softwood Plywood Exposed to Elevated Temperatures*, 2018.

ASTM D5664, *Standard Test Method for Evaluating the Effects of Fire-Retardant Treatments and Elevated Temperatures on Strength Properties of Fire-Retardant~~-~~ Treated Lumber*, 2017.

ASTM D6305, *Standard Practice for Calculating Bending Strength Design Adjustment Factors for Fire-Retardant-Treated Plywood Roof Sheathing*, ~~2008~~ 2021~~(2015) e1~~.

ASTM D6841, *Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-Retardant-Treated Lumber*, ~~2016~~2021.

ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, ~~2019a~~2021a.

ASTM E108, *Standard Test Methods for Fire Tests of Roof Coverings*, ~~2017~~2020a.

ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, ~~2018c e1~~2020.

ASTM E136, *Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C*, 2019a.

ASTM E648, *Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*, ~~2017a~~2019a e1.

ASTM E814, *Standard Test Method for Fire Tests of Penetration ~~Fire Stop~~Firestop Systems*, 2013a (2017).

ASTM E1354, *Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*, ~~2017~~2022.

ASTM E1537, *Standard Test Method for Fire Testing of Upholstered Furniture*, 2016.

ASTM E1590, *Standard Test Method for Fire Testing of Mattresses*, 2017.

ASTM E1591, *Standard Guide for Obtaining Data for Fire Growth Models*, ~~2013~~2020.

ASTM E1966, *Standard Test Method for Fire-Resistive Joint Systems*, 2015 (2019).

ASTM E2072, *Standard Specification for Photoluminescent (Phosphorescent) Safety Markings*, 2014.

ASTM E2073, *Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings*, 2019a.

ASTM E2307, *Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using Intermediate-Scale, Multi-~~Story~~ story Test Apparatus*, ~~2015b e1~~2020.

~~ASTM F2374, *Standard Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices*, 2021.~~[HG1]

ASTM E2404, *Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Polymeric (Including Vinyl) and Wood Wall or Ceiling Coverings, Facings and Veneers, to Assess Surface Burning Characteristics*, 2017.

ASTM E2573, *Standard Practice for Specimen Preparation and Mounting of Site-Fabricated Stretch Systems to Assess Surface Burning Characteristics*, ~~2017~~2019.

ASTM E2579, *Standard Practice for Specimen Preparation and Mounting of Wood Products to Assess Surface Burning Characteristics*, ~~2019~~2021.

ASTM E2599, *Standard Practice for Specimen Preparation and Mounting of Reflective Insulation, Radiant Barrier and Vinyl Stretch Ceiling Materials for Building Applications to Assess Surface Burning Characteristics*, 2018.

ASTM E2652, *Standard Test Method for Assessing Combustibility of Materials Using a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C*, 2018.

ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*, 2011 (2018).

ASTM E2837, *Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies*, 2013 (2017).

ASTM E2965, *Standard Test Method for Determination of Low Levels of Heat Release Rate for Materials and Products Using an Oxygen Consumption Calorimeter*, ~~2017~~2022.

ASTM E3082, *Standard Test Methods for Determining the Effectiveness of Fire Retardant Treatments for Natural Christmas Trees*, ~~2017 e1~~2020.

ASTM F851, *Standard Test Method for Self-Rising Seat Mechanisms*, 1987 (~~2013~~2020).

ASTM F1085, *Standard Specification for Mattress and Box Springs for Use in Berths in Marine Vessels*, ~~2014~~2019.

ASTM F1577, *Standard Test Methods for Detention Locks for Swinging Doors*, 2005 (2019).

ASTM F2374, *Standard Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices*, 2021a.

ASTM G155, *Standard Practice for Operating Xenon Arc ~~Light~~ Lamp Apparatus for Exposure of ~~Non-Metallic~~ Materials*, ~~2013~~2021.

2.3.X BHMA Publications.

Builders Hardware Manufacturers Association, 355 Lexington Avenue, 15th floor, New York, NY 10017.

ANSI/BHMA A156.3, *Exit Devices*, ~~2014~~2020.

ANSI/BHMA A156.10, *Power Operated Pedestrian Doors*, 2017.

ANSI/BHMA A156.19, *Power Assist and Low Energy Power Operated Doors*, ~~2013~~2019.

ANSI/BHMA A156.27, *Power and Manual Operated Revolving Pedestrian Doors*, 2019.

ANSI/BHMA A156.38, *Low Energy Power Operated Sliding and Folding Doors*, ~~2014~~2019.

2.3.7 FM Global Publications.

FM Global, 270 Central Avenue, ~~P.O. Box 7500,~~ Johnston, RI 02919. www.fmglobal.com

ANSI/FM Approvals 4880, ~~*American National Standard for*~~ *Evaluating the Fire Performance of Insulated Building Panel Assemblies and Interior Finish Materials*, 2017.

FM Approvals 6920/6921, ~~*Approval Standard for*~~*Oily Waste Cans and Containers for Combustible Waste*, ~~2004~~2019.

2.3.8 ICC Publications.

International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001~~-2070~~.

ICC A117.1, *Accessible and Usable Buildings and Facilities*, 2017.

2.3.9 NEMA Publications.

National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Arlington, VA 22209.

NEMA SB 30, *Fire Service Annunciator and Interface*, 2005.

2.3.10 RESNA Publications.

Rehabilitation Engineering and Assistive Technology Society of North America, 1560 Wilson Blvd., Suite 850, Arlington, VA 22209.

ANSI/RESNA ED-1, *Emergency Stair Travel Devices Used by Individuals with Disabilities, Volume 1*, 2019.

2.3.11 UL Publications.

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

UL 9, *Fire Tests of Window Assemblies*, 2009, revised ~~2015~~2020.

UL 10B, *Fire Tests of Door Assemblies*, 2008, revised ~~2015~~2020.

UL 10C, *Positive Pressure Fire Tests of Door Assemblies*, 2016, revised 2021.

UL 263, *Fire Tests of Building Construction and Materials*, 2011, revised ~~2019~~2022.

UL 294, *Access Control System Units*, 2018.

UL 300, *Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment*, ~~2018~~2019.

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UL 555, *Fire Dampers*, 2006, revised ~~2016~~2020.

UL 555S, *Smoke Dampers*, 2014, revised ~~2016~~2020.

UL 723, *Test for Surface Burning Characteristics of Building Materials*, 2018.

UL 790, Standard *Test Methods for Fire Tests of Roof Coverings*, ~~2004, revised 2018~~2022.

UL 924, *Emergency Lighting and Power Equipment*, 2016, revised ~~2018~~2020.

UL 962, *Household and Commercial Furnishings*, 2014, revised ~~2021~~2022.

UL 1034, *Burglary-Resistant Locking Mechanisms,* 2011, revised 2020.

UL 1040, *Fire Test of Insulated Wall Construction*, 1996, revised ~~2017~~2022.

UL 1278, *Movable and Wall- or Ceiling-Hung Electric Room Heaters*, 2014, revised ~~2018~~2022.

UL 1315, *Metal Waste Paper Containers*, 2017.

UL 1479, *Fire Tests of Penetration Firestops*, 2015, revised 2021.

UL 1489, *Fire Tests of Fire Resistant Pipe Protection Systems Carrying Combustible Liquids*, 2016, revised 2021.

UL 1715, *Fire Test of Interior Finish Material*, 1997, revised ~~2017~~2022.

UL 1784, *Air Leakage Tests of Door Assemblies and Other Opening Protectives*, 2015, revised 2020.

UL 1975, *Fire Tests for Foamed Plastics Used for Decorative Purposes*, 2006.

UL 1994, *Luminous Egress Path Marking Systems*, 2015, revised 2020.

UL 2079, *Tests for Fire Resistance of Building Joint Systems*, 2015, revised 2020.

2.3.12 U.S. Government Publications.

U.S. Government Publishing Office, 732 North Capitol Street~~,~~ NW, Washington, DC 20401~~-0001~~.

Title 16, Code of Federal Regulations, Part 1632, "Standard for the Flammability of Mattresses and Mattress Pads" (FF 4-72, Amended).

2.3.13 Other Publication.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, ~~2003~~2020.

2.4 References for Extracts in Mandatory Sections.

NFPA 1, *Fire Code,* ~~2021~~ 2024 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems,* 2022 edition.

NFPA 72®, *National Fire Alarm and Signaling Code®,* ~~2019~~ 2022 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives,* ~~2019~~ 2022 edition.

NFPA 88A, *Standard for Parking Structures,* ~~2019~~ 2023 edition.

NFPA 150, *Fire and Life Safety in Animal Housing Facilities Code,* ~~2019~~ 2022 edition.

NFPA 221, *Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls,* ~~2021~~ 2024 edition.

NFPA 252, *Standard Methods of Fire Tests of Door Assemblies,* ~~2017~~ 2022 edition.

NFPA 288, *Standard Methods of Fire Tests of Horizontal Fire Door Assemblies Installed in Horizontal Fire Resistance–Rated Assemblies,* ~~2017~~ 2022 edition.

NFPA 301, *Code for Safety to Life from Fire on Merchant Vessels,* ~~2018~~ 2023 edition.

NFPA 400, *Hazardous Materials Code,* ~~2019~~ 2022 edition.

NFPA 415, *Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways,* ~~2016~~ 2022 edition.

NFPA 703, *Standard for Fire-Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials,* ~~2021~~ 2024 edition.

NFPA 921, *Guide for Fire and Explosion Investigations,* 2021 edition.

NFPA 5000®, *Building Construction and Safety Code®,* ~~2021~~ 2024 edition.

E.1.2 Other Publications.
E.1.2.1 ACI Publication.

American Concrete Institute, 38800 Country Club Drive, Farmington Hills, MI 48331-~~34343~~3439. www.concrete.org

ACI 216.1~~/TMS 0216.1~~, *Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies*, 2014 (reapproved 2019).

E.1.2.2 ANSI Publications.

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~~ANSI/BHMA A156.10, *Power Operated Pedestrian Doors*, 2017.~~

~~ANSI/BHMA A156.19, *Power Assist and Low Energy Power Operated Doors*, 2013.~~

~~ANSI/BHMA A156.38, *Low Energy Power Operated Sliding and Folding Doors*, 2014.~~

~~ANSI/BHMA A156.41, *Standard for Door Hardware Single Motion for Egress,* 2017.~~

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ANSI Z97.1, *Safety Glazing Materials Used in Buildings — Safety Performance Specifications and Methods of Test,* 2015 (R2020).

E.1.2.3 ASCE Publications.

American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191-4400. www.asce.org

ASCE/SEI 7, *Minimum Design Loads for Buildings and Other Structures*, ~~2016, including Supplement 1, 2017~~2022.

ASCE/SEI/SFPE 29, *Standard Calculation Methods for Structural Fire Protection*, 2005.

E.1.2.4 ASHRAE Publications.

~~ASHRAE~~American Society of Heating, Refrigeration and Air Conditioning Engineers, Inc., 180 Technology Parkway NW, Peachtree Corners, GA 30092~~1791 Tullie Circle, NE, Atlanta, GA 30329-2305~~. www.ashrae.org

ASHRAE *Handbook — Fundamentals*, ~~2017~~2021.

Klote, J.H. and Milke, J.A., *Principles of Smoke Management*, 2002.

E.1.2.5 ASME Publications.

The American Society of Mechanical Engineers~~ASME International~~, Two Park Avenue, New York, NY 10016-5990. www.asme.org

ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*, ~~2016~~2019.

ASME A17.3, *Safety Code for Existing Elevators and Escalators*, ~~2017~~2020.

E.1.2.6 ASSP Publications.

American Society of Safety Professionals, 520 N. Northwest Highway, Park Ridge, IL 60068.

ANSI/ASSP A1264.2, ~~*Standard for the Provision of Slip Resistance on Walking/Working Surfaces,* 2012~~*Reducing Slip Missteps on Walking-Working Surfaces,* 2022.

E.1.2.7 ASTM Publications.

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

ASTM D2859, *Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials*, 2016 (2021).

ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, ~~2019a~~2021a.

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ASTM E1352, *Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies*, 2016.

ASTM E1353, *Standard Test Methods for Cigarette Ignition Resistance of Components of Upholstered Furniture*, ~~2016~~2021.

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ASTM E1537, *Standard Test Method for Fire Testing of Upholstered Furniture*, 2016.

ASTM E1590, *Standard Test Method for Fire Testing of Mattresses*, 2017.

ASTM E1966, *Standard Test Method for Fire-Resistive Joint Systems*, 2015 (2019).

ASTM E2030, *Standard Guide for Recommended Uses of Photoluminescent (Phosphorescent) Safety Markings*, 2009a (withdrawn 2018).

ASTM E2174, *Standard Practice for On-Site Inspection of Installed Firestop~~s~~ Systems*,~~2018~~2020a.

ASTM E2238, *Standard Guide for Evacuation Route Diagrams*, 2012.

ASTM E2280, *Standard Guide for Fire Hazard Assessment of the Effect of Upholstered Seating Furniture Within Patient Rooms of Health Care Facilities*, ~~2017~~2021.

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E.1.2.X BHMA Publications.

Builders Hardware Manufacturers Association, 355 Lexington Avenue, 15th floor, New York, NY 10017.

ANSI/BHMA A156.10, *Power Operated Pedestrian Doors*, 2017.

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E.1.2.9 FM Global Publications.

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E.1.2.10 ICC Publications.

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E.1.2.11 NEMA Publications.

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E.1.2.13 RESNA Publications.

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ANSI/RESNA ED-1, *Emergency Stair Travel Devices Used by Individuals with Disabilities, Volume 1*, 2019.

E.1.2.14 SFPE Publications.

SFPE, 9711 Washingtonian Blvd., Suite 380, Gaithersburg, MD 20878. www.sfpe.org

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Title 29, Code of Federal Regulations, Part 1910, Subparts E and L, "OSHA Regulations for Emergency Procedures and Fire Brigades."

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E.2 Informational References.

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

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E.3 References for Extracts in Informational Sections.

NFPA 72®, *National Fire Alarm and Signaling Code®*, ~~2019~~ 2022 edition.

NFPA 88A, *Standard for Parking Structures*, ~~2019~~ 2023 edition.

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NFPA 301, *Code for Safety to Life from Fire on Merchant Vessels*, ~~2018~~ 2023 edition.

NFPA 400, *Hazardous Materials Code*, ~~2019~~ 2022 edition.

NFPA 5000®, *Building Construction and Safety Code®*, ~~2021~~ 2024 edition.

Public Comment No. 47-NFPA 101-2022 [New Section after 12.1.7.1.2]

New section 12.1.7.1.3*

For assembly occupancies with fixed seating, the Occupant Load shall be calculated by taking the number of fixed seats and increasing it by 10%.

Add new annex note:

A.12.1.7.1.3 The additional 10% is intended to accommodate attendees in wheelchairs that do not take any of the fixed seats, people that stand in front of the room to address the assembly, and people that stand along walls during popular events. The egress system needs to address all of these common occurrences.

Statement of Problem and Substantiation for Public Comment

I submitted this proposal as a Public Input last cycle to Table 7.3.1.2 and it was rejected by the Means of Egress Committee. I re-submitted the proposal this cycle (see PI 323) and the Means of Egress Committee determined that it was not within their jurisdiction and sent it to you for deliberation. Unfortunately, it never got to you. Staff has suggested that I submit this Public Comment in order to make sure that you address this serious situation.

In the Means of Egress Committee's reason for rejection last cycle, they stated that, "No data has been provided to substantiate the proposed revision." That Committee Statement was incorrect. I supported the proposed change as a means to account for people in wheelchairs and people who stand up in front of the room that do not have a seat. The egress system needs to account for these people as well as the people in seats. The occupant load needs to include these people so that the egress capacity is actually adequate to handle them. In this cycle, I am adding the very common situation of people standing that don't have a seat at popular events. The Occupant Load needs to address all of these critical situations.

I find it hard to believe that the Means of Egress Committee does not believe that people in wheelchairs roll into assembly occupancies with fixed seats and do not move into one of the fixed seats, leaving it open for another person. It would seem to me that the Americans with Disabilities Act (ADA) specifically requires the Occupant Load to account for people in wheelchairs. Does the NFPA really need me to remind them that if people in wheelchairs are not counted in the occupant load that is used to determine egress capacity, these people can sue the NFPA?

I also find it hard to believe that the Means of Egress Committee doubts that people stand in front of lecture halls, theaters, and other assembly spaces without using a seat and that people stand along the walls in popular activities when all of the seats are taken. I have witnessed this occurring at NFPA conferences. Since the Occupant Load in the past has not been required to account for these people, should we have shut down the program and kicked people out? Or should we make sure that the Occupant Load is sufficient to handle the situations we know are going to occur? Do I really need to build a case that by only counting the fixed seats for the Occupant Load in a fixed seating assembly occupancy, you are ignoring the people that are not in seats?

Asking specifically about the 10% number is appropriate. The Means of Egress Committee never actually questioned this number, but I can share how it was obtained. The ADA Standards for Accessible Design require a certain number of spaces to be added to fixed seat assembly spaces based on the number of fixed seats. The requirements vary between 1% and 8% for spaces with more than 50 seats (meeting the definition of Assembly). Since the justification for this proposed change is more than just ADA acceptance (such as a professor standing up in front of a class), the 8% number was rounded up to 10% so that there would be one simple rule that would help everyone comply with the ADA and account for everyone who was reasonably going to be in the room.

Alternatively, the committee could refer to the ADA Standards For Accessible Design to figure out how many additional people they should add to the occupant load, but that would be more cumbersome for the user. The 10% number is reasonable, easy to calculate, and provides a number that helps everyone meet the ADA Standards for Accessible Design regardless of the number of seats.

Note that this has not been proposed for existing buildings because it might cause serious problems with door widths and stairwells, which are difficult to retrofit. It is hoped that by incorporating these changes in new situations that egress capacity will improve over time as new buildings replace old ones and renovations force compliance with newer versions of the Code.

Related Item

• PI 323

Submitter Information Verification

Submitter Full Name: Kenneth Isman
Organization: University of Maryland
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City:
State:
Zip:
Submittal Date: Tue Mar 22 12:34:09 EDT 2022
Committee: SAF-AXM

Public Comment No. 12-NFPA 101-2022 [Section No. 12.3.5]

12.3.5 Extinguishment Requirements.

12.3.5.1

The following assembly occupancies shall be protected throughout by an approved, automatic sprinkler system in accordance with 9.7.1.1(1) and electrically supervised in accordance with 9.7.2:

(1) Dance halls

(2) Discotheques

(3) Nightclubs

(4) Bars

(5) Restaurants

(6) Assembly occupancies with festival seating

12.3.5.2

Any building containing one or more assembly occupancies where the aggregate occupant load of the assembly occupancies exceeds 300 shall be protected by an approved, supervised automatic sprinkler system in accordance with Section 9.7 as follows *(see also 12.1.6, 12.2.6, 12.3.2, and 12.3.6)*:

(1) Throughout the story containing the assembly occupancy

(2) Throughout all stories below the story containing the assembly occupancy

(3) In the case of an assembly occupancy located below the level of exit discharge, throughout all stories intervening between that story and the level of exit discharge, including the level of exit discharge

12.3.5.3

The requirements of 12.3.5.2 shall not apply to the following:

(1)* Assembly occupancies consisting of a single multipurpose room of less than 12,000 ft^2 (1115 m^2) that are not used for exhibition or display and are not part of a mixed occupancy

(2) Gymnasiums, skating rinks, and swimming pools used exclusively for participant sports with no audience facilities for more than 300 persons

(3)* Locations in stadia and arenas as follows:

(a) Over the floor areas used for contest, performance, or entertainment, provided that the roof construction is more than 50 ft (15 m) above the floor level, and use is restricted to low fire hazard uses

(b) Over the seating areas, provided that use is restricted to low fire hazard uses

(c) Over open-air concourses where an approved engineering analysis substantiates the ineffectiveness of the sprinkler protection due to building height and combustible loading

(4) Locations in unenclosed stadia and arenas as follows:

(a) Press boxes of less than 1000 ft^2 (93 m^2)

(b) Storage facilities of less than 1000 ft^2 (93 m^2) if enclosed with not less than 1-hour-fire-resistance-rated construction

(c) Enclosed areas underneath grandstands that comply with 12.4.10.5

12.3.5.4

Where another provision of this chapter requires an automatic sprinkler system, the sprinkler system shall be installed in accordance with 9.7.1.1(1) and electrically supervised in accordance with 9.7.2.

12.3.5.5

High-rise buildings shall comply with 12.4.5.

12.3.5.6

Where required by 12.1.6, buildings containing assembly occupancies shall be protected by an approved, supervised automatic sprinkler system in accordance with Section 9.7 throughout the stories specified by Table 12.1.6.

12.3.5.7 Portable Fire Extinguishers.

Portable fire extinguishers shall be installed in assembly occupancies in accordance with Section 9.9, unless otherwise permitted by one of the following:

(1) The requirement of 12.3.5.7 shall not apply to seating areas.

(2) The requirement of 12.3.5.7 shall not apply to floor areas used for contests, performances, or entertainment.

(3) The requirement of 12.3.5.7 shall not apply to outside assembly occupancy areas.

(4) Portable extinguishers shall be permitted to be located in secure locations accessible to staff.

Additional Proposed Changes

File Name	Description	Approved
101_A2023_SAF_AAC_CCN_10.pdf	101_Correlating Committee No. 10	

Statement of Problem and Substantiation for Public Comment

NOTE: The following CC Note No. 10 appeared in the First Draft Report on First Revision No. 6588. Consider changing "and electrically supervised…" to "that is electrically supervised…" to clarify that it is the automatic sprinkler system, and not the assembly occupancy, that must be electrically supervised.

Related Item

• FR-6588

Submitter Information Verification

Submitter Full Name: CC ON SAF_AAC
Organization: NFPA
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City:
State:
Zip:
Submittal Date: Mon Mar 21 09:22:32 EDT 2022
Committee: SAF-AXM

Correlating Committee Note No. 10-NFPA 101-2022 [Section No. 12.3.5]

Submitter Information Verification

Committee: SAF-AAC
Submittal Date: Mon Jan 17 15:07:01 EST 2022

Committee Statement and Meeting Notes

Committee Statement: Consider changing "and electrically supervised…" to "that is electrically supervised…" to clarify that it is the automatic sprinkler system, and not the assembly occupancy, that must be electrically supervised.

First Revision No. 6588-NFPA 101-2021 [Section No. 12.3.5]

Ballot Results

✔ **This item has passed ballot**

11 Eligible Voters
1 Not Returned
10 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Taluba, Jon

Affirmative All

Bush, Kenneth E.
Carson, Wayne G. Chip
Gilyeat, Sharon S.
Harbuck, Stanley C.
Hopper, Howard
Hugo, Jeffrey M.
Lucas, Jeffrey A.
Quiter, James R.
Reiswig, Rodger
Rosenbaum, Eric R.

Public Comment No. 162-NFPA 101-2022 [Section No. 12.3.5.1]

12.3.5.1

The following assembly occupancies shall be protected throughout by an approved, automatic sprinkler system in accordance with 9.7.1.1(1) and electrically supervised in accordance with 9.7.2:

(1) Dance halls
(2) Discotheques
(3) Nightclubs
(4) Bars
(5) Restaurants
(6) Assembly occupancies with festival ~~seating~~ or unsecured seating

Statement of Problem and Substantiation for Public Comment

Unsecured seating, while undefined in NFPA 101, is often coupled with assembly venues with festival seating. Per Section 12.7.9.2, unsecured seating is allowed with festival seating, but the sprinkler threshold is only tied to festival seating. Having unsecured seats adds to the means of egress delay and occupant safety.

Related Item

• PI 374 • PI 377

Submitter Information Verification

Submitter Full Name: Jeffrey Hugo
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Street Address:
City:
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Zip:
Submittal Date: Fri May 27 10:00:30 EDT 2022
Committee: SAF-AXM

Public Comment No. 144-NFPA 101-2022 [Section No. 12.4.6]

12.4.6 Alcohol-Based-Hand-Rub Dispensers.

The installation and maintenance of Alcohol-based-hand-rub dispensers and the storage of alcohol-based hand rub solutions in accordance with 8.7.3.3 shall be permitted.

Statement of Problem and Substantiation for Public Comment

This is a necessary change because, our current health situation with the latest viral outbreak has led to an increased need to install alcohol based hand sanitizer within many different types of occupancies. Adding this pointer is consistent with the actions taken in First Draft by other NFPA 101 TC's to provide uniformity throughout the standard by including a pointer to the requirements related to ABHR dispensers and storage of ABHR replacement solutions that are found in Section 8.7.3.3 of this code.

Related Public Comments for This Document

Related Comment	Relationship
Public Comment No. 145-NFPA 101-2022 [Section No. 13.4.6]	
Public Comment No. 146-NFPA 101-2022 [Section No. 26.3.2.1]	
Public Comment No. 147-NFPA 101-2022 [Section No. 28.4.2]	
Public Comment No. 148-NFPA 101-2022 [Section No. 29.4.2]	
Public Comment No. 149-NFPA 101-2022 [Section No. 30.4.3]	

Related Item

• PI 325

Submitter Information Verification

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City:
State:
Zip:
Submittal Date: Mon May 23 15:51:23 EDT 2022
Committee: SAF-AXM

Public Comment No. 221-NFPA 101-2022 [New Section after 12.4.12]

12.4.13 Modular Rooms.

12.4.13.1

Modular rooms installed in indoor locations shall comply with Section 10.7.

12.4.13.2*

Where provided in areas covered by an occupant notification system, the audible and visible signals shall extend into the interior of the modular room.

A.12.4.13.2

Extending the audible and visible signals into the interior of a modular room is likely to require the addition of audible and visible notification appliances within the space. However if the attenuation of the alarm signal is negligible within the space, additional notification appliances may not be necessary to provide the required alarm notification.

Statement of Problem and Substantiation for Public Comment

The committee statement for resolving Public Input No. 301 stated that it was unclear why the proposed language was under the exposition facility requirements. This public comment will locate the proposed requirements in a new Section 12.4.13 under 12.4 for special provisions for clarity. Additionally, this public comment simplifies the intent of Public Input No. 301 that where modular rooms are installed in areas covered by an occupant notification system the audible and visible signals must extend into the interior of the modular room. This public comment uses similar language that was approved with FR-6632 that created a new Section 36.4.4.12, 36.4.4.12.1 and 36.4.4.12.2. A new Annex section was added to clarify that extending the audible and visible signals into the interior of the modular does not necessarily require the installation of a notification appliances in the interior of the modular room.

Related Item

• PI 301

Submitter Information Verification

Submitter Full Name: Howard Hopper
Organization: UL LLC
Street Address:
City:
State:
Zip:
Submittal Date: Tue May 31 16:38:53 EDT 2022
Committee: SAF-AXM

Public Comment No. 1-NFPA 101-2022 [Section No. 12.7.5.4]

12.7.5.

~~4 Vehicles~~
4 Vehicles .

~~Vehicles on display~~

~~within an exposition facility~~

shall comply

~~with~~

with 12.7.5.4.1

~~through~~

through 12.7.5.4.4.

12.7.5.4. 1 General

12.7. 5 . 4.1.1 The AHJ shall review plans for location, timeframe, protection measures, where vehicles are being displayed in buildings.

12.7.5.4.1

.2 Fueling or defueling of vehicles shall be prohibited inside the building.

12.7.5.4.1.3 V ehicles shall not be moved within the building at times during normal operating hours.

12.7.5.4.2 Gasoline and Diesel Vehicles

12.7.5.4.2.1 All fuel tank openings shall be locked and sealed in an approved manner to prevent the escape of vapors; fuel tanks shall not contain in excess of one-half their capacity or contain in excess of 10 gal (38 L) of fuel, whichever is less.

12.7.5.4.2

.2 At least one battery cable shall be removed from the batteries used to start the vehicle engine, and the disconnected battery cable shall then be taped.

12.7.5.4.

~~3~~
2.3 Batteries used to power auxiliary equipment shall be permitted to be kept in service.

12.7.5.4.

~~4~~
~~Fueling or defueling of vehicles shall be prohibited.~~

3 Electric and Hybrid Fueled Vehicles

12.7.5.4.3.1 The b atteries used to power the vehicle shall be permitted to be kept in service.

12.7.5.4.3.2 Operation of the vehicle shall be controlled by a method approved by the AHJ.

A. 12.7.5.4 .

~~5~~

~~Vehicles shall not be moved during exhibit hours.~~

3.2 This can be accomplished by removing the keys from the vehicle or ensuring keys are controlled by a supervising individual when operation of the vehicle is demonstrated.

12.7.5.4 .3. 3Fuel used to power the hybrid portion shall comply with 12.7.5.4.2 or 12.7.5.4.4.

12.7.5.4.4 Hydrogen, LPG/LNG, CNG Fueled Vehicles

12.7.5.4.4.1 . All fuel containers shall be removed from the vehicle.

12.7.5.4 .4.1.1 If a fuel container is needed for display purposes the size of the container shall be approved by the AHJ.

12.7.5.4 .4.1.2 If a fuel container is needed for display purposes, the fuel container shall be fully emptied.

Statement of Problem and Substantiation for Public Comment

The change was originally summited to chapter 8 for other occupancies to reference. It also updates the requirements for newer fuels and protection requirements not currently addressed.

Related Public Comments for This Document

Related Comment	Relationship
Public Comment No. 2-NFPA 101-2022 [Section No. 13.7.5.4]	

Related Item

• PI7

Submitter Information Verification

Submitter Full Name: Steven Sawyer
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City:
State:
Zip:
Submittal Date: Wed Mar 09 13:54:09 EST 2022
Committee: SAF-AXM

Public Comment No. 169-NFPA 101-2022 [New Section after 13.3.4.3.7]

13.3.4.4 Carbon Monoxide Detection

13.3.4.4.1 Existing assembly occupancies shall be provided with carbon monoxide detection and warning equipment in accordance with Section 9.12 in the locations specified as follows:

(1) On the ceiling of rooms containing permanently installed fuel-burning appliances or fuel-burning fireplaces

(2) Centrally located within occupiable spaces served by the first supply air register from permanently installed fuel-burning HVAC systems

(3)* Centrally located within occupiable spaces adjacent to an attached garage

A.13.3.4.4.1(3) The intent is to require CO detectors in occupiable spaces immediately adjacent, vertically or horizontally, to attached garages, regardless of the presence of openings between the garage and the adjacent occupiable spaces. Other occupiable spaces that are not adjacent to the attached garage do not require CO detectors.

13.3.4.4.2 Carbon monoxide detectors as specified in 13.3.4.4.1 shall not be required in the following locations:

(1) Garages

(2) Occupiable spaces with attached garages that are open parking structures as defined in 3.3.282.8.4

(3) Occupiable spaces with attached garages that are mechanically ventilated in accordance with the mechanical code

Statement of Problem and Substantiation for Public Comment

Existing assembly occupancies currently lack requirements for CO detection in buildings with known CO hazards, including fuel-burning appliances. A CO source in any building that is not monitored by installed CO detection devices is a life safety hazard to occupants. High level CO exposure carries the immediate risk of permanent brain injury and death. The addition of a requirement for CO detection for existing assembly occupancies will prevent further deaths and injuries.

To clarify, the proposed revision being resubmitted is identical to the requirement that is currently in place for new assembly occupancies. If this proposed revision is considered “too onerous to be required retroactively,” the committee is urged to develop what it considers to be an adequate requirement. Similar action was taken by other 101 committees who created first revisions, committee input, or formed task groups to create CO detection requirements within their respective chapters (see page 7 of the Correlating Committee First Draft Meeting Minutes https://www.nfpa.org/assets/files/AboutTheCodes/101/101_A2023_SAF_AAC_FD_Minutes_1_22.pdf)

With regard to installation cost, primary consideration must be given to the unique nature of CO exposure and the inability of occupants to sense when they are being exposed. To avoid injury and death, there is no safe alternative to installed CO detection devices.

Existing buildings arguably carry the highest risk of exposure due to aging gas appliances and exhaust systems.

Please act to prevent further delay in getting this critical baseline requirement for life safety in place to protect occupants of existing assembly occupancies.

Additional Substantiating Data

According to the recent NFPA Fire Protection Research Foundation report “CO Detection and Alarm Requirements: Literature Review,” NFIRS data documents thousands of nonfire CO-related incident calls to assembly occupancies in the U.S. (Figure 9, page 24)

Case examples, including the death of a restaurant manager in NY in 2014, detailed in this same report (Table 5, page 44) demonstrate how quickly these incidents can escalate and cause harm. This particular CO leak also resulted in injuries to 27 people including first responders.

Examples of CO incidents in assembly occupancies appear regularly in news accounts: https://thejenkinsfoundation.com/category/co-incidents/public-buildings/

“The lack of an operating alarm can be seen in several of these case studies. Carbon monoxide is colorless and odorless. Its early onset symptoms are not unique or severe, which leads to mistaking them for something else or thinking there is not a serious problem. These symptoms can quickly escalate to severe symptoms, which usually revolves around the victim becoming unconscious. People do not self-rescue when they are able, because they do not realize that they should. If someone does realize there is problem, it is most likely too late. This common sequence combined with CO’s toxicity, and a general negligence, makes CO a very dangerous problem that can happen almost anywhere. Detection is the only safeguard against this problem.” https://www.nfpa.org/News-and-Research/Data-research-and-tools/Detection-and-Signaling/Carbon-Monoxide-Detection-and-Alarm-Requirements-Literature-Review

Related Item

• PI 211 CO Detection

Submitter Information Verification

Submitter Full Name: Kris Hauschildt
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Submittal Date: Fri May 27 12:50:40 EDT 2022
Committee: SAF-AXM

Public Comment No. 161-NFPA 101-2022 [Section No. 13.3.5.1]

13.3.5.1

Where the occupant load exceeds 100, the following assembly occupancies shall be protected throughout by an approved ~~, supervised~~ automatic sprinkler system in accordance with 9.7.1.1(1) and electrically supervised in accordance with 9.7.2 :

(1) Dance halls

(2) Discotheques

(3) Nightclubs

(4) Bars

(5) Restaurants

(6) Assembly occupancies with festival or unsecured seating

Statement of Problem and Substantiation for Public Comment

This public comment makes three changes, it adds:
1) The correlating language for automatic sprinkler installation and electric supervision as is done in other TCs.
2) Bars and restaurants to correlate with new assembly sprinkler requirements in 12.3.5.1. Without the same language in the existing chapter, could the newly sprinklered bar or restaurant be permitted to remove the system? This change also correlates to the retrofit requirement located in other fire codes.
3) Unsecured seating is added to the festival seating threshold. Unsecured seating is permitted with festival seating and adds in a factor that delays egress.

Related Item

• PC 162 • PI 375 • PI 376

Submitter Information Verification

Submitter Full Name: Jeffrey Hugo
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Affiliation: NFSA
Street Address:
City:
State:
Zip:
Submittal Date: Fri May 27 09:37:13 EDT 2022
Committee: SAF-AXM

Public Comment No. 145-NFPA 101-2022 [Section No. 13.4.6]

13.4.6 Alcohol-Based-Hand-Rub Dispensers.

~~Alcohol~~ The installation and maintenance ofAlcohol -based-hand-rub dispensers and the storage of alcohol-based hand rub solutions in accordance with 8.7.3.3 shall be permitted.

Statement of Problem and Substantiation for Public Comment

This is a necessary change because, our current health situation with the latest viral outbreak has led to an increased need to install alcohol based hand sanitizer within many different types of occupancies. Adding this pointer is consistent with the actions taken in First Draft by other NFPA 101 TC's to provide uniformity throughout the standard by including a pointer to the requirements related to ABHR dispensers and storage of ABHR replacement solutions that are found in Section 8.7.3.3 of this code.

Related Public Comments for This Document

Related Comment	Relationship
Public Comment No. 143-NFPA 101-2022 [New Section after 11.1.8]	
Public Comment No. 144-NFPA 101-2022 [Section No. 12.4.6]	
Public Comment No. 146-NFPA 101-2022 [Section No. 26.3.2.1]	
Public Comment No. 147-NFPA 101-2022 [Section No. 28.4.2]	
Public Comment No. 148-NFPA 101-2022 [Section No. 29.4.2]	
Public Comment No. 149-NFPA 101-2022 [Section No. 30.4.3]	

Related Item

• PI 325 • PI 324

Submitter Information Verification

Submitter Full Name: Kelly Nicolello
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City:
State:
Zip:
Submittal Date: Mon May 23 15:54:04 EDT 2022
Committee: SAF-AXM

Public Comment No. 222-NFPA 101-2022 [New Section after 13.4.12]

13.4.13 Modular Rooms.

13.4.13.1

Modular rooms installed in indoor locations shall comply with Section 10.7.

13.4.13.2*

Where provided in areas covered by an occupant notification system, the audible and visible signals shall extend into the interior of the modular room.

A.13.4.13.2

Extending the audible and visible signals into the interior does not necessarily mean additional devices need to be installed. Where occupant notification systems installed to serve the area where the modular booth is to be located provide the required audible and visible signals within the modular booth additional devices are not necessary. If the occupant notification systems installed to serve the area where the modular booth is to be located do not provide the required audible and visible signals, then additional devices would be required to be installed within the modular booth.

Statement of Problem and Substantiation for Public Comment

The committee statement for resolving Public Input No. 302 stated that it was unclear why the proposed language was under the exposition facility requirements. This public comment will locate the proposed requirements in a new Section 13.4.13 under 13.4 for special provisions for clarity. Additionally, this public comment simplifies the intent of Public Input No. 302 that where modular rooms are installed in areas covered by an occupant notification system the audible and visible signals must extend into the interior of the modular room. This public comment uses similar language that was approved with FR-6632 that created a new Section 36.4.4.12, 36.4.4.12.1 and 36.4.4.12.2. A new Annex section was added to clarify that extending the audible and visible signals into the interior of the modular does not necessary require the installation of a device in the interior of the modular room.

Related Item

- PI 302

Submitter Information Verification

Submitter Full Name: Howard Hopper
Organization: UL LLC
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City:
State:
Zip:
Submittal Date: Tue May 31 16:43:28 EDT 2022
Committee: SAF-AXM

Public Comment No. 2-NFPA 101-2022 [Section No. 13.7.5.4]

13.7.5.

~~4 Vehicles~~
4 Vehicles .

~~Vehicles on display~~

~~within an exposition facility~~

shall comply

~~with~~

with 13.7.5.4.1

~~through~~

through 13.7.5.4.4.

13.7.5.4. 1 General

13.7. 5 . 4.1.1 The AHJ shall review plans for location, timeframe, protection measures, where vehicles are being displayed in buildings.

13.7.5.4.1

.2 Fueling or defueling of vehicles shall be prohibited inside the building.

13.7.5.4.1.3 V ehicles shall not be moved within the building at times during normal operating hours.

13.7.5.4.2 Gasoline and Diesel Vehicles

13.7.5.4.2.1 All fuel tank openings shall be locked and sealed in an approved manner to prevent the escape of vapors; fuel tanks shall not contain in excess of one-half their capacity or contain in excess of 10 gal (38 L) of fuel, whichever is less.

13.7.5.4.2

.2 At least one battery cable shall be removed from the batteries used to start the vehicle engine, and the disconnected battery cable shall then be taped.

13.7.5.4.

~~3~~
2.3 Batteries used to power auxiliary equipment shall be permitted to be kept in service.

13.7.5.4.

~~4~~
~~Fueling or defueling of vehicles shall be prohibited.~~

3 Electric and Hybrid Fueled Vehicles

13.7.5.4.3.1 The b atteries used to power the vehicle shall be permitted to be kept in service.

13.7.5.4.3.2 Operation of the vehicle shall be controlled by a method approved by the AHJ.

A. 13.7.5.4 .

~~5~~

~~Vehicles shall not be moved during exhibit hours.~~

3.2 This can be accomplished by removing the keys from the vehicle or ensuring keys are controlled by a supervising individual when operation of the vehicle is demonstrated.

13.7.5.4 .3. 3Fuel used to power the hybrid portion shall comply with 13.7.5.4.2 or 13.7.5.4.4.

13.7.5.4.4 Hydrogen, LPG/LNG, CNG Fueled Vehicles

13.7.5.4.4.1 . All fuel containers shall be removed from the vehicle.

13.7.5.4 .4.1.1 If a fuel container is needed for display purposes the size of the container shall be approved by the AHJ.

13.7.5.4 .4.1.2 If a fuel container is needed for display purposes, the fuel container shall be fully emptied.

Statement of Problem and Substantiation for Public Comment

The change was originally summited to chapter 8 for other occupancies to reference. It also updates the requirements for newer fuels and protection requirements not currently addressed.

Related Public Comments for This Document

Related Comment	Relationship
Public Comment No. 1-NFPA 101-2022 [Section No. 12.7.5.4]	

Related Item

• pi7

Submitter Information Verification

Submitter Full Name: Steven Sawyer
Organization:
Street Address:
City:
State:
Zip:
Submittal Date: Wed Mar 09 13:58:29 EST 2022
Committee: SAF-AXM

Public Comment No. 44-NFPA 101-2022 [Section No. A.3.3.203.2]

A.3.3.203.2 Assembly Occupancy.

Assembly occupancies might include the following:

(1) Armories
(2) Assembly halls
(3) Auditoriums
(4) Bowling lanes
(5) Club rooms
(6) College and university classrooms, 50 persons and over
(7) Conference rooms
(8) Courtrooms
(9) Dance halls
(10) Drinking establishments
(11) Exhibition halls
(12) Gymnasiums
(13) Libraries
(14) Mortuary chapels
(15) Motion picture theaters
(16) Museums
(17) Passenger stations and terminals of air, surface, underground, and marine public transportation facilities
(18) Places of religious worship
(19) Pool rooms
(20) Recreation piers
(21) Restaurants
(22) Skating rinks
(23) Special amusement buildings, regardless of occupant load
(24) Theaters

Assembly occupancies are characterized by the presence or potential presence of crowds with attendant panic hazard in case of fire or other emergency. They are generally open or occasionally open to the public, and the occupants, who are present voluntarily, are not ordinarily subject to discipline or control. Such buildings are ordinarily not used for sleeping purposes. Special conference rooms, snack areas, and other areas incidental to, and under the control of, the management of other occupancies, such as offices, fall under the 50-person limitation.

Restaurants and drinking establishments with an occupant load of fewer than 50 persons should be classified as mercantile occupancies.

For special amusement buildings, see 12.4.9 and 13.4.9.

Additional Proposed Changes

File Name	Description	Approved
101_A2023_SAF_AAC_CCN_44.pdf	101_Correlating Committee Note No. 44	

Statement of Problem and Substantiation for Public Comment

NOTE: The following CC Note No. 44 appeared in the First Draft Report on First Revision No. 6600. Consider adding new paragraph before last paragraph for consistency with corresponding language in A.6.1.2.1: "Occupancy of any room or space for assembly purposes by fewer than 50 persons in another occupancy, and incidental to such other occupancy, should be classified as part of the other occupancy and should be subject to the provisions applicable thereto."

Related Item

• FR-6600

Submitter Information Verification

Submitter Full Name: CC ON SAF_AAC
Organization: NFPA
Street Address:
City:
State:
Zip:
Submittal Date: Tue Mar 22 11:49:32 EDT 2022
Committee: SAF-AXM

Correlating Committee Note No. 44-NFPA 101-2022 [Section No. A.3.3.198.2]

Submitter Information Verification

Committee: SAF-AAC
Submittal Date: Mon Jan 17 16:35:23 EST 2022

Committee Statement and Meeting Notes

Committee Statement: Consider adding new paragraph before last paragraph for consistency with corresponding language in A.6.1.2.1: "Occupancy of any room or space for assembly purposes by fewer than 50 persons in another occupancy, and incidental to such other occupancy, should be classified as part of the other occupancy and should be subject to the provisions applicable thereto."

First Revision No. 6600-NFPA 101-2021 [Section No. A.3.3.198.2]

Ballot Results

✔ **This item has passed ballot**

11 Eligible Voters
1 Not Returned
10 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Taluba, Jon

Affirmative All

Bush, Kenneth E.
Carson, Wayne G. Chip
Gilyeat, Sharon S.
Harbuck, Stanley C.
Hopper, Howard
Hugo, Jeffrey M.
Lucas, Jeffrey A.
Quiter, James R.
Reiswig, Rodger
Rosenbaum, Eric R.

First Revision No. 6600-NFPA 101-2021 [Section No. A.3.3.198.2]

A.3.3.203.2 Assembly Occupancy.

Assembly occupancies might include the following:

(1) Armories
(2) Assembly halls
(3) Auditoriums
(4) Bowling lanes
(5) Club rooms
(6) College and university classrooms, 50 persons and over
(7) Conference rooms
(8) Courtrooms
(9) Dance halls
(10) Drinking establishments
(11) Exhibition halls
(12) Gymnasiums
(13) Libraries
(14) Mortuary chapels
(15) Motion picture theaters
(16) Museums
(17) Passenger stations and terminals of air, surface, underground, and marine public transportation facilities
(18) Places of religious worship
(19) Pool rooms
(20) Recreation piers
(21) Restaurants
(22) Skating rinks
(23) Special amusement buildings, regardless of occupant load
(24) Theaters

Assembly occupancies are characterized by the presence or potential presence of crowds with attendant panic hazard in case of fire or other emergency. They are generally open or occasionally open to the public, and the occupants, who are present voluntarily, are not ordinarily subject to discipline or control. Such buildings are ordinarily ~~occupied by able-bodied persons and are~~ not used for sleeping purposes. Special conference rooms, snack areas, and other areas incidental to, and under the control of, the management of other occupancies, such as offices, fall under the 50-person limitation.

Restaurants and drinking establishments with an occupant load of fewer than 50 persons should be classified as mercantile occupancies.

For special amusement buildings, see 12.4.9 and 13.4.9.

Submitter Information Verification

Committee: SAF-AXM
Submittal Date: Thu Jul 29 16:06:35 EDT 2021

Committee Statement and Meeting Notes

Committee Statement: The revision is intended for consistency with action on the corresponding provision in NFPA 5000 and with A.6.1.2.1.
Response Message: FR-6600-NFPA 101-2021

Ballot Results

This item has passed ballot

31 Eligible Voters
5 Not Returned
26 Affirmative All
0 Affirmative with Comments
0 Negative with Comments
0 Abstention

Not Returned

Bennett-Hourigan, Laura
Center, Eric
Hansen, Harold C.
Patterson, Van Hoover
Thomas, Jr., Elbert R.

Affirmative All

Alhajri, Mohammed
Babson, Frederick Augustus
Bushey, George D.
Conner, William
Connor, Michael
Cook, David
Deacon, Nils
Finnegan, Daniel P.
Goosman, Donald G.
Hesson, Stephen C
Hollinger, David W.
Humble, Jonathan
Lambert, Josh
Morin, Kevin D.
Oviedo Vela, Guillermo Antonio

Pauls, Jake
Peterson, Ryan Lee
Quinterno, Vincent
Ramseur, Mitchell
Roether, Ed
Ruling, Karl G.
Scandaliato, Steven J.
Schweitzer, Charles J.
Sherman, Philip R.
Shirey, Jeffrey
White, Toby J.

Public Comment No. 80-NFPA 101-2022 [Section No. A.3.3.255.1]

A.3.3.255.1 Festival Seating.

Festival seating describes situations in assembly occupancies where ~~live entertainment events are held that are expected to result in overcrowding and~~ high audience density that can compromise public safety ~~. It is not the intent to apply the term~~ ~~*festival seating*~~ ~~to exhibitions; sports events; conventions; and bona fide political, religious, and educational events. Assembly occupancies with 15 ft~~ ^{2} ~~(1.4 m~~ ^{2} ~~) or more per person should not be considered festival seating.~~ is reasonably foreseeable. Festival seating might require greater attention to crowd management than reserved seating.

Statement of Problem and Substantiation for Public Comment

The Task Group assigned to this change met 4/29/2022 and discussed the purpose and originally proposed change. The intent of the originally proposed change was to eliminate wording and language that was prejudicial against festival seating and potentially inflammatory. The revised language focuses on festival seating potential for higher crowd density situations and need for effective crowd management techniques to be applied. It also removes language suggesting other types of events were not applicable to high crowd density situations as might occur with festival seating.

The definition now focuses on potential high crowd density situation and the need for effective crowd management.

Related Item

• 101 PI-36 • 101 PL-41 • 101 PI-38

Submitter Information Verification

Submitter Full Name: Harold Hansen
Organization: Assembly Occupancy Task Group, Festival Seating
Affiliation: TG Chair
Street Address:
City:
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Submittal Date: Fri Apr 29 12:33:59 EDT 2022
Committee: SAF-AXM

Committee Input No. 6592-NFPA 101-2021 [Section No. 12.2.5.8.3]

12.2.5.8.3* Minimum Aisle Width.

The minimum clear width of aisles shall be sufficient to provide egress capacity in accordance with 12.2.3.1 but shall be not less than the following:

(1) 48 in. (1220 mm) for stairs having seating on each side, or 36 in. (915 mm) where the aisle does not serve more than 50 seats

(2) 36 in. (915 mm) for stairs having seating on only one side

(3) 23 in. (585 mm) between a handrail and seating, or between a guardrail and seating where the aisle is subdivided by a handrail

(4) 42 in. (1065 mm) for level or ramped aisles having seating on both sides, or 36 in. (915 mm) where the aisle does not serve more than 50 seats

(5) 36 in. (915 mm) for level or ramped aisles having seating on only one side

(6) 23 in. (585 mm) between a handrail or a guardrail and seating where the aisle does not serve more than five rows on one side

(7) It is the intent to permit handrails to project not more than 3 **1**/**2** in. (90 mm) into the clear width of aisles required by 12.2.5.8.3 .

Submitter Information Verification

Committee: SAF-AXM

Submittal Date: Wed Jul 28 17:18:20 EDT 2021

Committee Statement

Committee Statement: The committee input is intended to permit further review of the requirements relating to measurement of aisle widths and handrail projections as they relate to the requirements of 7.3.2.2, which permits 4.5 in. projections at and below handrail height, for the second draft stage.

Response Message: CI-6592-NFPA 101-2021

Committee Input No. 6593-NFPA 101-2021 [Section No. 13.2.5.8.3]

13.2.5.8.3* Minimum Aisle Width.

The minimum clear width of aisles shall be sufficient to provide egress capacity in accordance with 13.2.3.1 but shall be not less than the following:

(1) 42 in. (1065 mm) for stairs having seating on each side, except that the minimum clear width shall be permitted to be not less than 30 in. (760 mm) for catchment areas having not more than 60 seats

(2) 36 in. (915 mm) for stairs having seating on only one side, or 30 in. (760 mm) for catchment areas having not more than 60 seats

(3) 20 in. (510 mm) between a handrail and seating or between a guardrail and seating where the aisle is subdivided by a handrail

(4) 42 in. (1065 mm) for level or ramped aisles having seating on both sides, except that the minimum clear width shall be not less than 30 in. (760 mm) for catchment areas having not more than 60 seats

(5) 36 in. (915 mm) for level or ramped aisles having seating on only one side, or 30 in. (760 mm) for catchment areas having not more than 60 seats

(6) 23 in. (585 mm) between a handrail or a guardrail and seating where the aisle does not serve more than five rows on one side

(7) It is the intent to permit handrails to project not more than 3 **1**/**2** in. (90 mm) into the clear width of aisles required by 13.2.5.8.3 .

Submitter Information Verification

Committee: SAF-AXM

Submittal Date: Thu Jul 29 10:21:58 EDT 2021

Committee Statement

Committee Statement: The committee input is intended to permit further review of the requirements relating to measurement of aisle widths and handrail projections as they relate to the requirements of 7.3.2.2, which permits 4.5 in. projections at and below handrail height, for the second draft stage.

Response Message: CI-6593-NFPA 101-2021

2.3 Other Publications.
2.3.1 AA Publications.

The Aluminum Association~~, Inc.,~~ ~~1525 Wilson Blvd.~~1400 Crystal Drive, Suite ~~600~~430, Arlington, VA ~~22209~~22202.

Aluminum Design Manual~~: Part 1A, Aluminum Structures, Allowable Stress Design, and Part 1-B, Aluminum Structures, Load and Resistance Factor Design of Buildings and Similar Type Structures~~, ~~2015~~2020.

ASM 35, *Specifications for Aluminum Sheet Metal Work, Construction Manual Series Section 5*, 2000.

2.3.2 ACI Publications.

American Concrete Institute, 38800 Country Club Drive, Farmington Hills, MI 48331-~~3434~~3439.

ACI 216.1, *Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies,* 2014 (reapproved 2019).

ACI 311.6, *Specification for Testing Ready-Mixed Concrete,* 2018.

ACI 311.7, Specification for *Inspection ~~Services Specification for~~of Concrete Construction,* 2018.

ACI 318, *Building Code Requirements for Structural Concrete*, 2019.

ACI 332, ~~*Residential*~~ *Code Requirements for ~~Structural~~ Residential Concrete,* ~~2014~~2020.

ACI 506.2, *Specification for Shotcrete*, 2013 (reapproved 2018).

ACI 530/530.1, *Building Code Requirements for Masonry Structures*, 2013.

ACI 530.1/ASCE 6/TMS 602, *Specification for Masonry Structures*, 2005. *(See previous document for updated version.)*[HG1]:

ACI 562, ~~*Code Requirements for Evaluation*~~*Assessment, Repair, and Rehabilitation of Existing Concrete Structures,* ~~2019~~2021.

2.3.3 AISC Publications.

American Institute of Steel Construction, 130 ~~E.~~East Randolph ~~St.~~, Suite 2000, Chicago, IL 60601.

ANSI/AISC 341, *Seismic Provisions for Structural Steel Buildings*, 2016.

ANSI/AISC 358, *Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications, including Supplement No. 1,* 2016 (includes 2018 supplement).

ANSI/AISC 360, *Specification for Structural Steel Buildings*, 2016.

2.3.4 AISI Publications.

American Iron and Steel Institute, 25 Massachusetts Avenue ~~N.W.~~NW, Suite 800, Washington, DC 20001-~~1431~~.

AISI-S100, *North American Specification for the Design of Cold-Formed Steel Structural Members*, 2016 edition (reaffirmed 2020) with Supplement~~s 1-18 and~~ 2, 2020~~-20 (reaffirmed 2020)~~.[HG2][HG3]

AISI-S220, *North American Standard for Cold-Formed Steel Framing — Nonstructural Members*, 2020.[HG4][HG5]

AISI-S230, *North American Standard for Cold-Formed Steel Framing — Prescriptive Method for One- and Two-Family Dwellings*, 2019.[HG6][HG7]

AISI-S240, *North American Standard for Cold-Formed Steel Structural Framing*, 2020.[HG8][HG9]

AISI-S400, *North American Standard for Seismic Design of Cold-Formed Steel Structural Systems*, 2020.[HG10][HG11]

2.3.5 ANSI Publications.

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

ANSI ASC A14.3, *American National Standard~~s~~ for Ladders — Fixed — Safety Requirements*, 2008 (reaffirmed 2018).

ANSI A190.1, Product *Standard for ~~Wood Products —~~ Structural Glued Laminated Timber*, ~~2017~~2022.

ANSI A208.1, *Standard for Particleboard*, 2016.

ANSI Z97.1, *For Safety Glazing Materials Used in Buildings — Safety Performance Specifications and Methods of Test*, 2015 (reaffirmed 2020).

ANSI/NSPI-1, *Standard for Public Swimming Pools*, 2003.

ANSI/NSPI-2, *Standard for Public Spas*, 1999.

ANSI/NSPI-3, *Standard for Permanently Installed ~~Residential~~ Spas*, 1999.

ANSI/~~NSPI~~APSP/ICC-4, *Standard for Aboveground/Onground Residential Swimming Pools*, ~~1999~~2012.

ANSI/NSPI-5, *Standard for Residential Inground Swimming Pools*, 2003.

ANSI/NSPI-6, *Standard for Residential Portable Spas*, 1999.

ANSI/NSPI-8, *Model Barrier Code for Residential Swimming Pools, Spas, and Hot Tubs*, 1996.

ANSI/APA PRG 320, *Standard for Performance-Rated Cross-Laminated Timber*, 2019.

ANSI/RESNA ED-1, *Emergency Stair Travel Devices Used by Individuals with Disabilities, Volume 1*, 2019.

2.3.6 ASCE Publications.

American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191-4400.

ASCE/SEI 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures*, ~~2016, with Supplement 1, 2018~~2022.

ASCE/SEI 8, *Standard Specification for the Design of Cold-Formed Stainless Steel Structural Members*, ~~2020~~2002.[HG12]

ASCE/SEI 19, *Structural Applications of Steel Cables for Buildings*, 2016.

ASCE/SEI 24, *Flood Resistant Design and Construction*, 2014.

ASCE/SEI 41, *Seismic Evaluation and Retrofit of Existing Buildings*, 2017.

ASCE/SEI 49, *Wind Tunnel Testing for Buildings and Other Structures*, ~~2012~~2021.

ASCE/SEI 55, *Tensile Membrane Structures*, 2016.

ASCE/SEI/SFPE 29, *Standard Calculation Methods for Structural Fire Protection*, ~~2019~~2005.[HG13]

2.3.7 ASHRAE Publications.

American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., ~~1791 Tullie Circle, NE, Atlanta, GA 30329-2305~~180 Technology Parkway NW, Peachtree Corners, GA 30092.

ASHRAE Handbook — Fundamentals, ~~2017~~2021.

ASHRAE STD 55, *Thermal Environmental Conditions for Human Occupancy*, 2017.

ASHRAE STD 62.1, *Ventilation for Acceptable Indoor Air Quality*, ~~2016~~2019.

ANSI/ASHRAE STD 62.2, *Ventilation and Acceptable Indoor Air Quality in ~~Low-Rise~~ Residential Buildings*, ~~2016~~2019.

ANSI/ASHRAE/IES STD 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*, ~~2016~~2019.

ANSI/ASHRAE STD 90.2, *Energy-Efficient Design of Low-Rise Residential Buildings*, 2018.

ANSI/ASHRAE STD 15, *Safety Standard for Refrigeration Systems*, 2019.

2.3.8 ASME Publications.

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

ASME A17.1/CSA B44, *Safety Code for Elevators and Escalators*, ~~2016~~2019.

ASME A17.7/CSA B44.7, *Performance-Based Safety Code for Elevators and Escalators*, 2007, reaffirmed ~~2017~~2012.

ASME A18.1, *Safety Standard for Platform Lifts and Stairway Chairlifts*, ~~2017~~2020.

ASME B20.1, *Safety Standard for Conveyors and Related Equipment*, 2018.

ASME B31.3, *Process Piping*, ~~2016~~2020.

2.3.9 ASSP Publications.

American Society of Safety Professionals, 520 N. Northwest Highway, Park Ridge, IL 60068.

ANSI/ASSP A1264.1, *Safety Requirements for Workplace Walking/Working Surfaces and Their Access; Workplace, Floor, Wall and Roof Openings; Stairs and Guardrail/Handrail Systems,* 2017.

2.3.10 ASTM Publications.

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

ASTM A6/A6M, *Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes, and Sheet Piling*, ~~2017a~~2021.

ASTM A36/A36M, *Standard Specification for Carbon Structural Steel*, ~~2014~~2019.

ASTM A153/A153M, *Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware*, 2016a.

ASTM A252/A252M, *Standard Specification for Welded and Seamless Steel Pipe Piles*, ~~2010~~2019.

ASTM A283/A283M, *Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates*, 2018.

ASTM A463/A463M, *Standard Specification for Steel Sheet, Aluminum-Coated, by the Hot-Dip Process*, 2015 (2020 e1).

ASTM A572/A572M, *Standard Specification for High-~~strength~~ Strength Low-~~alloy~~ Alloy Columbium-~~vanadium~~ Vanadium Structural Steel*, ~~2018~~2021 e1.

ASTM A588/A588M, *Standard Specification for High-~~strength~~ Strength Low-~~alloy~~ Alloy Structural Steel up to 50 ksi (345 MPa) Minimum Yield Point, with Atmospheric Corrosion Resistance*, ~~2015~~2019.

ASTM A653/A653M, *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process*, ~~2018~~2020.

ASTM A690/A690M, *Standard Specification for High-~~strength~~ Strength Low-~~alloy~~ Alloy Nickel, Copper, Phosphorus Steel H-~~piles~~ Piles and Sheet Piling with Atmospheric Corrosion Resistance for Use in Marine Environments*, 2013a (2018).

ASTM A755/A755M, *Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil-Coating Process for Exterior Exposed Building Products*, 2018.

ASTM A792/A792M, *Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process*, ~~2010 (2015)~~2021a.

ASTM A875/A875M, *Standard Specification for Steel Sheet, Zinc-5% Aluminum Alloy-Coated by the Hot-Dip Process*, ~~2013~~2021.

ASTM A924/A924M, *Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process*, ~~2018~~2022.

ASTM B101, *Standard Specification for Lead-Coated Copper Sheet and Strip for Building Construction*, 2012 (2019).

ASTM B209/B209M, *Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate,* ~~2014~~2021a.

ASTM C28/C28M, *Standard Specification for Gypsum Plasters*, 2010 (~~2015~~2020).

ASTM C35, *Standard Specification for Inorganic Aggregates for Use in Gypsum Plaster*, 2001 (~~2014~~2019).

ASTM C59/C59M, *Standard Specification for Gypsum Casting Plaster and Gypsum Molding Plaster*, 2000 (~~2015~~2020).

ASTM C61/C61M, *Standard Specification for Gypsum Keene's Cement*, 2000 (~~2015~~2020).

ASTM C90, *Standard Specification for Loadbearing Concrete Masonry Units*, ~~2016a~~2021.

ASTM C91/C91M, *Standard Specification for Masonry Cement*, ~~2012~~2018.

ASTM C150/C150M, *Standard Specification for Portland Cement*, ~~2019a~~2021.

ASTM C206, *Standard Specification for Finishing Hydrated Lime*, 2014.

ASTM C208, *Standard Specification for Cellulosic Fiber Insulating Board*, ~~2012 (2017 e1)~~2022.

ASTM C317/C317M, *Standard Specification for Gypsum Concrete*, 2000 (~~2015~~2019).

ASTM C406/C406M, *Standard Specification for Roofing Slate*, 2015.

ASTM C472, *Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete*, ~~1999 (2014)~~2020.

ASTM C475/C475M, *Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board*, 2017.

ASTM C476, *Standard Specification for Grout for Masonry*, ~~2018~~2020.

ASTM C514, *Standard Specification for Nails for the Application of Gypsum Board*, 2004 (~~2014~~2020).

ASTM C552, *Standard Specification for Cellular Glass Thermal Insulation*, ~~2017 e1~~2022.

ASTM C557, *Standard Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing*, 2003 (2017).

ASTM C578, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*, ~~2018~~2019.

ASTM C587, *Standard Specification for Gypsum Veneer Plaster*, 2004 (2018).

ASTM C588/C588M, *Standard Specification for Gypsum Base for Veneer Plasters*, 2003 e1 (superseded by ASTM C1396/C1396M).

ASTM C591, *Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation*, ~~2019~~2021.

ASTM C595/C595M, *Standard Specification for Blended Hydraulic Cements*, ~~2019~~2021.

ASTM C631, *Standard Specification for Bonding Compounds for Interior Gypsum Plastering*, 2009 (~~2014~~2020).

ASTM C726, *Standard Specification for Mineral Fiber Roof Insulation Board*, 2017.

ASTM C728, *Standard Specification for Perlite Thermal Insulation Board*, 2017a (2022).

ASTM C836/C836M, *Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course*, 2018 (2022).

ASTM C840, *Standard Specification for Application and Finishing of Gypsum Board*, ~~2018b~~2020.

ASTM C841, *Standard Specification for Installation of Interior Lathing and Furring*, 2003 (2018).

ASTM C842, *Standard Specification for Application of Interior Gypsum Plaster*, 2005 (~~2015~~2021).

ASTM C843, *Standard Specification for Application of Gypsum Veneer Plaster*, 2017.

ASTM C844, *Standard Specification for Application of Gypsum Base to Receive Gypsum Veneer Plaster*, 2015 (2021).

ASTM C847, *Standard Specification for Metal Lath*, 2018.

ASTM C887, *Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar*, ~~2013~~2020.

ASTM C897, *Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters*, 2015 (2020).

ASTM C920, *Standard Specification for Elastomeric Joint Sealants*, 2018.

ASTM C926, *Standard Specification for Application of Portland Cement-Based Plaster*, ~~2019~~2021.

ASTM C932, *Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering*, 2006 (2019).

ASTM C933, *Standard Specification for Welded Wire Lath*, 2018.

ASTM C946, *Standard Practice for Construction of Dry-Stacked, Surface-Bonded Walls*, 2018.

ASTM C954, *Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness*, 2018.

ASTM C956, *Standard Specification for Installation of Cast-~~in~~In-Place Reinforced Gypsum Concrete*, 2004 (~~2015~~2019).

ASTM C957/C957M, *Standard Specification for High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface*, 2017.

ASTM C1002, *Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs*, ~~2018~~2020.

ASTM C1029, *Standard Specification for Spray-Applied Rigid Cellular Polyurethane Thermal Insulation*, ~~2015~~2020.

ASTM C1032, *Standard Specification for Woven Wire Plaster Base*, 2018.

ASTM C1047, *Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base*, ~~2014a~~2019.

ASTM C1063, *Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster*, ~~2019a~~2022.

ASTM C1167, *Standard Specification for Clay Roof Tiles*, ~~2011 (2017)~~2022.

ASTM C1177/C1177M, *Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing*, 2017.

ASTM C1178/C1178M, *Standard Specification for Glass Mat Water-Resistant Gypsum Backing Panel*, 2018.

ASTM C1278/C1278M, *Standard Specification for Fiber-Reinforced Gypsum Panel*, 2017.

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ASTM C1289, *Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board*, ~~2018a~~2022.

ASTM C1328/C1328M, *Standard Specification for Plastic (Stucco) Cement*, ~~2012~~2019.

ASTM C1396/C1396M, *Standard Specification for Gypsum Board*, 2017.

ASTM C1491, *Standard Specification for Concrete Roof Pavers*, ~~2018~~2019.

ASTM C1492, *Standard Specification for Concrete Roof Tile*, ~~2003 (2016)~~2022.

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ASTM C1658/C1658M, *Standard Specification for Glass Mat Gypsum Panels,* 2019e1.

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ASTM D43/D43M, *Standard Specification for Coal Tar Primer Used in Roofing, Dampproofing, and Waterproofing*, 2000 (2018).

ASTM D226/D226M, *Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing*, 2017.

ASTM D227/D227M, *Standard Specification for Coal-Tar-Saturated Organic Felt Used in Roofing and Waterproofing*, 2003 (2018).

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ASTM D450/D450M, *Standard Specification for Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing*, 2007 (2018).

ASTM D635, *Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position*, 2018.

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ASTM D1143/D1143M, *Standard Test Methods for Deep Foundation~~s~~ Elements Under Static Axial Compressive Load*, ~~2007 (2013)e1~~2020.

ASTM D1227/D1227M, *Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing*, 2013 (2019 e1).

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ASTM D1863/D1863M, *Standard Specification for Mineral Aggregate Used on Built-Up Roofs*, 2005 (2018).

ASTM D1929, *Standard Test Method for Determining Ignition Temperature of Plastics*, ~~2016~~2020.

ASTM D1970/D1970M, *Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection*, ~~2018~~2021.

ASTM D2178/D2178M, *Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing*, 2015a (2021).

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ASTM D2626/D2626M, *Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing*, 2004 (~~2012~~2020)~~e1~~.

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ASTM D2859, *Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials*, 2016 (2021).

ASTM D2898, *Standard ~~Test Methods~~Practice for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing*, 2010 (2017).

ASTM D3019/D3019M, *Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-~~-~~ Fibered, and Fibered*, 2017.

ASTM D3161/D3161M, *Standard Test Method for Wind~~-~~ Resistance of Steep Slope Roofing Products (Fan-Induced Method)*, ~~2019~~2020.

ASTM D3201/D3201M, *Standard Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products*, ~~2013~~2020.

ASTM D3462/D3462M, *Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules*, 2019.

ASTM D3468/D3468M, *Standard Specification for Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used in Roofing and Waterproofing*, 1999 (~~2013~~2020)~~e1~~.

ASTM D3737, *Standard Practice for Establishing Allowable Properties for Structural Glued Laminated Timber (Glulam)*, 2018 e1.

ASTM D3746/D3746M, *Standard Test Method for Impact Resistance of Bituminous Roofing Systems*, 1985 (~~2015~~2022)~~e1~~.

ASTM D3909/D3909M, *Standard Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules*, 2014 (2021).

ASTM D4022/D4022M RL, *Standard Specification for Coal Tar Roof Cement, Asbestos Containing*, 2007 (2012)e1 (withdrawn 2014).

ASTM D4318, *Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils*, 2017 e1.

ASTM D4434/D4434M, *Standard Specification for Poly-(Vinyl Chloride) Sheet Roofing*, ~~2015~~2021.

ASTM D4479/D4479M, *Standard Specification for Asphalt Roof Coatings — Asbestos-Free*, 2007~~,~~ (2018).

ASTM D4586/D4586M, *Standard Specification for Asphalt Roof Cement, Asbestos-Free*, 2007 (2018).

ASTM D4601/D4601M, *Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing*, 2004 (~~2012~~2020)~~e1~~.

ASTM D4637/D4637M, *Standard Specification for EPDM Sheet Used in ~~a~~ Single-Ply Roof Membrane*, 2015 (2021).

ASTM D4869/D4869M, *Standard Specification for Asphalt-Saturated Organic Felt Underlayment Used in Steep Slope Roofing*, 2016a (2021).

ASTM D4897/D4897M, *Standard Specification for Asphalt-Coated Glass-Fiber Venting Base Sheet Used in Roofing*, 2016.

ASTM D4990, *Standard Specification for ~~Coal~~ Coal-Tar Glass Felt Used in Roofing and Waterproofing*, 1997a (~~2013~~2020).

ASTM D5055, *Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists*, 2019 e1.

ASTM D5456, *Standard Specification for Evaluation of Structural Composite Lumber Products*, ~~2019~~2021 e1.

ASTM D5516, *Standard Test Method for Evaluating the Flexural Properties of Fire-Retardant Treated Softwood Plywood Exposed to Elevated Temperatures*, 2018.

ASTM D5643, *Standard Specification for Coal Tar Roof Cement, Asbestos Free*, 2006 (2018).

ASTM D5664, *Standard Test Method for Evaluating the Effects of Fire-Retardant Treatments and Elevated Temperatures on Strength Properties of Fire-Retardant Treated Lumber*, 2017.

ASTM D5665/D5665M, *Standard Specification for Thermoplastic Fabrics Used in Cold-Applied Roofing and Waterproofing*, 1999a (~~2014~~2021)~~e1~~.

ASTM D5726, *Standard Specification for Thermoplastic Fabrics Used in Hot-Applied Roofing and Waterproofing*, 1998 (~~2013~~2020).

ASTM D6083/D6083M, *Standard Specification for ~~Liquid~~ Liquid-Applied Acrylic Coating Used in Roofing*, ~~2005e1~~ 2021~~(withdrawn 2014)~~.

ASTM D6162/~~D6161M~~D6162M, *Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements*, ~~2016~~2021.

ASTM D6163/D6163M, *Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements*, ~~2016~~2021.

ASTM D6164/D6164M, *Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements*, ~~2016~~2021.

ASTM D6222/D6222M, *Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements*, 2016.

ASTM D6223/D6223M, *Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements*, ~~2016~~2021.

ASTM D6298/D6298M, *Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheet with a Factory Applied Metal Surface*, 2016.

ASTM D6305, *Standard Practice for Calculating Bending Strength Design Adjustment Factors for Fire-Retardant-Treated Plywood Roof Sheathing*, ~~2008~~ 2021~~(2015)e1~~.

ASTM D6380/D6380M, *Standard Specification for Asphalt Roll Roofing (Organic Felt)*, 2003 (2018).

ASTM D6694/D6694M, *Standard Specification for Liquid-Applied Silicone Coating Used in Spray Polyurethane Foam Roofing Systems*, 2015.

ASTM D6754/D6754M, *Standard Specification for Ketone Ethylene Ester Based Sheet Roofing*, 2015.

ASTM D6757/D6757M, *Standard Specification for Underlayment Felt Containing Inorganic Fibers ~~used~~ Used in ~~Steep~~ Steep-Slope Roofing*, 2018.

ASTM D6841, *Standard Practice for Calculating Design Valve Treatment Adjustment Factors for Fire-Retardant-Treated Lumber*, ~~2016~~2021.

ASTM D6878/D6878M, *Standard Specification for Thermoplastic ~~Polyolefin~~ Polyolefin-Based Sheet Roofing*, ~~2017~~2021.

ASTM D7032, *Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards, and Handrails*, ~~2017~~2021.

ASTM D7158/D7158M, *Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)*, ~~2019~~2020.

ASTM E84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, ~~2019a~~2021a.

ASTM E90, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*, 2009 (2016).

ASTM E96/E96M, *Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials*, ~~2016~~2022.

ASTM E108, *Standard Test Methods for Fire Tests of Roof Coverings*, ~~2017~~2020a.

ASTM E119, *Standard Test Methods for Fire Tests of Building Construction and Materials*, ~~2018c e1~~2020.

ASTM E136, *Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C*, 2019a.

ASTM E492, *Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine*, 2009 (2016)e1.

ASTM E605/E605M, *Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members,* 2019.

ASTM E648, *Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*, ~~2017a~~2019a e1.

ASTM E736/E736M, *Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members*,~~2017~~ 2019.

ASTM E814, *Standard Test Method for Fire Tests of Penetration Firestop Systems*, 2013a (2017).

ASTM E970, *Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source*, 2017.

ASTM E1300, *Standard Practice for Determining Load Resistance of Glass in Buildings*, 2016.

ASTM E1354, *Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter*, ~~2017~~2022.

ASTM E1591, *Standard Guide for Obtaining Data for Fire Growth Models*, ~~2013~~2020.

ASTM E1592, *Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference*, 2005 (2017).

ASTM E1602, *Standard Guide for Construction of Solid Fuel Burning Masonry Heaters*, 2003 (2017).

ASTM E1966, *Standard Test Method for Fire-Resistive Joint Systems*, 2015 (2019).

ASTM E2072, *Standard Specification for Photoluminescent (Phosphorescent) Safety Markings*, 2014.

ASTM E2073, *Standard Test Method for Photopic Luminance of Photoluminescent (Phosphorescent) Markings*, 2019a.

ASTM E2174, *Standard Practice for On-Site Inspection of Installed Firestop~~s~~ Systems*, ~~2018~~2020a.

ASTM E2307, *Standard Test Method for Determining Fire Resistance of Perimeter Fire Barrier~~s~~ ~~Systems~~ Using Intermediate-Scale, Multi-story Test Apparatus*, ~~2015b e1~~2020.

~~ASTM F2374, *Standard Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices*, 2021.~~[HG14]

ASTM E2393, *Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers*, ~~2010a (2015)~~2020a.

ASTM E2404, *Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Polymeric (including Vinyl) and Wood Wall or Ceiling Coverings, Facings and Veneers, to Assess Surface Burning Characteristics*, 2017.

ASTM E2568, *Standard Specification for PB Exterior Insulation and Finish Systems,* 2017a.

ASTM E2573, *Standard Practice for Specimen Preparation and Mounting of Site-~~fabricated~~ Fabricated Stretch Systems to Assess Surface Burning Characteristics*, ~~2017~~2019.

ASTM E2579, *Standard Practice for Specimen Preparation and Mounting of Wood Products to Assess Surface Burning Characteristics*, ~~2019~~2021.

ASTM E2599, *Standard Practice for Specimen Preparation and Mounting of Reflective Insulation, Radiant Barrier~~,~~ and Vinyl Stretch Ceiling Materials for Building Applications to Assess Surface Burning Characteristics*, 2018.

ASTM E2652, *Standard Test Method for Assessing Combustibility of Materials Using a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C*, 2018.

ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 ~~Min~~ min Tunnel Test)*, 2011 (2018).

ASTM E2837, *Standard Test Method for Determining the Fire Resistance of Continuity Head-of-Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies*, 2013 (2017).

ASTM E2965, *Standard Test Method for Determination of Low Levels of Heat Release Rate for Materials and Products Using an Oxygen Consumption Calorimeter*, ~~2017~~2022.

ASTM F547, *Standard Terminology of Nails for Use with Wood and Wood-Base~~d~~ Materials*, 2017.

ASTM F851, *Standard Test Method for Self-Rising Seat Mechanisms*, 1987 (~~2013~~2020).

ASTM F1577, *Standard Test Methods for Detention Locks for Swinging Doors*, 2005 (2019).

ASTM F1667/F1667M, *Standard Specification for Driven Fasteners: Nails, Spikes, and Staples*, ~~2018a~~2021a.

ASTM F2374, *Standard Practice for Design, Manufacture, Operation, and Maintenance of Inflatable Amusement Devices*, 2021.[HG15]

2.3.11 AWC Publications.

American Wood Council, 222 Catoctin Circle SE, Suite ~~#~~201, Leesburg, VA 20175.

ANSI/AWC NDS, *National Design Specification~~s~~ (NDS) for Wood Construction*, ~~2015~~2018.

AWC NDS Supplement, *National Design Specification (NDS) Supplement: ~~—~~ Design Values for Wood Construction*, 2018.

ANSI/AWC PWF, *Permanent Wood Foundation Design Specification*, ~~2015~~2021.

ANSI/AWC SDPWS, *Special Design Provisions for Wind and Seismic*, ~~2015~~2021.

AWC *Span Tables for Joists and Rafters*, ~~2015~~2021.

AWC Technical Report No. 10, *Calculating the Fire Resistance of Wood Members and Assemblies*, ~~2018~~2021.

AWC Wood Construction Data No. 4, *Plank and Beam Framing for Residential Buildings*, 2003.

ANSI/AWC WFCM, *Wood Frame Construction Manual for One- and Two-Family Dwellings*, 2018.

2.3.12 AWPA Publications.

American Wood Protection Association, P.O. Box 361784, Birmingham, AL 35236-1784.

AWPA C1, *Standard for Preservative Treatment of All Timber Products by Pressure Processes,* 2003 (withdrawn).

AWPA C2, *Standard for the Preservative Treatment of Lumber, Timber, Bridge Ties, and Mine Ties by Pressure Processes,* 2002.

AWPA C3, *Piles — Preservative Treatment by Pressure Processes,* 2003.

AWPA C4, *Poles — Preservative Treatment by Pressure Processes,* 2003.

AWPA C9, *Plywood — Preservative Treatment by Pressure Processes,* 2003.

AWPA C14, *Wood for Highway Construction — Preservative Treatment by Pressure Processes,* 2003.

AWPA C15, *Wood for Commercial-Residential Construction — Preservative Treatment by Pressure Processes,* 2003.

AWPA C16, *Wood Used on Farms — Preservative Treatment by Pressure Processes,* 2003.

AWPA C22, *Lumber and Plywood for Permanent Wood Foundations — Preservative Treatment by Pressure Processes,* 2003.

AWPA C23, *Round Poles and Posts Used in Building Construction — Preservative Treatment by Pressure Processes,* 2003.

AWPA C24, *Sawn Timber Piles Used for Residential and Commercial Building,* 2003.

AWPA C28, *Standard for Preservative Treatment of Structural Glued Laminated Members and Lamination Before Gluing of Southern Pine, Coastal Douglas Fir, Hemfir, and Western Hemlock by Pressure Processes*, 2003.

AWPA C31, *Lumber Used Out of Contact with the Ground and Continuously Protected from Liquid Water — Treatment by Pressure Processes*, 2002.

AWPA C33, *Standard for Preservative Treatment of Structural Composite Lumber by Pressure Processes*, 2003.[HG16]

AWPA M4, *Standard for the Care of Preservative-Treated Wood Products*, ~~2015~~2021.

AWPA P1/P13, *Standard for Creosote Preservative*, ~~2013~~2019.

AWPA P2, *Standard for Creosote Solutions*, ~~2013~~2019.

AWPA P5, *Standard for Waterborne Preservatives*, ~~2014~~2015.

AWPA P8, *Standard for Oil-~~borne~~ Borne Preservatives*, 2014.

AWPA P9, *Standards for Solvents and Formulations for Organic Preservative Systems*, 2010.

2.3.13 BHMA Publications.

Builders Hardware Manufacturers Association, 355 Lexington Avenue, 15th floor, New York, NY 10017.

ANSI/BHMA A156.3, *Exit Devices*, ~~2014~~2020.

ANSI/BHMA A156.10, *Power Operated Pedestrian Doors*, 2017.

ANSI/BHMA A156.19, *Power Assist and Low Energy Power Operated Doors*, ~~2013~~2019.

ANSI/BHMA A156.27, *Power and Manual Operated Revolving Pedestrian Doors*, 2019.

ANSI/BHMA A156.38, *Low Energy Power Operated Sliding and Folding Doors*, ~~2014~~2019.

2.3.14 CGSB Publications.

Canadian General Standards Board, ~~Place du Portage III, 6B1, 11 Laurier St., Gatineau, Quebec, K1A 1G6~~L'Esplanade Laurier, 6th floor East Tower, 140 O'Connor Street, Ottawa, Ontario, K1A 0R5, Canada.

37-GP-52M, *Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric*, ~~2005~~1984 (withdrawn).[HG17]

37-GP-56M, *Membrane, Modified, Bituminous, Prefabricated, and Reinforced for Roofing*, 1985 (withdrawn 2013).

CAN/CGSB-37.54, *Polyvinyl Chloride Roofing and Waterproofing Membrane*, 1995 (withdrawn 2012).

2.3.15 Composite Panel Association Publications.

Composite Panel Association, Composite Wood Council, 19465 Deerfield Avenue, Suite 306, Leesburg, VA 20176.

ANSI/CPA A135.4, *Basic Hardboard*, 2012 (R2020).

ANSI/CPA A135.5, *Prefinished ~~Hardboard~~ Basic Paneling*, 2012 (R2020).

ANSI/CPA A135.6, *~~Hardboard~~ Engineered Wood Siding*, 2012 (R2020).

2.3.16 DASMA Publications.

Door ~~and~~ & Access Systems Manufacturers' Association, International, 1300 Summer Avenue, Cleveland, OH 44115-2851.

ANSI/DASMA 107, *Room Fire Test Standard for Garage Doors Using Foam Plastic Insulation*, ~~1997, revised~~ 2012.

2.3.17 EIMA Publications.

EIFS Industry Members Association, 513 West Broad Street, Suite 210, Falls Church, VA 22046-3257.

ANSI/EIMA 99-A, *Standard for Exterior Insulation and Finish Systems (EIFS) and EIFS with Drainage*, ~~2001~~2017.

2.3.18 FM Global Publications.

FM Global, 270 Central Avenue, ~~P.O. Box 7500,~~ Johnston, RI 02919-4949.

FM Approvals 4411, *Cavity Wall Systems*, ~~2016~~2021.

FM Approvals 4435, *Edge Systems Used with Low Slope Roofing Systems*, ~~2013~~2017.

FM Approvals 4450, *Class I Insulated Steel Deck Roofs*, 1989.

FM Approvals 4470, *Single-Ply, Polymer Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction*, 2016.

ANSI/FM Approvals 4473, ~~*Test Standard for*~~ *Impact Resistance Testing of Rigid Roofing Materials by Impacting with Freezer Ice Balls*, 2011 (R2020).

ANSI/FM Approvals 4474, ~~*Standard for*~~ *Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures*, ~~2011~~2020.

ANSI/FM Approvals 4476, ~~*Approval Standard for*~~ *Flexible Photovoltaic Modules*, ~~2011~~2014 (R2022).

ANSI/FM Approvals 4477, ~~*American National Standard for*~~ *Vegetative Roof Systems*, ~~2016~~2021.

ANSI/FM Approvals 4478, ~~*Approval Standard for*~~ *Roof-Mounted Rigid Photovoltaic Module Systems*, ~~2014~~2021.

FM Approvals 4880, ~~*American National Standard for*~~ *Evaluating the Fire Performance of Insulated Building Panel Assemblies and Interior Finish Materials*, 2017.

2.3.19 FRSA/RTI Publications.

Florida Roofing~~,~~ and Sheet Metal ~~and Air Conditioning~~ Contractors Association, Inc., ~~4111 Metric Drive~~3855 N. Econlockhatchee Trail, ~~Suite 6, Winter Park~~Orlando, FL ~~32792~~32817.

FRSA/~~NTRMA 07320/1,~~TRI *Florida High Wind Concrete and Clay ~~Roof~~ Tile Installation Manual*, ~~4th~~ 6th edition, ~~2001~~2020.

2.3.20 GA Publications.

Gypsum Association, 962 Wayne Avenue, Suite 620, Silver Spring, MD 20910.

GA-216, ~~*Specification for the*~~ *Application and Finishing of Gypsum Panel Products*, ~~2018~~2021.

GA-600, *Fire Resistance and Sound Control Design Manual*, ~~2018~~2021.

2.3.21 HPVA Publications.

Decorative Hardwoods Association, 42777 Trade West Dr., Sterling, VA 20166.

ANSI/HPVA HP-1, *American National Standard for Hardwood and Decorative Plywood*, ~~2016~~2020.[HG18]

2.3.22 IAPMO Publications.

International Association of Plumbing and Mechanical Officials, 4755 E. Philadelphia Street, Ontario, CA 91761.

UMC, *Uniform Mechanical Code*, ~~2018~~2021.

UPC, *Uniform Plumbing Code*, ~~2018~~2021.

2.3.23* ICC Publications.

International Code Council, 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001~~-2070~~.

ICC/ANSI A117.1, *Accessible and Usable Buildings and Facilities*, 2009.[HG19][HG20]

ICC A117.1, *Accessible and Usable Buildings and Facilities*, 2017.

ICC 600, *Standard for Residential Construction in ~~High~~ High-Wind Regions*, ~~2013~~2020.

IRC, *International Residential Code*, ~~2015~~2018~~2021~~.

2.3.24 IME Publications.

Institute of Makers of Explosives, 1212 New York Ave., NW, Suite 650, Washington, DC 20005.

IME SLP 2, *The American Table of Distances*, June 1991 (incorporates changes through April 2017).

2.3.25 NAAMM Publications.

National Association of Architectural Metal Manufacturers, 800 Roosevelt Rd. Bldg. C, Suite ~~132~~312, Glen Ellyn, IL 60137.

ANSI/NAAMM FP 1001, *Guide Specifications for Design of Metal Flagpoles Manual*, 2007.

2.3.26 NCMA Publications.

National Concrete Masonry Association, 13750 Sunrise Valley Drive, Herndon, VA 20171.

Design Manual for Segmental Retaining Walls, 3rd edition, 2010.

2.3.27 PCA Publications.

Portland Cement Association, 5420 Old Orchard Road, Skokie, IL 60077-1083.

PCA 100, *Prescriptive Design of Exterior Concrete Walls for One- and Two-Family Dwellings*, 2012.

2.3.28 PTI Publications.

Post-Tensioning Institute, 38800 Country Club Drive, Farmington Hills, MI 48331.

PTI DC10.1, *Design ~~and Construction~~ of Post-Tensioned Slabs-On-Ground*, ~~3rd edition, 2004~~2008, errata 2010.

2.3.29 RMI Publications.

Rack Manufacturers Institute, 8720 Red Oak Boulevard, Suite 201, Charlotte, NC 28217.

RMI/ANSI MH16.1, *Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks*, 2012 (R2019).

RMI/ANSI MH16.3, *Specification for the Design, Testing and Utilization of Industrial Steel Cantilevered Storage Racks*, 2016.

2.3.30 SDI Publications.

Steel Deck Institute, P.O. Box 426, Glenshaw, PA 15116.

ANSI/SDI-QA/QC, *Standard for Quality Control and Quality Assurance for Installation of Steel Deck*, ~~2017~~2022.

SDI-SD~~ 370~~, *Standard for Steel Deck*, ~~2021~~2022.

2.3.31 SEAOC Publications.

Structural Engineers Association of California, ~~921 11th Street~~1215 K St., Suite 1100, Sacramento, CA 95814.

SEAOC PV1, *Structural Seismic Requirements and Commentary for Rooftop Solar Photovoltaic Arrays*, 2012.

SEAOC PV2, *Wind Design for Solar Arrays*, 2017.

2.3.32 SJI Publications.

Steel Joist Institute, 140 West Evans Street, Suite 203, Florence, SC 29501.

SJI-100, *Standard Specification for K-Series, LH-Series, and DLH-Series Open Web Steel Joists and for Joist Girders*, ~~2015~~2020.

SJI-200, *Standard Specification~~s~~ for ~~Composite Steel Joists,~~ CJ-Series Composite Steel Joists*, ~~2016~~2015.

2.3.33 SFPA/SPC Publications.

Southern Forest Products Association, 6660 Riverside Drive, Suite 212, Metairie, LA 70003 / Southern Pine Council, 2900 Indiana Avenue, Kenner, LA 70065.

Permanent Wood Foundations: Design & Construction Guide, ~~2013~~2001.[HG21]

2.3.34 SFPE Publications.

SFPE, 9711 Washingtonian Blvd., Suite 380, Gaithersburg, MD 20878. www.sfpe.org

SFPE S.01, *~~The~~ SFPE Engineering Standard on Calculating Fire Exposures to Structures*, 2011.

2.3.35 SPRI Publications.

SPRI, 465 Waverly Oaks Road, Suite 421, Waltham, MA 02452.

ANSI/SPRI/FM 4435 ES-1, *Test Standard for Edge Systems Used with Low Slope Roofing Systems*, 2017.

ANSI/SPRI RP-4, *Wind Design Standard for Ballasted Single-Ply Roofing Systems*, ~~2013~~2022.

ANSI/SPRI VF-1, *External Fire Design Standard for Vegetative Roofs*, 2017.

2.3.36 TIA Publications.

Telecommunications Industry Association, ~~1320~~ 1310 North Courthouse Road, Suite ~~200~~890, Arlington, VA 22201.

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H.2 Informational References.

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

UL 1724, *Outline of Investigation for Fire Tests for Electrical Circuit Protective Systems*, 2006.

UL 2196, *Fire Test for Circuit Integrity of Fire-Resistive Power, Instrumentation, Control and Data Cables~~Tests of Fire Resistive Cables~~*, ~~2001~~2017, revised ~~2012~~2020.

H.3 References for Extracts in Informational Sections.

NFPA 1, *Fire Code*, ~~2021~~ 2024 edition.

NFPA 55, *Compressed Gases and Cryogenic Fluids Code*, ~~2020~~ 2023 edition.

NFPA 88A, *Standard for Parking Structures*, ~~2019~~ 2023 edition.

NFPA 99, *Health Care Facilities Code*, ~~2021~~ 2024 edition.

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NFPA 221, *Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls*, ~~2021~~ 2024 edition.

NFPA 301, *Code for Safety to Life from Fire on Merchant Vessels*, ~~2018~~ 2023 edition.

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Second Revision No. 8008-NFPA 5000-2022 [Section No. 3.3.571.2]

3.3.571.2 Folding and Telescopic Seating.

A structure that is used for tiered seating of persons and whose overall shape and size can be reduced, without being dismantled, for purposes of moving or storing. [~~**102,** 2016]~~ (BLD-AXM)

Submitter Information Verification

Committee: BLD-AXM

Submittal Date: Thu Jun 16 14:10:08 EDT 2022

Committee Statement and Meeting Notes

Committee Statement: Extract update. NFPA 102 extracts definition from NFPA 101. Extract tag not needed here. *****DRAFT SECOND REVISION*****

Response Message: SR-8008-NFPA 5000-2022

Committee Input No. 8140-NFPA 5000-2021 [Section No. 16.2.5.8.4]

16.2.5.8.4* Minimum Clear Width of Aisles.

The minimum clear width of aisles shall be sufficient to provide egress capacity in accordance with 16.2.3.1 but shall be not less than the following:

(1) 48 in. (1220 mm) for stairs having seating on each side or 36 in. (915 mm) where the aisle does not serve more than 50 seats

(2) 36 in. (915 mm) for stairs having seating on only one side

(3) 23 in. (585 mm) between a handrail and seating or a guardrail and seating where the aisle is subdivided by a handrail

(4) 42 in. (1065 mm) for level or ramped aisles having seating on both sides or 36 in. (915 mm) where the aisle does not serve more than 50 seats

(5) 36 in. (915 mm) for level or ramped aisles having seating on only one side

(6) 23 in. (585 mm) between a handrail or guardrail and seating where the aisle does not serve more than five rows on one side

(7) It is the intent to permit handrails to project not more than 3 in. (75 mm) into the clear width of aisles required by 16.2.5.8.4 .

Submitter Information Verification

Committee: BLD-AXM

Submittal Date: Thu Jul 29 15:34:37 EDT 2021

Committee Statement

Committee Statement: The committee input is intended to permit further review of the requirements relating to measurement of aisle widths and handrail projections as they relate to the requirements of 11.3.2.2, which permits 4.5 in. projections at and below handrail height, for the second draft stage. It is noted that the 3 in. criterion from A.16.2.5.8.4 of NFPA 5000 differs from the 3.5 in. criterion of the corresponding annex note in NFPA 101.

Response Message: CI-8140-NFPA 5000-2021