

Goal

To defend, and if possible increase, the size of the US firestop market, and to increase the percent of that market that falls to firestop specialty contractors for installation



Objective 1

- Retain (defend) current building code requirements for compartmentation
- Means and Methods
 - Work with allied industries and companies to collectively resist the many anti-compartmentation code change proposals constantly submitted and advocated by the real estate industry interests as well as by code officials with a bias against compartmentation.



Objective 2

- Re-introduce compartmentation concepts lost in previous cycles and/or **introduce new compartmentation concepts based upon infectious control, sound attenuation, smoke, and water migration.**
- Means and Methods
 - Work with allied industries and organizations to identify potential ways to bring back compartmentation concepts related to occupancy separation, egress, and ingress etc. **Develop creative means for introducing new compartmentation opportunities by identifying needs and challenges relating to infectious control, sound proofing associated with privacy, smoke, odor and water control to limit building owner liability.**



Objective 3

- Change the building codes to require qualified contractors
- Means and Methods
 - Lobby allied industries, fire marshals, code officials and building owners to communicate the value of securing qualified contractors for life safety installations.



Objective 4

- Encourage market forces to move the firestop market towards qualified contractors through increased inspection requirements in the building codes
- Means and Methods
 - Get code changes to require 3rd party inspection in more situations
 - **Have code offer a trade-off wherein 3rd party inspection not required when qualified contractor is used.**



Objective 5

- Ensure that all code requirements for firestopping are clear and enforceable
- Means and methods
 - Work with other concerned individuals and organizations (e.g. IFC, UL, concerned code officials) to propose code changes “for the good of the code”. Identify where clarification needs to be made and where changes should be made.



Objective 6

- To increase enforcement as well as compliance, ensure that code requirements for firestopping are practical
- Means and methods
 - Work with (or if needed, against) allied industry partners to modify the code to make all firestop requirements practical and believable



Objective 7

- Communicate code related education, accreditation, marketing and standards proposals to the appropriate FCIA committee to solicit reciprocal commitment.
- Means and Methods
 - Develop ideas generated during code committee discussions that support and/or create a successful environment for existing or new code proposals.



Strategies

- Education
 - Design professionals
 - Code officials
 - Contractors
- Code and standard development
- Master specifications
- Contractor qualifications
- Improve code enforcement activities
- Alliances



Education

- Seminars/webinars
- Articles
- Presentations
 - ICC/NFPA meeting presentations
 - ICC Chapter meetings
 - Allied professional meetings (AIA, SFPE)
- FCIA resource documents
 - Print media
 - Website



Code Development

- Form strategic alliances
 - IFC and FCIA have been actively working together the past few years
 - Reach out to others – NAHB, BOMA, GSA
- Proposals/Comments
- “Lobby” support
- Testify at hearings



Contractor qualifications

- Increase the number of contractors participating in FM and UL programs

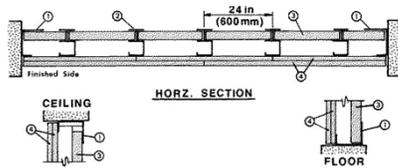


Clear, Concise Code Language

- **714.1 General.** Joints installed in or between fire-resistance-rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved fire-resistant joint system designed to resist the passage of fire for a time period not less than the required fire-resistance rating of the wall, floor or roof in or between which it is installed.



Clear, Concise Code Language



Clear, concise code language

- **JOINT.** The linear opening in or between adjacent fire-resistance-rated assemblies that is designed to allow independent movement of the building in any plane caused by thermal, seismic, wind or any other loading.



Clear, concise code language

- Develop a methodology by which interested parties (contractors, code officials, design professionals) can identify problems with existing code text
- Upon review by the FCIA Code Committee, prepare code proposals for problems identified to FCIA
- Need not be (and should not be) limited to fire stop systems and joint systems
- FCIA should continue to submit proposals to improve the clarity of existing code provisions



Specific Topics

- Engineering judgments – limit use to applications where a listed system does not exist
- Where are joint systems required?
- Air leakage requirements – L ratings
 - Concept of resist passage of smoke
- Compartmentation as a viable fire protection feature in buildings



Code Process



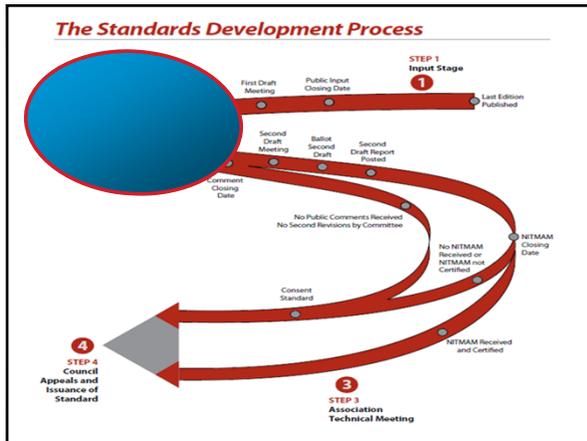
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2021 Edition of the International Codes

- Proposal closing date
 - IBC and IFC - January 8, 2018
 - NFPA 101/5000/1 – May/June 2018
- Several "special" activities ongoing
 - Health care occupancies
 - Tall wood buildings
 - FCAC and BCAC



The Standards Development Process



2012 IBC/IFC



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2012 IBC/IFC

- 703.7
 - Provides additional criteria (larger letters and stroke width) for marking of fire barriers, etc.
 - Submitted: City of North Las Vegas
 - Opposition: BOMA and others



Marking of Barriers



2012 IBC/IFC

- FS8 – Proponent: Sarah Rice
- Specifically states that opening and penetration protection is not required for load bearing walls that serve no other purpose
- Opposition: IFC, FCIA, UL, 3M, NASFM, AMCA, NAIMA



2012 IBC/IFC

- Revisions to previous text
- **714.4.4 Penetrations in smoke barriers.** Penetrations in *smoke barriers* shall be protected by an approved *through penetration firestop system* installed and tested in accordance with the requirements of UL 1479 for air leakage. The *L rating* of the system measured shall not exceed:
 - 1. 5.0 cfm per square foot (0.025 m³/ s · m²) of penetration opening for each *through-penetration firestop system*; or
 - 2. A total cumulative leakage of 50 cfm (0.024 m³/s) for any 100 square feet (9.3 m²) of wall area, or floor area.
- Similar language likely to be in NFPA 101 and NFPA 5000 (2018 Editions)



2012 IBC/IFC

- Requires special inspections for through penetrations, membrane penetrations, and fire-resistant joint systems for high-rise buildings and critical structures (Category III and IV)
- Category III and IV include
 - Health care occupancies
 - Detention and correctional occupancies
 - Assembly occupancies greater than 300 occupants
 - Schools greater than 250 occupants



2012 IBC/IFC

- **1705.17 Fire-resistant penetrations and joints.** In *high-rise buildings* or in buildings assigned to *Risk Category III or IV*, *special inspections for through-penetrations, membrane penetration firestops, fire-resistant joint systems* and perimeter fire barrier systems that are tested and *listed* in accordance with Sections 714.3.1.2, 714.4.2, 715.3 and 715.4 shall be in accordance with Section 1705.17.1 or 1705.17.2
 - Sections referenced include ASTM E2174 and ASTM E2393
- Broader language in NFPA 5000



2015 IBC/IFC



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2015 IFC

- Corridor walls in Group I-2
- Previous editions:
 - **1104.17 Corridors.** Corridors serving an occupant load greater than 30 and the openings therein shall provide an effective barrier to resist the movement of smoke. Transoms, louvers, doors and other openings shall be kept closed or self closing.



2015 IFC

- Section 1105.4
 - Resist passage of smoke
 - Materials consistent with building construction
 - Fire resistance rated if required elsewhere
 - Continuous to deck, smoke resistant ceiling, lay-in ceiling system (1 lb/sq ft)
 - Windows to resist passage of smoke
 - "20 minute door" unless building sprinklered
 - "Protected" penetrations
 - "Protected" joints
 - Smoke dampers



2015 IFC

- 1105.6 New requirements for smoke barriers in existing hospitals. Does permit 30 minute fire resistance rating.
 - Not addressed in previous editions



2018 IBC/IFC



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2018 IBC

- Sections 714.2 and 715.2
 - Requires installation in accordance with manufacturer's instructions and listing criteria
 - Removed language "install so as not to dislodge"



2018 IFC

- IFC 701.6 Owner is responsible to maintain an inventory of all fire-rated and smoke-rated construction
 - Key requirement is to have documentation of fire and smoke rated construction
 - Also requires documentation when system repaired with a listed system



2018 IFC

- Annual inspections of through penetration firestop systems in ALL buildings
 - Owner required be maintain an inventory
 - Where the system design number is known – inspect to listing criteria and manufacturers instructions.
- NFPA 1 revised to require inspections every three years instead of five years



Going Forward



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Unresolved Issues - Joints

- **[BS] JOINT.** The opening in or between adjacent assemblies that is created due to building tolerances, or is designed to allow independent movement of the building in any plane caused by thermal, seismic, wind or any other loading.
- How does this impact fire resistant joints?
 - **715.1 General.** Joints installed in or between fire-resistance rated walls, floor or floor/ceiling assemblies and roofs or roof/ceiling assemblies shall be protected by an approved *fire-resistant joint system* designed to resist the passage of fire for a time period not less than the required *fire-resistance rating* of the wall, floor or roof in or between which the system is installed.
- When are fire resistant joint systems required?



Unresolved Issues – EJ's

- When should EJ's be permitted?
- What is the process for using EJ's?



Unresolved Issues – T-Ratings

- Should a T rating be required when the penetration is protected by a non-listed system (traditional means)?
- 2018 Cycle
 - FS 60 – Requires floor penetrations protected with non-listed systems to be in a concealed space
 - Discussion - Opposing testimony focused on roundabout way to require T-ratings, lack of data demonstrating a problem, and lack of a concealed space for many floor assemblies
 - Committee Recommendation – Disapproval



Unresolved Issues – “Marking” Penetrations

- 2018 Cycle
 - FS 5 – Added a requirement to “mark” penetration and joint systems where barriers need to be marked.
 - Discussion – Opposing testimony focused on cost, location (where to put it), durability of marking system, number of penetrations
 - Committee Recommendation – Disapproval (8-5)
 - Original motion was for approval but failed
 - One Committee member was concerned about the electronic system but several did not think it was needed



What Are Your Code Compliance Issues?



Questions?

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