

FCIA
Firestop Contractors International Association
MONTHLY WEBINAR

WEBINAR

**WELCOME &
INTRODUCTIONS**

— —
Dr Gabby Peck, Technical Director

1

FCIA
Firestop Contractors International Association

Presented by: Dr Gabby Peck

OUR MISSION

EDUCATE

ADVOCATE

**ADVANCE THE PASSIVE
FIRE INDUSTRY GLOBALLY**

2



Presented by: Dr Gabby Peck

WHERE YOU'LL SEE US...



MAY 2026
gabby@fcia.org

3



Presented by: Dr Gabby Peck

WHERE ARE WE

- 01 USA & Canada → 04 India →

- 02 Mexico → 05 Saudi Arabia →

- 03 Qatar- Doha → 05 Panama & Central America →

- 03 United Arab Emirates → **AND MORE...**

- 03 Australia & New Zealand →

MAY 2026
gabby@fcia.org

4



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WHAT:



To educate & advocate for the passive fire industry

Speak, Write, Advocate & Promote

- ICC
- CSI
- CSC, FFMIA, ON
- BOA, ON FMIA
- RAIC
- NFPA
- Centre for Campus Fire Safety
- Fire Marshalls
- Code officials

GET INVOLVED

JOIN A COMMITTEE

CONTRIBUTE IDEAS & NETWORK

ADVANCE YOUR PROFESSIONAL DEVELOPMENT

MAY 2026
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FREE RESOURCES & MATERIALS....

FREE RESOURCES

**Life Safety Digest –
free to subscribe**

& reach out if you have an interesting article you'd like to see, or write!

Manual of Practice

•Complimentary PDF to Architects & Specifiers with Design Firms, Code Officials, Fire Marshals, Authorities Having Jurisdiction (AHJs), Facility Managers, and select others –contact to see if you qualify.

**Webinars
Newsletter**

FREE

FREE

FREE

Contact: Info@FCIA.org

7



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ADDITIONAL FCIA PRESENTATIONS & PROGRAMS

2022

'Protecting Recessed Boxes in Fire-Resistance-Rated Construction' for the NYS Department of Health - VIRTUAL - October 2022
Presented for the NY State Department of Health, Division of Nursing Home and ICF/IID Surveillance

'Design Installation Inspection Maintenance & Management' for the Ontario Building Officials Association - Niagara Falls, ON - July 2022
Presented for the Ontario Building Officials Association

2019

'A Study on the 'DIIM' of Firestopping' at the Office of General Services – Albany, NY – September 2019
Presented at the Office of General Services – Albany, NY

'Fire Separations – Fire Resistance & Firestopping Design, Installation, Inspection and Maintenance' at Canada CSC – May 2019
Presented at CSC's Regina Conference

2018

Role of Passive Fire Protection Systems in Maintaining Building Fire- & Life-Safety – December 2018
Presented at BNP's Webinar On-Demand

FCIA's 'DIIM' Canada CSC – DECEMBER 2018

- [Newsletter](#)
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8

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07-84-00 SPECIFICATION

The Construction Specifications Institute (CSI) and Construction Specifications Canada documents state, 'State it once, refer to section when needed from other sections'.

Penetrations, Joints and Perimeter Fire Containment in One Section - 07-84-00 - FCIA ASTM/UL Standards Firestopping Specification:

- FCIA 07-84-00 Suggested Spec - PDF
- FCIA 07-84-00 Suggested Spec - WORD
- FCIA Canada Standards Specification - English**
 - FCIA 07-84-00 CANADA Suggested Spec - ENGLISH PDF
 - FCIA 07-84-00 CANADA Suggested Spec - ENGLISH WORD

FCIA Canada Specification - French - Updated September 2019

- FCIA 07-84-00 CANADA Suggested Spec - FRENCH PDF
- FCIA 07-84-00 CANADA Suggested Spec - FRENCH WORD

As a service to the industry, FCIA offers the FCIA Manual of Practice* FREE to:

- Architects with Design Firms
- Specifiers in practice with Architectural Firms
- Governmental AHJ Building Officials
- Governmental AHJ Fire Marshals, Fire Service, and Fire Officials
- Government Officials

To see if you qualify, email Cathy@FCIA.org, including name, job title, company, address, phone, fax and email.

***Note: The FCIA Firestop Materials & Systems Guide Manual is NOT part of the FREE MOP offer.**

UPDATE OUT SOON!!!

9

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TECHNICAL RESOURCES

FCIA Standard Answer Series, Technical Resources from the FCIA Firestop Manual of Practice, and More...

Below you will find additional technical resources for the industry. Follow the links to read the document online or download in MS Word format.

Position Papers

The Global Language of Passive Fire Protection: Understanding the 'DIIM™ Way

Technical Info - General

Using Contracts to Manage Volatile Material Availability and Pricing, June 2021
 Managing Volatile Materials Pricing, April 2021

Technical Info - General Firestopping

ASTM E3456 - Standard Practice for On-Site Identification of Firestop Systems and Judgements

10

FIRESTOP EDUCATION PROGRAM

MEMBERS ONLY



LEVEL 0
'Firestopping 101: The Basics'
The Basics' Program is the perfect starting point for anyone new to the firestop industry before advancing to more technical content.



LEVEL 1
 'The 'DIIM' of Firestop for Fire and Life Safety'
 The Level 1 program covers the 'DIIM' of Firestopping™: proper 'D'esign, 'I'nstallation, 'I'nspection, and then 'M'aintaining Firestop Protection.



LEVEL 2
 'Firestop Materials and Systems'
 With 13 courses comprised of 20+ modules, the **Firestop Level 2 'Firestop Materials and Systems' Program** dives deep into firestopping and effective compartmentation.



LEVEL 3
 'Specifications, Estimating, and Project Management'
'Specifications, Estimating, and Project Management', the **Firestop Level 3 Program**, covers the fundamental basics every Estimator and Project Manager must know.



LEVEL 4
COMING SOON!

11

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OUR EVENTS '26...

01 PFP CON

Las Vegas, NV

March 30th
to
April 3rd



02 PFP'CON CANADA

Dartmouth, NS

September 1st
to
September 4th



03 FIC CONFERENCE & TRADESHOW

Dallas, FW, TX

November 2nd
to
November 5th





12

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**Thank
You**

**TO OUR MEMBERS,
FRIENDS,
SPONSORS
SUPPORTERS &
BOARD**



13



**Welcome to
TODAY'S SESSION**

14



FCIA
Firestop Contractors International Association
WEBINAR

**NOT ALL EJ'S ARE
CREATED EQUAL:**
BEST PRACTICES &
COMMON MISCONCEPTIONS

15

Firestopping Listings



Listings

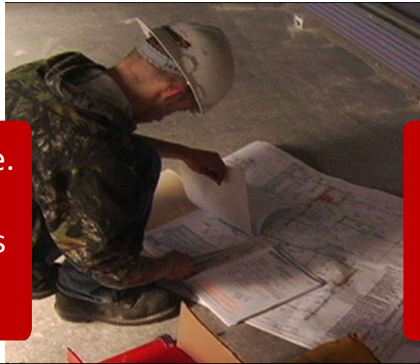
- Are **EXTREMELY** specific
- Firestop systems are tested assemblies — not individual products
- Changing any single element voids the listing and the rated performance (F, T, L ratings)
- What looks like “similar red caulk” or “close-enough mineral wool” can fail in a real fire — or during special inspection



16

Ejs need to be based on testing & experience

- Listings are specific with materials
- This is why manufacturer data sheets, experience and **proper understanding of materials is needed**



- Avoiding Ejs where possible.
- Using single manufacturers where possible

- Detailed, organized submittals provided by the firestop contractor
- Being involved early

17



Image:
<https://www.hoteles.com/go/england/the-shard-london>

The shard,
London, UK

18



Heydar Aliyev Centre, Baku, Azerbaijan

Image: <https://www.akt-uk.com/projects/heydar-aliyev-centre/>

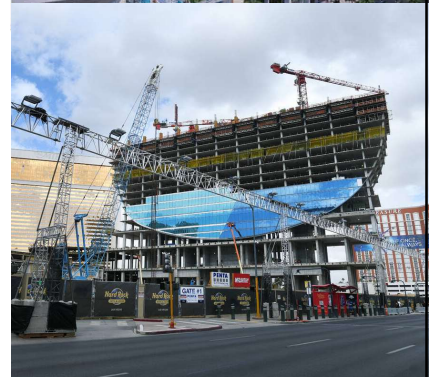
19

Ejs & alternative solutions

- Formal engineering alternative to prescriptive requirements
- Demonstrates compliance through **quantitative analysis**
- Requires:
 - Fire safety goals & objectives
 - Defined performance criteria
 - Design fire scenarios
 - Fire modeling / engineering analysis

In PBD projects, firestopping often becomes a **hybrid solution**: use listings where they apply + EJs / alternative methods where they don't.

Images from:
<https://www.vegasmansbusiness.com/listing/hard-rock-las-vegas-hotel-%26-casino-%28opening-2027%29/38605/>



20

Ejs & alternative solutions

- Listings used where possible
- PBD relies on Ejs, alternative solutions & modelling for demonstration that the firestop will function as designed
- Understanding of materials, material reaction to fire, system interactions during a fire become key
- Providing or receiving proper technical justification

Images from:

<https://www.vegasmmeansbusiness.com/listing/hard-rock-las-vegas-hotel-%26-casino-%28opening-2027%29/38605/>



21

BEST PRACTICES

Prioritize Tested and Listed Systems First

Always search thoroughly for an applicable UL, Intertek, or equivalent listed system before requesting or accepting an EJ.

Treat an EJ as a last resort only when field conditions truly cannot have a tested solution.



22

BEST PRACTICES

Work Closely with the Manufacturer

- Request EJs primarily through the firestop manufacturer's technical team (or a qualified engineer working directly with them).
- Provide clear, accurate field information (photos, measurements, assembly details, penetrating items, annular spaces, etc.) upfront to avoid weak or inaccurate judgments.

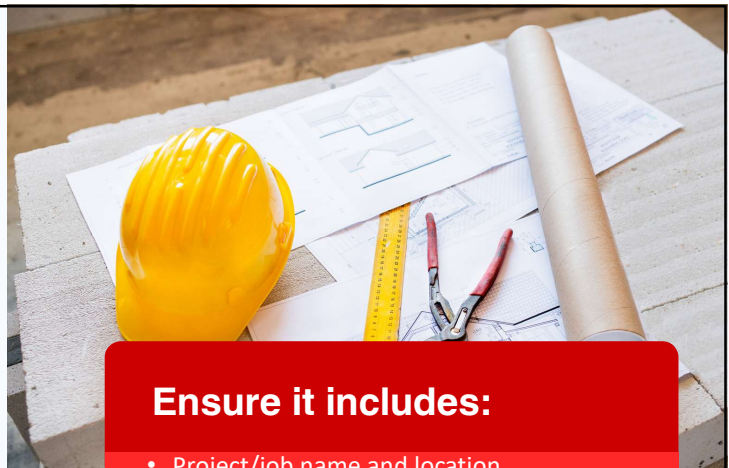


23

BEST PRACTICES

Verify the EJ Is Well-Supported and Specific

Confirm the EJ references tested systems it builds upon and explains the engineering rationale.



Ensure it includes:

- Project/job name and location.
- Clear description of the non-standard condition.
- Exact materials, quantities, installation steps, and critical dimensions.
- Supported fire rating (F, T, L, etc.) and any movement (M) capabilities.
- Issue date, signature, and contact info from the issuer.
- Look for drawings or sketches when helpful.

24



BEST PRACTICES

An EJ applies only to the specific conditions described .

It should be based on reasonable performance expectations derived from testing and fire science — not a guarantee of unlimited performance.


Note any restrictions (e.g., movement type, temperature ratings, or installation constraints).


do not reuse it on other projects or locations unless specified.

25

BEST PRACTICES

Document Thoroughly for Submittals and Inspection



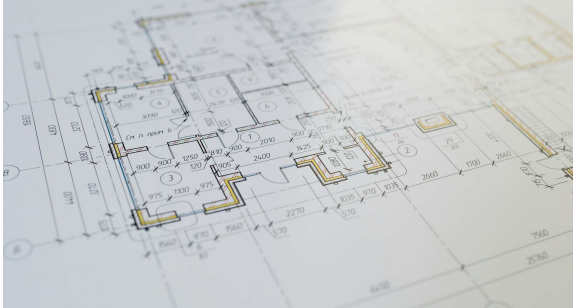


- Submit the full EJ (with all supporting details) to the architect, engineer, and AHJ for review and approval.
- Keep complete records on site, including the EJ, installation photos, and verification that work matches the approved details.
- During inspection, be prepared to show how the installation follows the EJ exactly.

26

BEST PRACTICES

Install and Inspect with the Same Rigor as Listed Systems

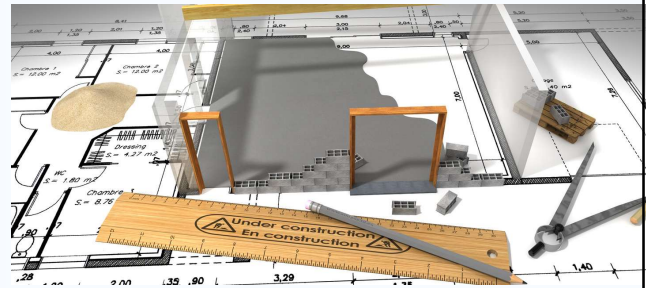


- Follow the EJ's installation instructions
- precisely — deviations can invalidate the judgment.
 - Use proper tools, sequencing, and quality control as you would for any firestop work.
 - Coordinate with inspectors early if the EJ is complex or unusual.

27

BEST PRACTICES

- Flag potential EJ needs as early as possible (ideally during design or pre-construction) to minimize change orders and delays.
- If an EJ looks incomplete, vague, or overly broad, push back and request clarification or revisions before proceeding.



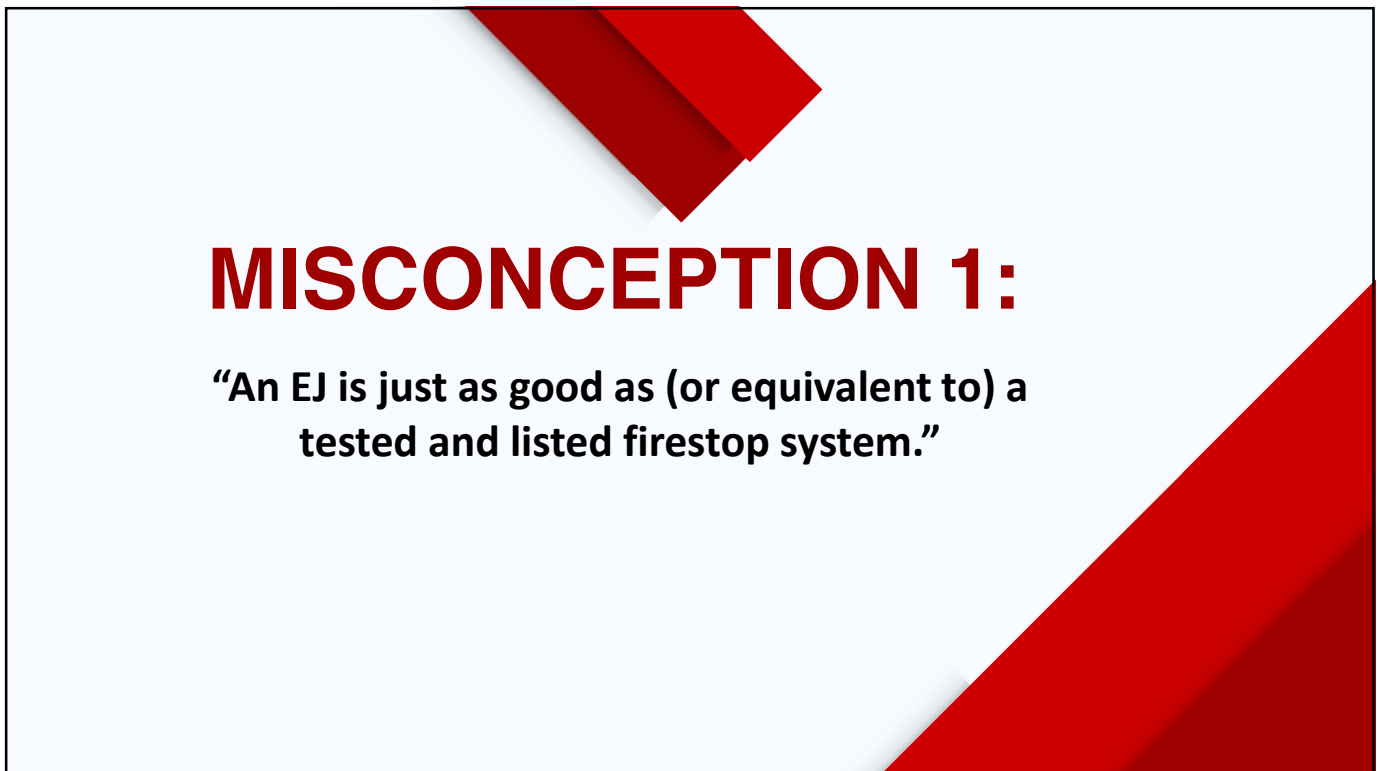
Communicate Proactively



28



29



30

MISCONCEPTION 1:

“An EJ is just as good as (or equivalent to) a tested and listed firestop system.”

Reality: EJs are technical opinions based on extrapolation or engineering analysis, not full-scale tested assemblies. They should only be used when no appropriate listed system exists.

31

MISCONCEPTION 2:

“EJs are transferable or can be used on multiple projects.”

32

MISCONCEPTION 2:

“EJs are transferable or can be used on multiple projects.”

Reality: Good EJs are project- and condition-specific.
They should not be copied to other jobs.

33

MISCONCEPTION 3:

“If there’s an EJ, the AHJ or inspector will automatically accept it.”

34

MISCONCEPTION 3:

“If there’s an EJ, the AHJ or inspector will automatically accept it.”

Reality: AHJs/inspectors evaluate them individually (often referencing IFC guidelines or local rules).
Vague or unsupported EJs frequently get rejected.

35

MISCONCEPTION 4:

“Once an EJ is issued and installed, we’re done—no need for ongoing documentation or maintenance.”

36

MISCONCEPTION 4:

“Once an EJ is issued and installed, we’re done—no need for ongoing documentation or maintenance.”

Reality: Proper records (including the full EJ) are critical for inspection, commissioning, and future maintenance under the DIIM framework. Changes in the field may require a revised EJ.

37

MISCONCEPTION 5:

“All EJs are created equal—if it’s on company letterhead, it’s fine.”

38

MISCONCEPTION 5:

“All EJs are created equal—if it’s on company letterhead, it’s fine.”

Reality: Quality varies widely. Strong EJs follow IFC guidelines (manufacturer involvement, data-driven, limited scope); weak ones are vague, overly broad, or lack supporting evidence.

39

MISCONCEPTION 6:

“Anyone (or any engineer) can issue a valid EJ.”

40

MISCONCEPTION 6:

“Anyone (or any engineer) can issue a valid EJ.”

Reality: Best practice (per IFC) limits issuance to the firestop manufacturer’s qualified technical personnel, or a knowledgeable registered PE/Fire Protection Engineer in concert with the manufacturer, or a listing agency. Independent EJs without manufacturer input are riskier and often questioned.

41

MISCONCEPTION 7:

“Any red firestop product in the opening counts as proper firestopping.”

Aka. “Red is Right” mentality

42

MISCONCEPTION 7:

“Any red firestop product in the opening counts as proper firestopping.”

Aka. “Red is Right” mentality

Reality: Products have no inherent rating—performance comes from a complete tested system (wall/floor + penetrant + firestop materials installed per listing).
Colour is irrelevant

43

MISCONCEPTION 8:

“Mixing brands or substituting materials in an EJ is fine as long as it looks similar.”

44

MISCONCEPTION 8:

“Mixing brands or substituting materials in an EJ is fine as long as it looks similar.”

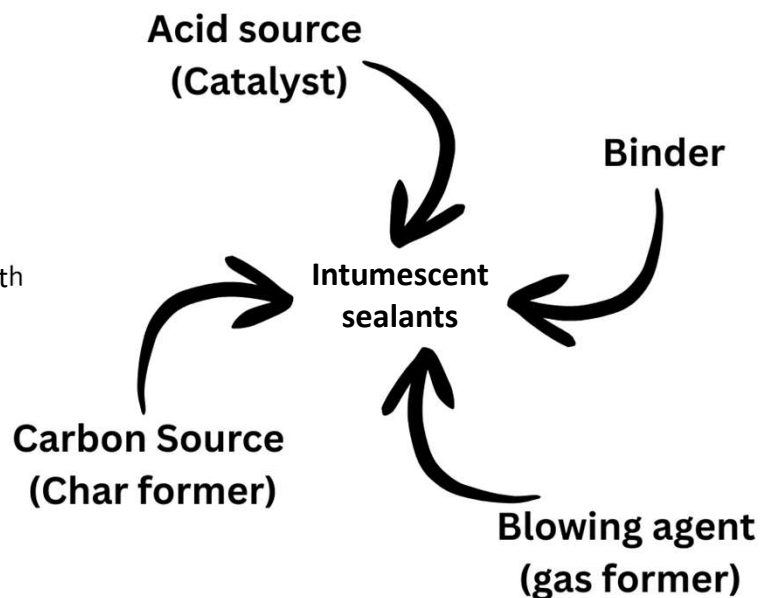
Reality: Different manufacturers’ products are tested in their own systems.

Substituting or mixing brands without specific validation in the EJ (or a new tested system) can void performance expectations and create compliance or liability issues.

45

Intumescent sealants

- Starts expanding ~300–480 °F (150–250°C), can expand 10–25× volume.
- Forms insulating char.
- Expansion pressure, speed, and char strength vary dramatically by formulation — not all intumescent materials are equal.



46

Intumescent sealants

THERMAL CERAMICS INC — FireMaster FastWrap+, FireMaster FastWrap XL, or Pyroscat Duct Wrap XL.

- S
 - C
 - F
 - E
 - V
 - I
- B. **Packing Material** — Min 4 in. (102 mm) thickness of unfaced scrap duct wrap material or min 3 pcf mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from the top surface of the floor or both surfaces of wall as required to accommodate the required thickness of fill material.

C. **Fill Void or Cavity Material* — Sealant** — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS ONE Sealant or FS-ONE MAX Intumescent Sealant.

RECTORSEAL — 835+ Sealant

SPECIFIED TECHNOLOGIES INC — Pensil 300 or SpecSeal Series SIL300 Sealant

TREMCO CPG INC. — Fyre-Sil Sealant or Fyre-Sil S/L Sealant (for floor assemblies only)

t

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

47

Intumescent sealants: Materials may look the same but aren't..

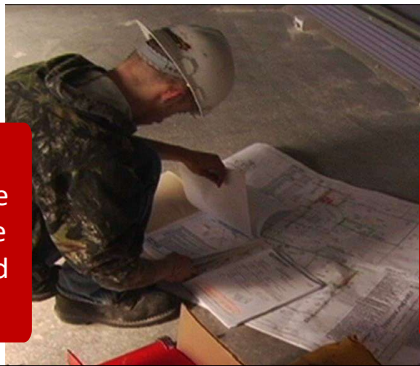
- Expansion behavior: Not just “how much” — but when it starts, expansion pressure/force, char density/hardness, and directionality.
- Substrate & penetrant compatibility: pH, adhesion issues, chemical reactions
- Cure chemistry & installation sensitivity: Water-based vs. solvent, full cure depth, temperature/humidity effects.
- Wrong conditions = poor bonding = possible failure in fire.



48

Material behavior and product nuances:

- This isn't isolated to sealants...
- This is why listings are so specific with materials
- This is why manufacturer data sheets, and proper understanding of materials is needed
- This is why proper inspection is also needed



This is why good inspection also includes checking to a reasonable degree that actual products were used & specified in the submitted details

This is why you need to have detailed submittals provided by the firestop contractor.

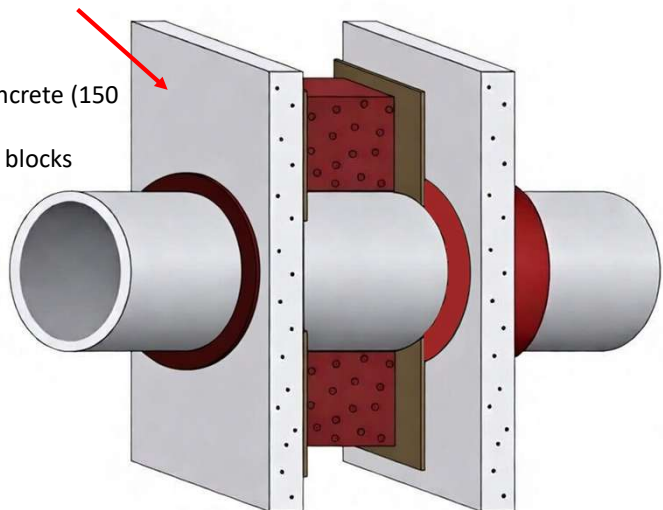
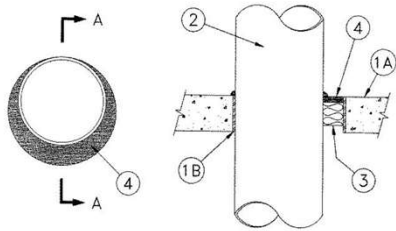
49

UL System C-AJ-1379

Fire-Rated Assembly

- Minimum 4½-inch thick reinforced normal-weight concrete (150 pcf).
- Walls can alternatively use any UL-classified concrete blocks
- Maximum opening diameter: 26½ inches.

ANSI/UL2079	CAN/ULC S115
F Rating 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Rating - 3 Hr
	FTH Rating - 0 Hr



The listing only applies to these exact assembly types and thicknesses.

50

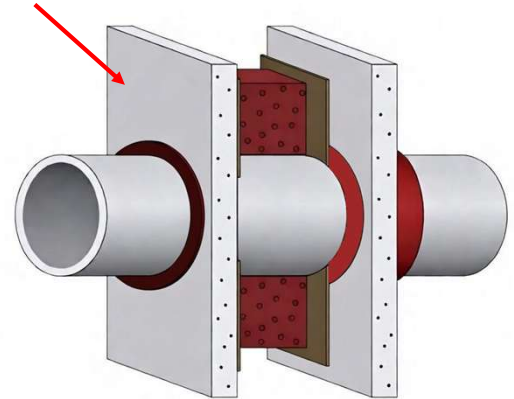
UL System C-AJ-1379

Fire-Rated Assembly

Different assemblies matter in terms of heat absorption/transfer, deflection/movement, and overall reaction to fire

Core differences:

- Heat absorption & thermal transfer differs with assembly type, density etc.
- Different Deflection, Movement & Structural Behavior Under Fire
- Adhesion, Spalling & Chemical/Physical Interaction



The listing only applies to these exact assembly types and thicknesses.

51

UL System C-AJ-1379

Through-Penetrating Item (the pipe or tubing)

One metallic pipe or tubing installed concentrically or eccentrically.

Annular space: 0 inches (point contact) to maximum 2½ inches.

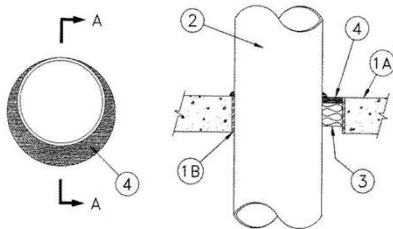
Pipe must be rigidly supported on both sides of the assembly.

Allowed pipes:

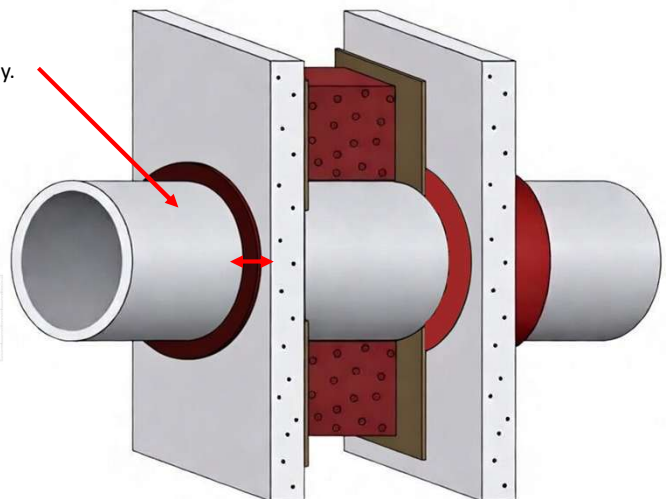
Nominal 24-inch diameter (or smaller) Schedule 30 (or heavier) steel or iron pipe, or

Nominal 4-inch diameter (or smaller) electrical metallic tubing (EMT).

ANSI/UL2079	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Rating - 3 Hr
	FTH Rating - 0 Hr



SECTION 'A-A'



The listing only applies to these exact assembly types and thicknesses.

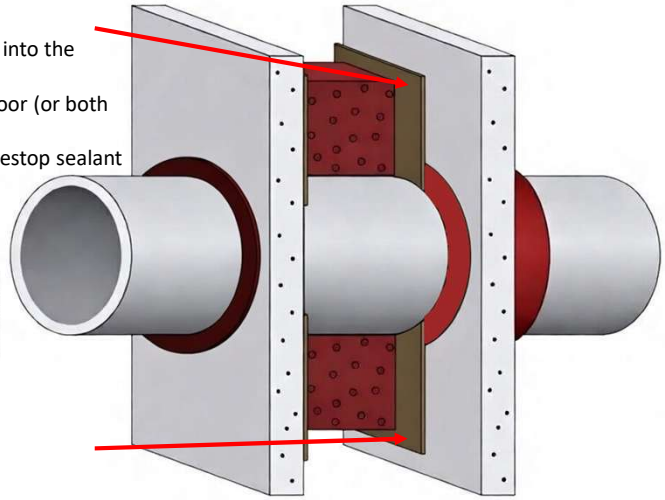
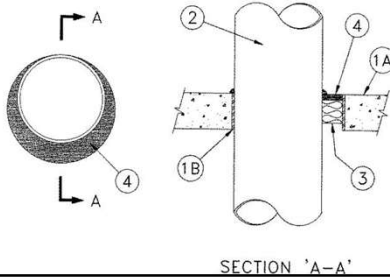
52

UL System C-AJ-1379

Packing / Damming / Backing Material

- Mineral wool insulation (minimum 4 pcf density), firmly pressed into the opening as a permanent form.
- Must be recessed a minimum ½ inch from the top surface of a floor (or both surfaces of a wall).
- Purpose: Acts as a "backing" or damming material to hold the firestop sealant in place during installation and curing.
- It also helps with compression and **fire resistance**.
- **Density and recess depth are critical to performance.**

ANSI/UL2079	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Rating - 3 Hr
	FTH Rating - 0 Hr



The listing only applies to these exact assembly types and thicknesses.

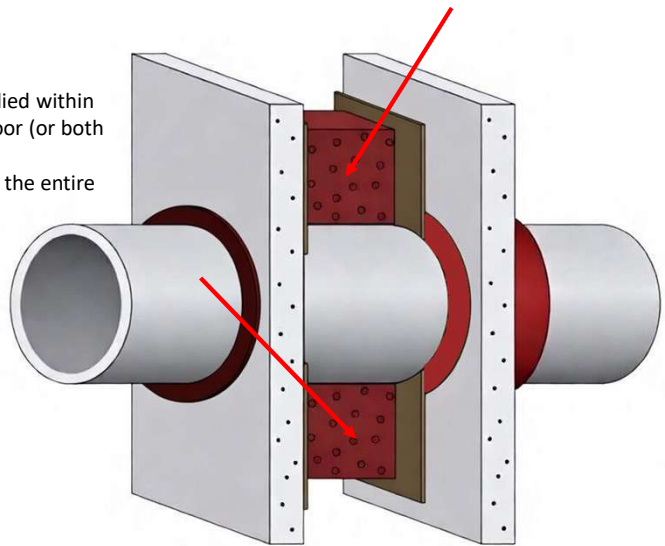
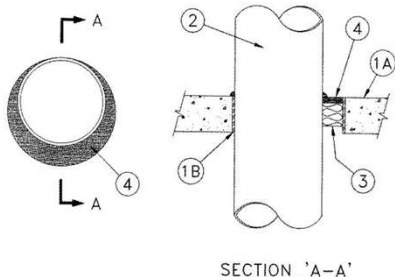
53

UL System C-AJ-1379

Fill, Void, or Cavity Material (the active firestop sealant)

- Minimum ½-inch thickness of approved intumescent caulk applied within the annular space, installed flush with the top surface of the floor (or both surfaces of a wall).
- Plus a minimum ¼-inch crown (bead) of the same caulk around the entire circumference of the pipe at the floor/wall surface.
- Approved products (must bear the UL Classification Mark):
- RectorSeal — FlameSafe® FS900+
- Metacaulk MC 150+

ANSI/UL2079	CAN/ULC S115
F Rating - 3 Hr	F Rating - 3 Hr
T Rating - 0 Hr	FT Rating - 0 Hr
	FH Rating - 3 Hr
	FTH Rating - 0 Hr



The listing only applies to these exact assembly types and thicknesses.

54

MISCONCEPTION 9:

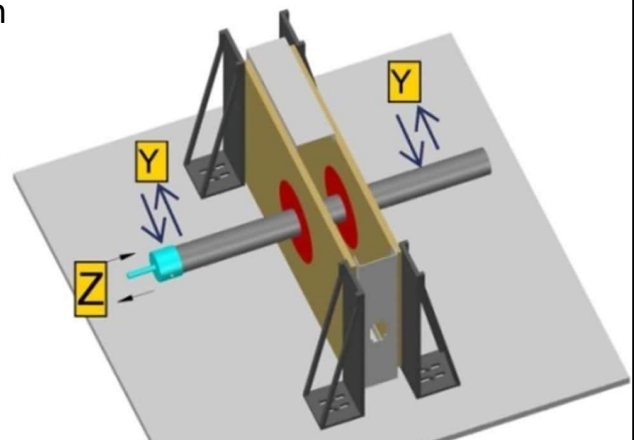
“An M-rated firestop or joint system can handle foot traffic, carts, or other structural loads.”

55

Ratings

M rating is one of the most commonly misunderstood and misused ratings in firestopping

- Useful for: seismic zones, long pipe runs **with thermal expansion** or high-rise buildings with sway.



The listing only applies to these exact assembly types and thicknesses.

56

M-Rating

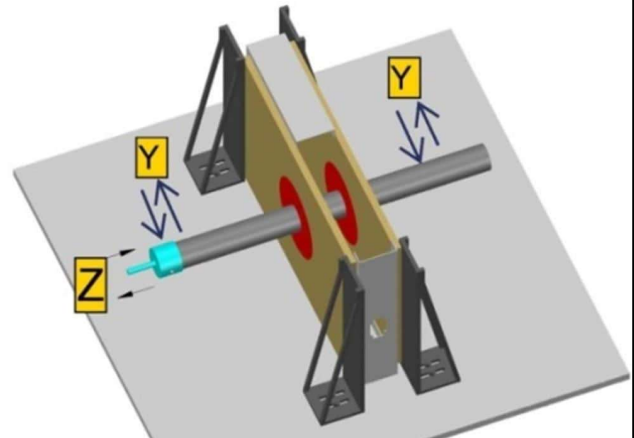
M rating = Movement Rating (optional, per ASTM E3037)

Certifies that the firestop system maintains its F, T, and/or L ratings after undergoing a specified number of movement cycles

What “axial movement” actually means:

Movement along the axis of the penetrating item (e.g., a pipe lengthening or shortening **due to thermal expansion/contraction**).

It can also include limited lateral/shear movement from building sway, seismic activity, or slab deflection.



The listing only applies to these exact assembly types and thicknesses.

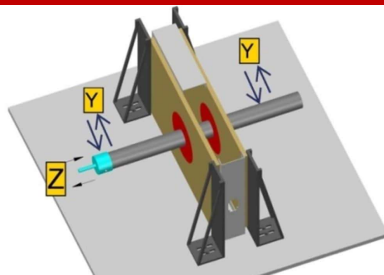
57

M- Rating



Axial movement does NOT mean foot traffic

Foot traffic / live loads are the responsibility of the floor assembly design — never the firestop. M rating only proves the firestop still works after the building moves



What it is NOT:

- It is NOT a structural loading rating.
- It does NOT mean the firestop can support foot traffic or any live loads.
- The firestop is not designed to be walked on or bear weight — that is the job of the floor/assembly itself.

58

BEST PRACTICES ALL ROUND

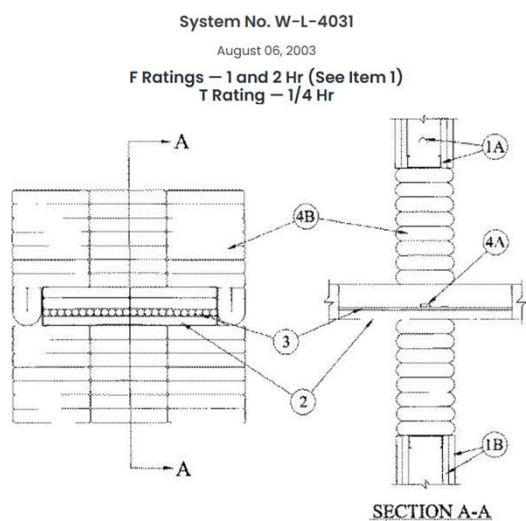
Why bother?

- Qualified contractors
- Tested & Listed systems where possible
- When no appropriate systems exist- then EJ
- A good, well-informed, evidence backed EJ
- Preferably TEDp



59

Example: Cable tray system



2. **Cable Tray*** – Max 18 in. wide by max 4 in. deep open-ladder cable tray with channel-shaped side rails formed of min 0.065 in. thick aluminum or steel with 1 in. wide rungs spaced 9 in. OC. One cable tray to be centered in opening. The annular space between the cable tray and periphery of opening shall be min 3 in. to max 10 in. Cable trays to be rigidly supported on both sides of wall assembly.

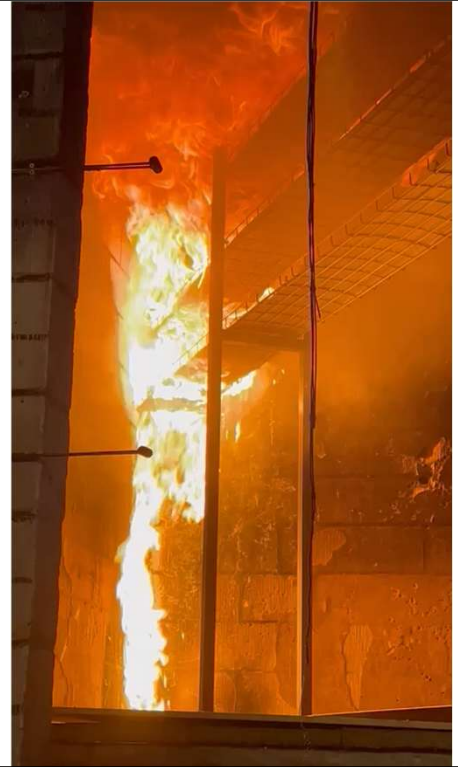
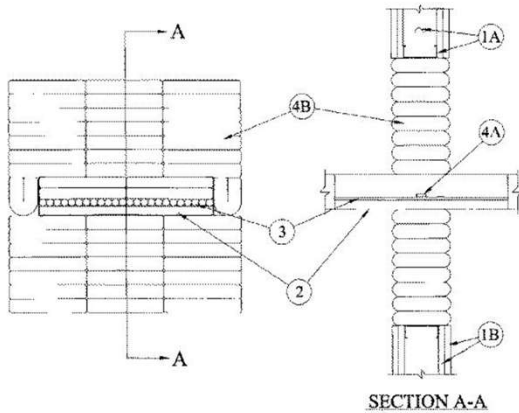
3. **Cables** – Aggregate cross-sectional area of cables in cable tray to be max 23 and 28 percent of the cross-sectional area of the cable tray based on a max 3 in. cable loading depth within the cable tray for aluminum and steel trays, respectively. Any combination of the following types and sizes of copper conductor cables may be used:

- A. Max 25 pr No. 24 AWG telephone cables with polyvinyl chloride (PVC) insulation and jacket.
- B. Max 4 pr No. 24 AWG telephone cables with PVC insulation and jacket.
- C. Max 1/C – 500 kcmil (or smaller) cable with PVC insulation and jacket.
- D. Max 2/C with ground No. 12 AWG Type NM nonmetallic sheathed (Romex) cable with PVC insulation and jacket.

60

Example: Cable tray system

System No. W-L-4031
August 06, 2003
F Ratings — 1 and 2 Hr (See Item 1)
T Rating — 1/4 Hr



61

Key takeaways

Engineering Judgments are a necessary but higher-risk part of firestopping work.
Following proper recommended practices helps you minimize liability, avoid costly rework or failed inspections.



Always Default to Tested Systems — EJ Is the Last Resort



Demand High-Quality, Project-Specific EJs



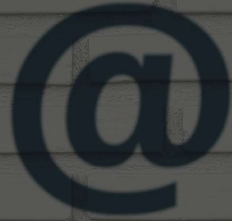
Install, Document, and Inspect EJs with the Same Discipline as Listed Systems

https://firestop.org/wp-content/uploads/2024/03/Guidelines_Firestop_Engineering_Judgments_Rev2024-02.pdf

62



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