FCIA @ Webinar Series
Identification Systems - Labeling

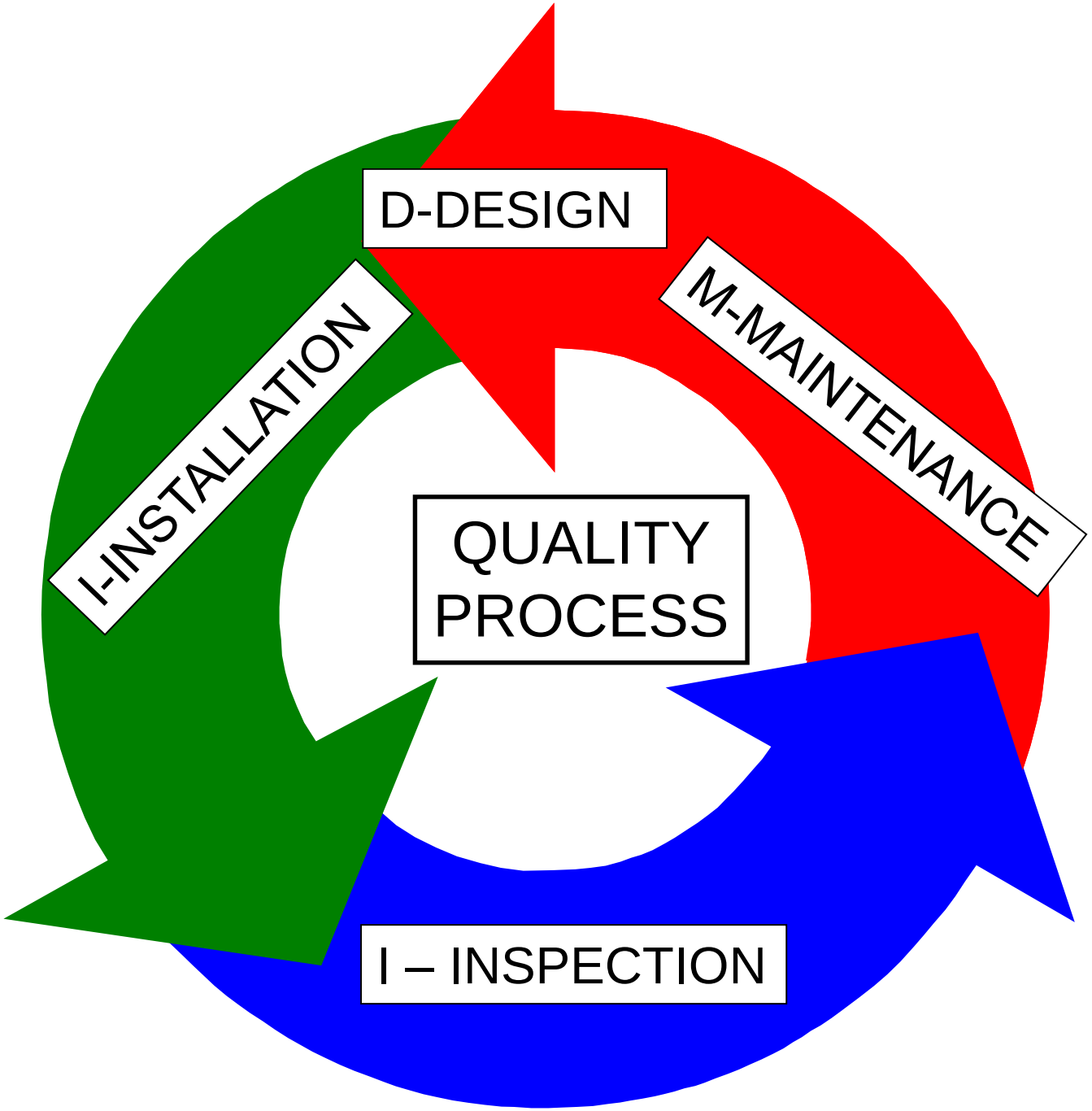
Bill McHugh
FCIA Executive Director
Bill@FCIA.org
Slides – www.FCIA.org

FCIA – Firestop Contractors International Association

- FCIA Members
  - Firestop Contractors
  - Firestop Manufacturers
  - Firestop Consultants
  - Firestop Distributors, Reps, Friends
- Tools for Specifiers
- FREE Spec @ www.FCIA.org
- FREE Life Safety Digest
- Accreditation Programs - 3rd Party Contractor/Inspection Company
- ASTM Inspection Standards, IAS AC 291 Inspection Agencies
- **FREE Recommended Practice – Labelling – Request**
- **FREE MOP - Specifiers @ AE Firms, Independent - Request**

“TOTAL FIRE PROTECTION”

- Effective Compartmentation
  - Fire Barriers, Fire Walls/Floors, Smoke Barriers
  - Firestopping, Fire Dampers, Swinging and Rolling Fire Doors, Fire Rated Glazing
- Detection & Alarm Systems
- Sprinkler Suppression Systems
- Education & Egress–
  - Building Owners & Managers, Building Occupants and Firefighters


D-DESIGN
M-MAINTENANCE
I-INSTALLATION
QUALITY
PROCESS
I – INSPECTION

Labeling – Identification Systems

- **Why?**
  - **Does the installation meet requirements?**
  - **What Manufacturer’s Material was installed?**
  - **What Listing was used?**
  - **Who was the installing contractor?**
  - **Which employee Installed the Material? Inspected?**
- **15 years from now…who knows?**

Building & Fire Code Requirements

- NFPA 5000 – 101- NFPA 1
- National Building Code – Canada
- UAE Fire and Life Safety Code – Chapter
- International Codes –
  - New and Existing Buildings International Building Code – Chapter 7
  - International Fire Code – Chapter 7
- ***No Identification System for Firestopping….***

- ***Minimum requirements*** - ***Construction*** & ***Maintenance***

Building & Fire Code Requirements

- Terminology - Definitions
  - ***Ch. 8 – NFPA & Ch. 7 IBC***
    - ***IBC & NFPA - ASTM E 119, UL 263 - Fire-resistance-ratings***
    - **IBC Ch. 7 - Fire Barrier –** Hourly Rated
    - **IBC Ch. 7** - **Fire Wall** – Fire Rating, structural independence
    - **Ch. 7 IBC** – **Fire Partition** – Rated, not continuous.
    - **Ch. 8 NFPA/NFPA 221–High Challenge Fire Walls**

Building & Fire Code Requirements

- Compartmentation Codes – US
  - **Smoke Barrier – Firestopping for Continuity**
    - IBC – Hourly Rated, “L” Rating
      - <5cfm/sf (IBC 2006)
      - AND
      - < 50 cfm, 100sf of Wall Area (IBC 2009)
    - **NFPA –Quantified “L” Rating … no Occupancy Chapters**
      - Continuous, Barrier to Barrier, … through concealed spaces,
      - Not always fire-resistance-rated.
  - **Smoke Partition**
    - IBC – Continuous barrier, NOT rated…’retard’.
    - NFPA – Continuous membrane that is designed to form a barrier to ***limit the transfer of smoke***….

Building & Fire Code Requirements

- ***Build it Right***
  - **Walls / Horizontal Assemblies – Continuity**
    - Assembly
    - Firestop Products Become Firestop Systems
      - Penetrations
      - Joints – Head /Bottom of Wall – Perimeter Joints
    - Fire & Smoke Damper Duct Systems
    - Fire Doors and Hardware Systems
      - Rolling & Swinging
    - Fire Rated Glazing

Build it Right - Continuity

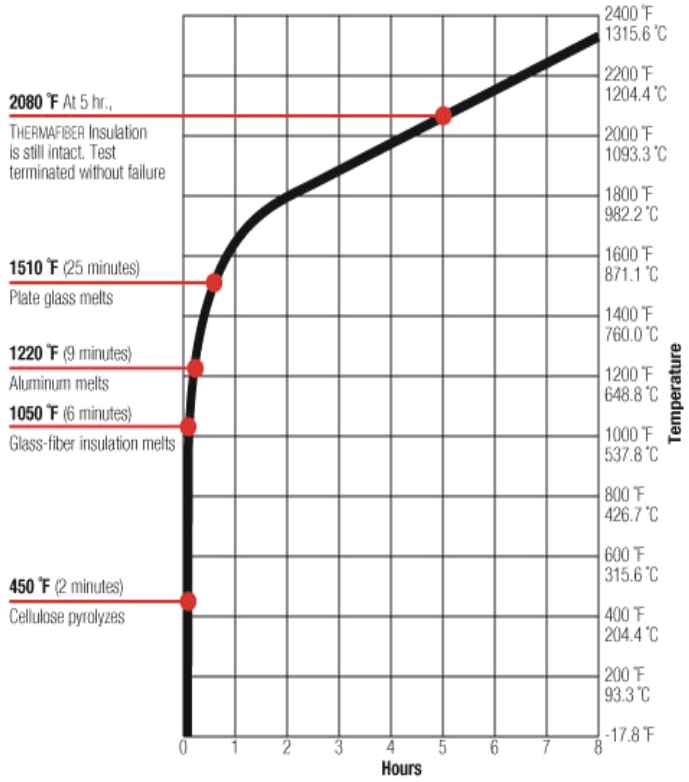
Effective Compartmentation Features

New UL test standards for Life Safety Dampers will take effect in July 2002

IBC – Chapter 7

703.2 Fire-resistance ratings. The *fire-resistance rating* of building elements, components or assemblies shall be determined in accordance with the test procedures set forth in ASTM E119 or UL 263 or in accordance with Section 703.3. The *fire-resistance rating* of penetrations and *fire-resistant joint systems* shall be determined in accordance Sections 714 and 715, respectively.

[IBC 2018 703.2]



Thermafiber Image

IBC – Chapter 7

- 703.3 – Methods for determining fire-resistance

Methods for determining fire resistance.

The application of any of the methods listed in this section shall be based on the fire exposure and acceptance criteria specified in ASTM E119 or UL 263. The required *fire resistance* of a building element, component or assembly shall be permitted to be established by any of the following methods or procedures:

1. **Fire-resistance designs documented in approved sources. (UL, FM, etc.)**
   2. Prescriptive designs of fire-resistance-rated building elements, components or assemblies as prescribed in Section 721.
   3. Calculations in accordance with Section 722.
   4. Engineering analysis based on a comparison of building element, component or assemblies designs having *fire-resistance ratings* as determined by the test procedures set forth in **ASTM E119 or UL 263**.(PBD)
   5. Alternative protection methods as allowed by **Section 104.11**.
   6.**Fire resistance designs certified by an approved agency**. (**UL, FM, etc.)**

IBC Chapter 7

- Ch. 7 – **707.5.1; 708.4.1, 709.4, Supporting construction.**

The **supporting construction for a *fire barrier* shall be protected to afford the required *fire-resistance rating* of the *fire barrier* supported.** Hollow vertical spaces within a *fire barrier* shall be fireblocked in accordance with Section 718.2 at every floor level.

Exceptions:

1. The maximum required *fire-resistance rating* for assemblies supporting *fire barriers* separating tank storage as provided for in Section 415.9.1.2 shall be 2 hours, but not less than required by Table 601 for the building construction type.

2. Supporting construction for 1-hour *fire barriers* required by Table 509 in buildings of Type IIB, IIIB and VB construction is not required to be *fire-resistance rated* unless required by other sections of this code.

IBC Chapter 7

- Ch. 7 – Smoke Barriers – Supporting Construction

709.4 Continuity. *Smoke barriers* shall form an effective membrane continuous from the top of the foundation or floor/ ceiling assembly below to the underside of the floor or roof sheathing, deck or slab above, including continuity through concealed spaces, such as those found above suspended ceilings, and interstitial structural and mechanical spaces. **The supporting construction shall be protected to afford the required *fire-resistance rating* of the wall or floor supported in buildings of other than Type IIB, IIIB or VB construction.** *Smoke barrier* walls used to separate smoke compartments shall comply with Section 709.4.1. *Smoke-barrier* walls used to enclose areas of refuge in accordance with Section 1009.6.4 or to enclose elevator lobbies in accordance with Section 405.4.3, 3007.6.2, or 3008.6.2 shall comply with Section 709.4.2.

Smoke Partitions – No Supporting Construction Requirements.

713.4 Shafts Too….

IBC Chapter 7 Fire-Resistance Requirement

703.7 Marking and identification. ***Fire walls, fire barriers,*** *fire partitions, smoke barriers and smoke partitions or any* other wall required to have protected openings or penetrations shall be effectively and permanently identified with signs or stenciling. Such identification shall:

1. Be located in accessible concealed floor, floor-ceiling or *attic spaces;*

2. Be located within 15 feet (4572 mm) of the end of each wall and at intervals

not exceeding 30 feet (9144 mm) measured horizontally along the wall or partition; and

3. Include lettering **not less than 3 inches (76 mm) in height with a minimum 3/8 inch (9.5 mm) stroke** in a contrasting color incorporating the suggested wording.

“FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS”

or other wording.

Exception: Walls in Group R-2 occupancies that do

not have a removable decorative ceiling allowing

access to the concealed space.

IBC Chapter 7 Fire-Resistance Requirement

703.7 Marking and identification.

3. Include lettering **not less than 3 inches (76 mm) in height with a minimum 3/8 inch (9.5 mm) stroke** in a contrasting color incorporating the suggested wording.

“FIRE AND/OR SMOKE BARRIER—PROTECT ALL OPENINGS”

….or other wording.

IBC Chapter 7 Fire-Resistance Requirement

703.7 Marking and identification.

- **FCIA Recommends Code Defined Terms - 6’ Wide**

What about other Markings

Fire Doors

Fire Dampers

Fire Rated Glazing

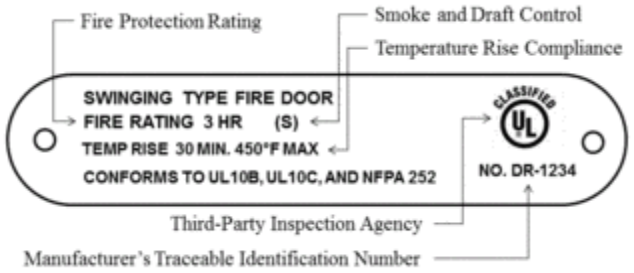
Walls -

DAMPER LABELS – Identification System

- **Labels**

Greenheck Slide

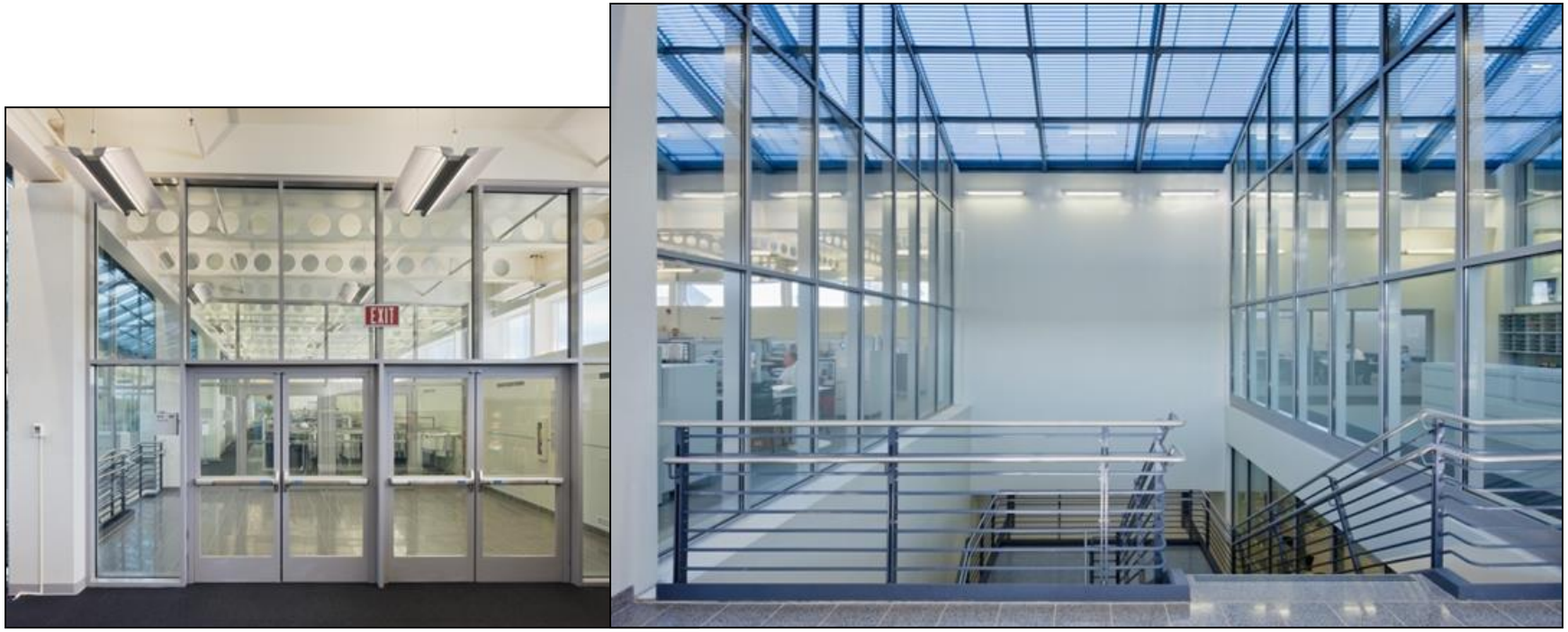
Labels - Doors



DSSF IMAGES

Fire Rated Glazing

- Allows visibility into a space
- Prevents spread of fire (compartmentation)



UL WALKE, TGP Slide, Image

Labels - Glazing

FireLite PLUS

16 CFR 1201 CAT. II
ANSI Z97.1-2004 U A
8mm LAMINATED

D-H-45
OH-45

CLASSIFIED c UL us
6259
R-13377
ANSI/UL9/10B/10C

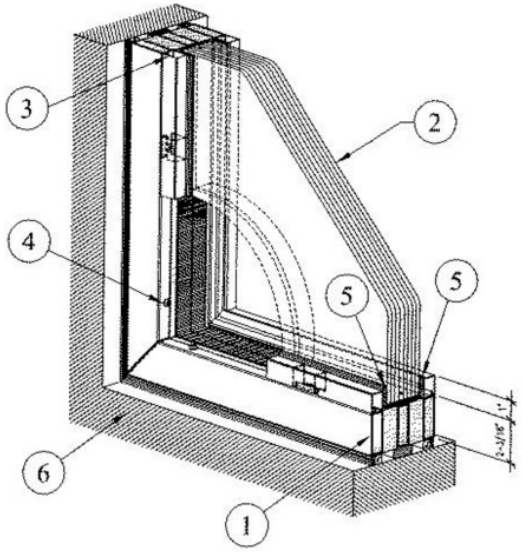
Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire-resistance Ratings - ANSI/UL 263

Design No. U533

August 29, 2013

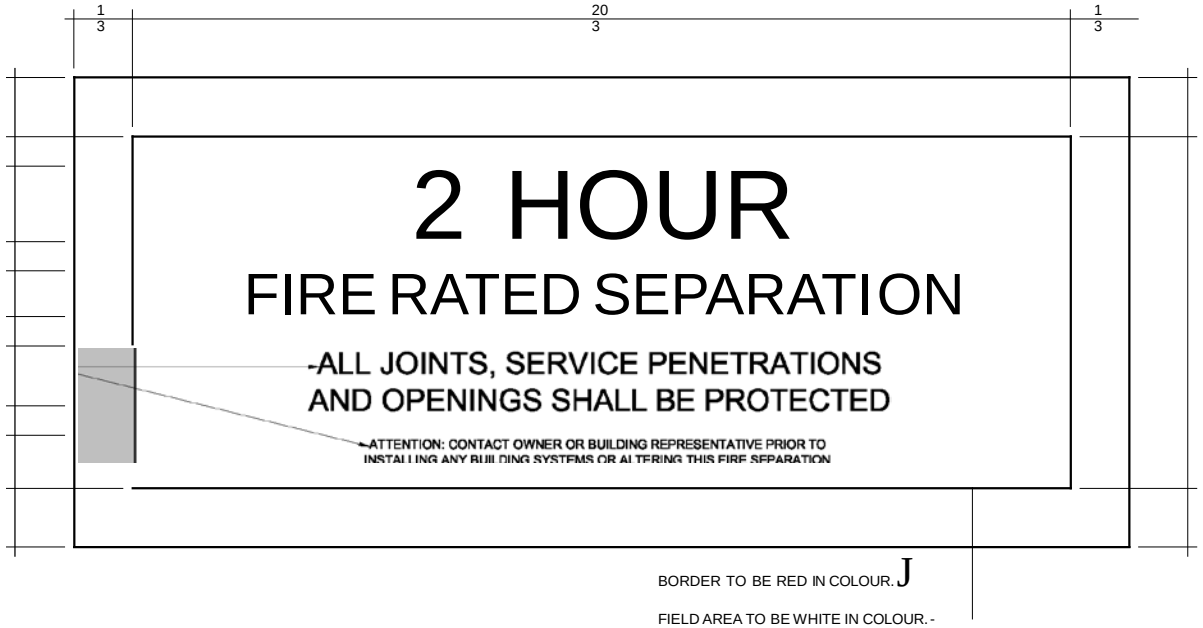
Non-Bearing Wall Rating—1 or 2 Hr (See Items 1, 2 and 6)



DSSF IMAGES

Labels – Firestopping?

- Firestop Labels NOT REQUIRED
  - International Building Code
  - NFPA 101, 80, 1, 221
  - National Building Code of Canada



DSSF IMAGES

Barrier Continuity SYSTEMS

- **Products Become Systems Through….**
- **Test Standard References**
  - **Fire & Smoke Barriers** - ASTM E 119, UL 263
  - **Firestopping** - ASTM E 814 / UL 1479, ULC-S-115**,** UL 2079, E-1966, E-2307, **E-2837, …**test method…"
  - **Fire/Smoke Dampers** - UL 555, UL 555S
  - **Swing/Rolling Fire Doors** - UL 10B, 10C
  - **Fire Rated Glazing -** UL 9, NFPA 252
- **SYSTEM Testing = Suitability statement for use of a product in a specific *system* application**
- **Labels Document on the Assembly the SYSTEM**

Firestopping for Continuity Products become SYSTEMS … AFTER installation

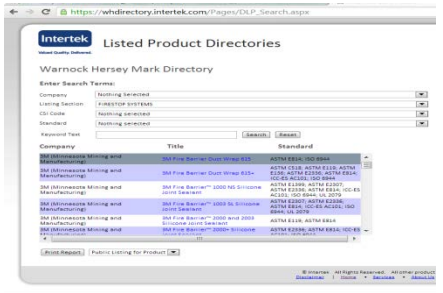
- **‘Field Erected Construction…Tested to…’**
  - Standards - ASTM E814/UL 1479–UL 2079, ASTM E 1966, ASTM E 2307, ULC S-115, FM 4990
  - **F Rating - Flame**
  - T Rating – Temperature
  - H Rating – Hose
  - **L Rating – Smoke**
  - W Rating – Water

Graphics – 3M

Barrier Continuity
Products become SYSTEMS

- **Fire Rated Systems Directories –**
  - **FM Approvals**
  - **Intertek**
  - **UL Fire Resistance Directory**

Systems Selection & Analysis…Not as easy as it looks…



Engineering Judgments/EFRRA

- Variances to Systems at Site ? – Now What…
  - **First Action in Process**
    - **Find another system** – Same Manufacturer
    - **Find another system –** Different Manufacturer
    - **If no system exists in either case**….
  - **Second Action –**
    - ***Engineering Judgment*** – **“EJ”**
    - ***Equivalent Fire Resistance Rated Assembly – “EFRRA”***
  - ***Based on engineering, IFC Protocol***
  - ***Labeling??***

International Firestop Council – Manufacturers – firestop.org

IFC Guidelines for Evaluating Engineering Judgment Guidelines

‘Construction industry professionals, building officials, fire officials, firestop contractors and other stakeholders **need appropriate guidelines for evaluating and using such judgments.**

As such, IFC developed *Recommended IFC Guidelines for Evaluating FireStop Systems in Engineering Judgments.*

NOT ALL DISCIPLINES HAVE EJ’s/EFRRA’s…..

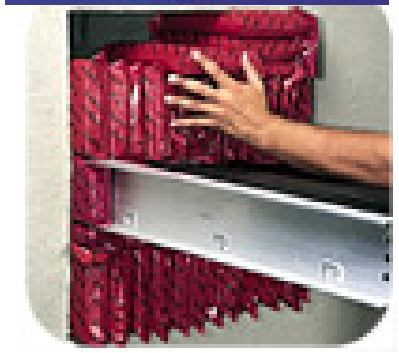
NOTE: Statement from Manufacturer Needed…

Firestopping for Continuity
Firestop Products

- **Sealants**
  - Silicone, Latex, Intumescent
- **Wrap Strips**
  - “Thick, Thin, Wide, Less Wide”
- **Putties**
- **Pillows**
- **Composite Sheets**
- **Bricks / Plugs**
- **Pre Fabricated Kits**
- **Mortar**
- **Spray Products**
- **Tapes**



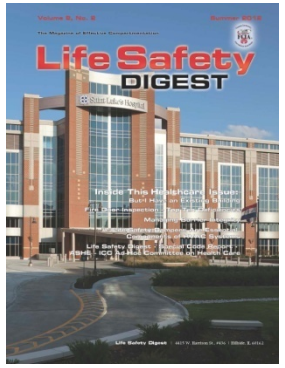





Graphics, STI,3M, AD, HILTI, Nelson

S-Specs – Firestopping – One Section

- **NEW Buildings – 07-84-00 Specs**
  - **www. FCIA .org**
- **Part I – Focus on**
  - **Systems & Listings**
  - **Not Products**
  - **Manufacturers Installation Instructions**
- **“Single Manufacturer to the greatest extent possible” – EJ’s**
- ***Identification Systems***



S-Specs

- **NEW Buildings – 07-84-00 Specs**
  - **www. FCIA .org**
- **Part II – Qualifications**
  - **FCIA Member in Good Standing, AND**
  - **FM 4991, Standard for the Approval of Firestop Contractors, OR**
  - **UL Qualified Firestop Contractor Program**
  - **AND**
  - **Manufacturer Accredited, Approved, Trained**

S-Specs

- **NEW Buildings – 07-84-00 Specs**
  - **www. FCIA .org**
- **Part II – Qualifications – Special Inspection**
  - **Special Inspection Agency –**
    - **IAS AC 291 Accredited Special Inspection Agencies**
  - **Special Inspector Qualifications - Competence**
    - **FM Firestop Exam**
    - **UL Firestop Exam**
    - **AND**
    - **IFC Exam**

S-Specs

- **NEW Buildings – 07-84-00 Specs**
- **Part III – Execution**
  - **Special Inspection – IBC Chapter 17 - Firestopping**
    - **ASTM E 2174 - Penetrations**
    - **ASTM E 2393 – Joints**
  - **Special Inspection - Fireproofing**
    - **SFRM - ASTM E605, E736**
    - **IFRM - AWCI 12-B**
    - **SOON, ASTM WK 54597**
  - **How to Determine What was Installed??**
    - **Fireproofing – A Few Designs**
    - **Firestopping = Hundreds of Designs**

S-Specs Contractor Qualifications

- **FM 4991 – Standard for the Approval of Firestop Contractors**
- **UL Qualified Firestop Contractors**
- ***FM 4991 Approved Firestop Contractors***
- ***FM & UL/ULC CONTRACTORS UNDERSTAND SYSTEMS & DOCUMENTATION***
- **UL's Master Certificate of Compliance UL QFC's**
- **Other Protectives?**
- ***Identification Systems***

Master Audit Certificate of Compliance Program

A Jobsite Specific Management System Audit – Our
audit provides verified processes were followed to properly installed firestop systems.

A Renewable Jobsite Specific Certificate – After completion of a successful audit, we issue a jobsite specific certificate that is **renewable** for the building
owner.

Improved Firestop Systems Documentation – The MACC certificate in conjunction with the firestop systems documentation, builds the fire-resistance inventory required by the 2018 International Fire Code for fire and smoke protection features

Qualified Firestop Contractor Program

Master Audit

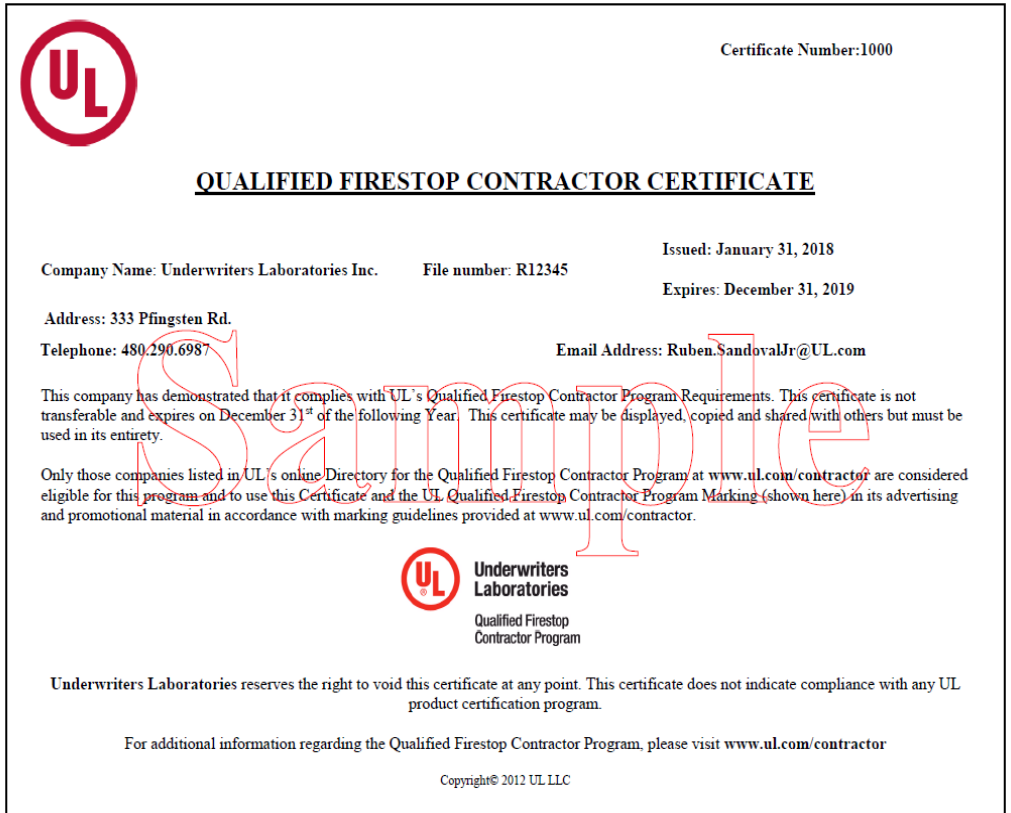
Certificate of Compliance

Certificate Number: 1000-0001

Audit Date: 08/03/2018

Expiration Date: 12/31/2019

This certificate reports the findings of an audit by UL to the management system requirements of the Qualified Firestop Contractor Program. The audit was conducted to the requirements specified in the Qualified Firestop Contractor Program requirements. The UL qualified contractor was found to be in



Certificate Number:1000

QUALIFIED FIRESTOP CONTRACTOR CERTIFICATE

Issued: January 31, 2018

Company Name: Underwriters Laboratories Inc. File number: R12345

Expires: December 31, 2019

Address: 333 Pfingsten Rd.

Telephone: 480.290.6987 Email Address: Ruben.SandovalJr@UL.com

This company has demonstrated that it complies with UL's Qualified Firestop Contractor Program Requirements. This certificate is not transferable and expires on December 31st of the following Year. This certificate may be displayed, copied and shared with others but must be used in its entirety.

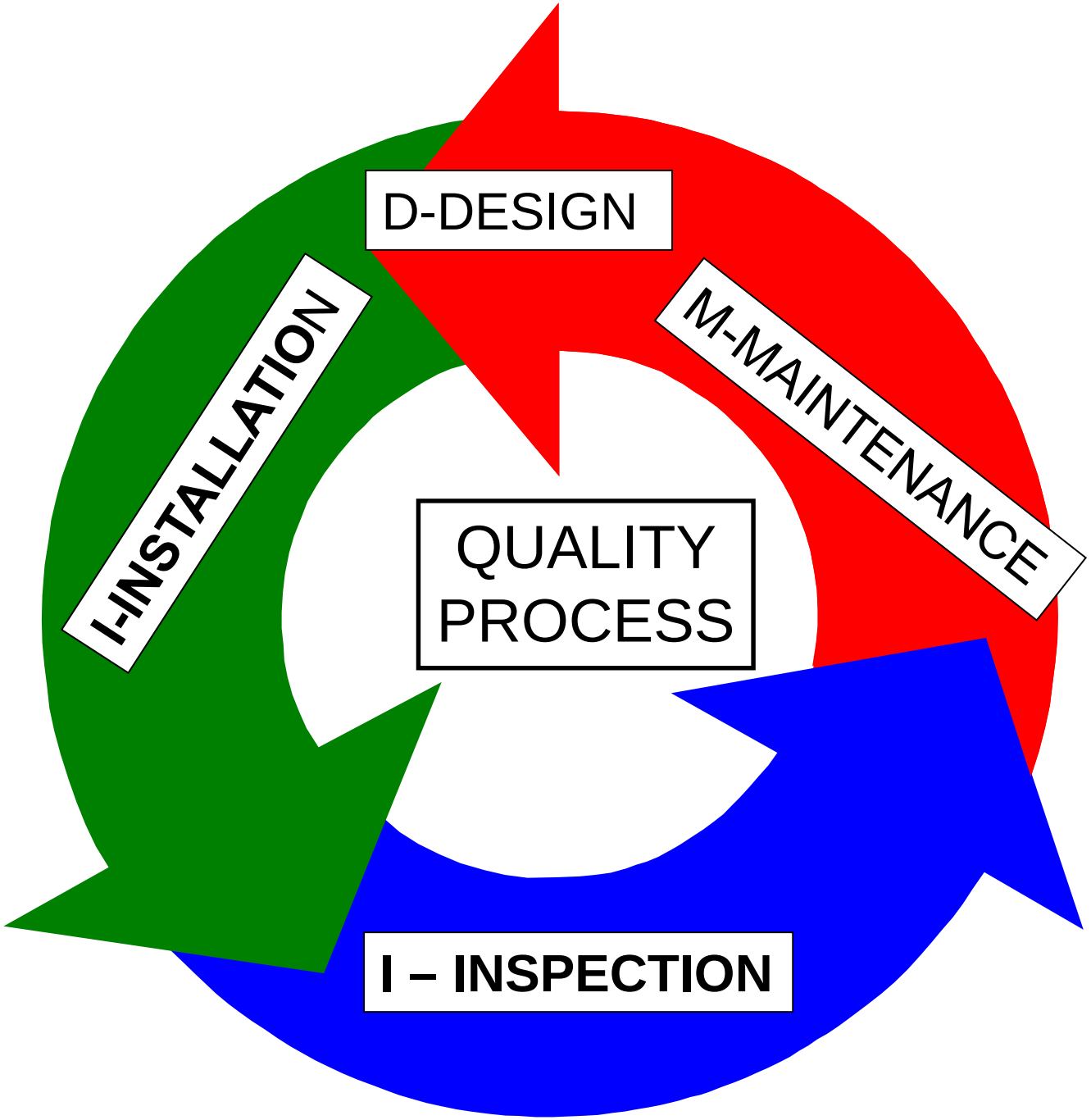
Only those companies listed in UL's online Directory for the Qualified Firestop Contractor Program at www.ul.com/contractor are considered eligible for this program and to use this Certificate and the UL Qualified Firestop Contractor Program Marking (shown here) in its advertising and promotional material in accordance with marking guidelines provided at www.ul.com/contractor.

Underwriters Laboratories

Qualified Firestop Contractor Program

Underwriters Laboratories reserves the right to void this certificate at any point. This certificate does not indicate compliance with any UL product certification program.

For additional information regarding the Qualified Firestop Contractor Program, please visit www.ul.com/contractor


D-DESIGN
M-MAINTENANCE
I-INSTALLATION
QUALITY
PROCESS
I – INSPECTION

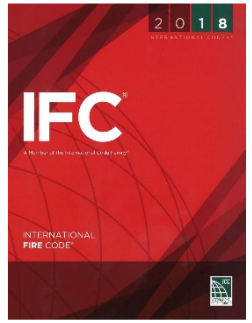
I – Inspection – What's Installed?

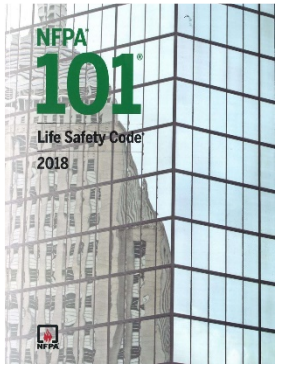
- **Special Inspection – 1705.1-1705.12**
  - **Schedule of Special Inspections - Division 1**
  - Independent 3rd Party
  - Destructive, Non Destructive, Specified Frequency
  - **Firestopping–** ASTM E2174, E2393
    - Inspection Agency Accreditation – IAS AC 291
    - Inspector Competence – FM, UL or IFC Firestop Exams
  - **Fireproofing** – IBC Ch. 17, ASTM E605, E736, AWCI 12B
  - **Dampers** – NFPA 80, at Commx'g, yr. 1, yr. 4 or 6.
  - **Doors** – Annual Visual Inspection
  - **Walls?**
  - **Horizontal Assemblies**
    - Steel, Concrete, Wood @ Chapter 17

Fire Codes Require Maintenance

- **International Fire Code**
- **NFPA 1**
- **NFPA 101**

- **Minimum Requirements Stated**
- **Frequency**
- ***How do we Know What SYSTEM ?***





FCIA & Labeling - Identification Systems

FCIA RPP-L-2018.1 –

FCIA Recommended Practice for the Identification of Fire Resistance Rated and Smoke Resistant Penetration and Joint Firestopping

Labeling – Identification Systems

- This Practice covers the establishing of procedures to identify firestopping.
- Options
  - Vinyl Stickers
  - Paper Stickers
  - Metal tags
  - Ceramic Fiber Tags
  - Electronic Tracking Methods

ProFirestop Image

Labeling – Identification Systems

- **Definitions**
  - *Identification Device* – The label, placard, or other type, that states the necessary information that identifies the firestop system or EJ / EFRRA installed.

Labeling – Identification Systems

- **Definitions**
- *Label* — An item that states that there is a firestop system or EJ/EFRRA installed.
- **NOTE 2:**
  - Paper or plastic,
  - composite strips with adhesive,
  - paper tags with a hole and fastening device of wire or other non-combustible attachment,
  - metal embossed tags,
  - ceramic fiber embossed tags.
- **The label is not intended to survive a fire.**
- **Follow Manufacturers Instructions for Surface Prep**

Labeling – Identification Systems

- Labels shall be attached using mechanical fasteners or adhesive capable of permanently bonding to the surface on which labels are placed either the penetrating item or to the assembly.

Penetration & Joint Labeling – Identification Systems

- Labels shall be of the following types:
  - Paper Strips with adhesive
  - Vinyl strips with adhesive
  - Paper/Vinyl strips with adhesive, destroyed upon tearing
  - Composite plastic material strips with adhesive
- Metal with paper or plastic tag adhered.
- Metal adhered to wall or horizontal assembly.

Penetration & Joint Labeling – Identification Systems

- Hanging or Mechanically Attached Tags
  - Paper tags
  - Ceramic fiber tags
  - Metal with paper or vinyl tag adhered
  - Galvanized sheet metal tags
  - Stainless steel tags

Joints Labeling – Identification Systems

- **Identification – Electronic Identification**
  - Electronic label records can be the same as labels in section 4 and 5.
  - The electronic label shall, at a minimum, include the information in 9.2.2.

Labeling – Identification Systems

- The firestop contractor shall be supplied with a current life safety plan …
  - Fire walls
  - Fire barriers
  - Fire partitions
  - Smoke barriers
  - Smoke partitions
  - Fire separations (Canada)

Affinity Firestop Photo

Labeling – Identification Systems

- If no life safety plans are available with hourly rated wall assemblies…
  - Firestop contractor requests life safety plan be developed & provided.

- The evaluation can consist of portions of buildings, rather than the complete building.

Labeling – Identification Systems

- When required by specification or code, Firestop Systems, EJ's or EFRRA's applied to treat breaches, holes, gaps, joints, intersections, combustible penetrating items, in fire-resistance rated or fire-resistance rated and smoke-resistant walls or only smoke-resistant walls, fire-resistance-rated and smoke-resistant horizontal assemblies shall be provided with identification.

- Firestop System, EJ or EFRRA information shall be readable and legible print, handwritten, or pre-printed, either with permanent ink, or provided in a format read by an electronic device with the following information noted:

Labeling – Identification Systems

- Minimum wording of label shall consist of the following:
- System Number or Engineering Judgement (EJ) or Equivalent Fire Resistance Rated Assembly (EFRRA) number.
- NOTE: Manufacturers Materials used generally are listed in the as-built documentation provided by the firestop contractor.
- Date of Installation
- Installing Company Name, Contact Information.
- Installing Individual Identifier – Name, employee number, etc.
- **NOTE 3:** This could be the person's initials, employee number, or First and Last Name, or other option.
  - Manufacturer Company Name of the Firestop System:
  - "Warning - Firestop System - Do Not Remove or Tamper".
- **NOTE 4:** The firestop contractor company name, words 'Do not Tamper, Remove, Enter, can also be added to the warning contact information, as an option.
  - Information includes fire-resistance rating or smoke resistant properties of the firestop system, EJ or EFRRA used.

Labeling – Identification Systems

- Information includes fire-resistance rating or smoke resistant properties of the firestop system, EJ or EFRRA used.
  - **NOTE 5:** Optional information includes
    - Location description
    - Room number
    - Product used
    - …..Blank area for subsequent modifications to the assembly.

  - **NOTE 6:** The label can be pre-printed or handwritten with permanent ink. Handwriting to be legible.

Labeling – Identification Systems

- Information includes fire-resistance rating or smoke resistant properties of the firestop system, EJ or EFRRA used.
  - **NOTE 7:** Labels might be required to be numbered by specification or FM 4991, Standard for the Approval of Firestop Contractors, when FM Labels are required.
  - **NOTE 8:** Firestop Contractors might also add to the identification device that a visual inspection of the visible firestop assemblies is required yearly by the International Fire Code, or other codes.

Labeling – Identification Systems

- **Location of Identification Device**
  - **Permanently Attached to an Assembly.**
  - **Horizontal Assemblies –** Locate the identification device within 6” (150mm) of the penetration firestop system edge, on top of the assembly, unless the firestop system is an underside application.
  - **NOTE 9:** Attachment of identification device is not allowed to be attached to the firestop material.

Labeling – Identification Systems

- **NOTE 10:** Blank openings should be adhesive only applications.
  - Vertical –
  - **Locate the identification device within 6” (150mm) of the penetration firestop system edge.**
  - The edge means either above, below or beside the penetrating item.
  - The identification device shall not be located above the penetrating item allowing review of the assembly from below.
  - Both sides of the assembly shall have identification device, if firestop is applied to both sides.
- **NOTE 11:** Attachment of identification device is not allowed to be attached to the firestop material.
- **NOTE 12:** Blank openings should be adhesive only applications.


DO NOT REMOVE
Affinity Firestop Photo

Labeling – Identification Systems

- **NOTE 11:** Attachment of identification device is not allowed to be attached to the firestop material.

- **NOTE 12:** Blank openings should be adhesive only applications.

Labeling – Identification Systems

- **Multiple penetrations**
- Horizontal Assemblies –
  - For groupings of individual penetrations with same firestop system, locate one identification device directly centered under or beside the systems within 6”, (150mm) of the penetrations.

- Vertical –
  - For groupings of individual penetrations with same firestop system, locate one identification device directly centered under or beside the systems within 6”, (150mm) of the penetrations, on both sides of the assembly, if firestop is applied to both sides.

Labeling – Identification Systems

- Horizontal Assemblies and Vertical Attachment
  - Where the assembly is porous, use liquid adhesive to maintain adhesion of the label to the assembly or an identification device hung from the penetrating item.
  - **NOTE 13:** Assemblies might include concrete, concrete block and some gypsum assemblies….

Labeling – Identification Systems

- **Permanently attached to the penetrating item**
  - Locate the identification device on the penetrating item within 6” (150 mm) of the firestop system. This application shall be limited to penetrating items with enough outside diameter to allow a legible adhered label that does not overlap itself and cover identification information.
  - **NOTE 14:** Small penetrating items might not allow the identification device to be adhered and wrapped around the penetrating item.
  - **NOTE 15:** Electrical outlet or switch boxes where firestop pads are used might have the identification device attached to the firestop material.

Labeling – Identification Systems

- **Hung from the penetrating item with a permanent wire, string tied or plastic tie around the penetrating items.**
  - Horizontal Assemblies – Locate within 6”, (150 mm) of the assembly, on the top of the horizontal assembly. Where the firestop is applied from the underside of the assembly, locate the label on the underside.
  - **NOTE 16**: A label might be installed on the top side, as well, to draw attention to the bottom sided installation.
  - Vertical – locate within 6” (150 mm) of the assembly with the identification device hanging where it is visible. The identification device is to be hung on both sides of the assembly, if firestop is applied to both sides.

Labeling – Identification Systems

- **Joint lengths**
  - Horizontal and Vertical Assemblies
  - The identification device **shall be located every within 15’ (4572 mm)** of the end of each wall and at intervals not exceeding 50’ measuring horizontally along the wall or partition. The identification device shall be located within 6”, (150mm) of the fire-resistance rated joint assembly.

Labeling – Identification Systems

- **Joint lengths**
- **NOTE 17:** The head of wall joint identification devices are to not conflict with the wall assembly rating marking system that might be required by the codes.

- Vertical Assemblies – In addition to 8.3.4.1, identification device is to be applied to both sides of the assembly, if firestop is applied to both sides.

Labeling – Identification Systems

- **Sequencing**
  - CURRENT:
  - Identification devices shall be installed before the firestop inspection commences in all areas where firestopping is installed, including concealed spaces.

  - **Changed in 2019:**
  - Identification devices shall be installed immediately following the firestop system installation, and before starting the next installation, ~~before the firestop inspection commences~~ in all areas where firestopping is installed, including concealed spaces.

Labeling – Identification Systems

- **Quality Control – How do we know it's right?**
  - **Great Contractor**
    - **FM 4991 & UL Qualified Firestop Contractor**
  - **Great Inspection**
    - **Destructive & Visual Inspection**
    - **IAS AC291 Accredited Special Inspection Agency**
  - **FCIA Member…**

Labeling – Identification Systems

- **Why?**
  - **Does the installation meet requirements?**
  - **What Manufacturer's Material was installed?**
  - **What Listing was used?**
  - **Who was the installing contractor?**
  - **Which employee Installed the Material?**

National Fire Protection Association - NFPA 101

- **4.6.12 Maintenance, Inspection, and Testing.**
  4.6.12.1 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or any other feature is required for compliance with the provisions of this *Code*, such device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or other feature *shall thereafter be continuously maintained…* in accordance with *applicable NFPA requirements* ….
- **[101:4.6.12.1, emphasis added]**
- **Maintain without SYSTEM NUMBER??**

National Fire Protection Association - NFPA 101

- **4.6.12.2** No existing life safety feature *shall be removed or reduced* where such feature is a requirement for new construction.
- **4.6.12.3*** Existing life safety features obvious to the public, if not required by the Code, *shall be either maintained or removed*.
- [101:4.6.12.3]

National Fire Protection Association - NFPA 101

- **4.6.12.4** Any device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or any other feature requiring periodic testing, inspection, or operation to ensure its maintenance *shall be tested, inspected, or operated* as specified elsewhere in this *Code* or as directed by the AHJ.

- **Inspect without SYSTEM NUMBER??**

National Fire Protection Association - NFPA 101

- **4.6.12.5** Maintenance, inspection, and testing *shall be performed under the supervision of a responsible person who shall ensure* that testing, inspection, and maintenance *are made at specified intervals* in accordance with applicable NFPA standards or as directed by the AHJ.

National Fire Protection Association - NFPA 1-2018

- **12.2* Construction.**
- 12.2.2 Fire safety construction features for new and existing occupancies shall comply with **this Code and the referenced edition of NFPA 101.**
- **12.3 Fire-Resistive Materials and Construction.**
- 12.3.1 The design and construction of fire walls and fire barrier walls that are required to separate buildings or subdivide a building to prevent the spread of fire shall comply with Section 12.3 and NFPA 221.

National Fire Protection Association - NFPA 1-2018

- 12.3.3* Maintenance of Fire-Resistive Construction, Draft-Stop Partitions, and Roof Coverings.

12.3.3.1 Required fire-resistive construction, including fire barriers, fire walls, exterior walls due to location on property, fire-resistive requirements based on type of construction, draftstop partitions, and roof coverings, *shall be maintained and shall be properly repaired, restored, or replaced where damaged, altered, breached, penetrated, removed, or improperly installed.*

Maintain, Repair without SYSTEM NUMBER??

National Fire Protection Association - NFPA 1-2018

- 12.3.3.2 Where required, **fire-rated gypsum wallboard** walls or ceilings that are damaged to the extent that through openings exist, the damaged gypsum wallboard shall be **replaced or returned to the required level of fire resistance using a listed repair system or using materials and methods equivalent to the original construction.**
- **12.3.3.3 Where readily accessible, required fire-resistance rated assemblies in high-rise buildings shall be visually inspected for integrity at least once every 3 years.**

National Fire Protection Association - NFPA 1-2018

- 12.3.3.3.1 The person responsible for conducting the visual inspection shall demonstrate appropriate **technical knowledge and experience in fire-resistance-rated design and construction** acceptable to the AHJ.
- **12.3.3.3.2 A written report prepared by the person responsible for conducting the visual inspection shall be submitted to the AHJ documenting the results of the visual inspection.**

2015 International Fire Code Maintenance

SECTION 703
FIRE-RESISTANCE-RATED CONSTRUCTION

703.1 Maintenance. The required *fire-resistance rating* of fire-resistance-rated construction, including, but not limited to, walls, firestops, shaft enclosures, partitions, *smoke barriers*, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems, shall be maintained. Such elements **shall be visually inspected by the *owner* annually and properly repaired, restored or replaced where damaged, altered, breached or penetrated**. **Records** of inspections and repairs shall be maintained..

Maintain without SYSTEM NUMBER??

2015 International Fire Code Maintenance

SECTION 703
FIRE-RESISTANCE-RATED CONSTRUCTION

703.1 Maintenance. (continued) Where concealed, such elements shall not be required to be visually inspected by the *owner* unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling tile or similar movable entry to the space. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason **shall be protected with *approved* methods** capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of *approved* construction meeting the fire protection requirements for the assembly.

Protected to approved methods without SYSTEM NUMBER??

2018 International Fire Code

- ***701.1 Scope.*** The provisions of this chapter shall govern the **inspection and maintenance of the materials, systems and assemblies used for *structural fire resistance*, *fire-resistance rated* construction separation of adjacent spaces** and construction installed to resist the passage of smoke to safeguard against the spread of fire and smoke within a building and the spread of fire to or from buildings. New buildings shall comply with the *International Building Code*. **[IFC 2018]**

2018 International Fire Code

- **701.6 Records of inspections and repairs** shall be maintained. Where concealed, such elements shall not be required to be visually inspected by the *owner* ***unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling*** **tile** or similar movable entry to the space.

- **Inspections & Repairs without SYSTEM NUMBER??**

[IFC 2018]

2018 International Fire Code INVENTORY REQUIRED…D1

- **701.6 Owner's responsibility. The owner shall maintain an inventory of all required *fire-resistance-rated and smoke resistant*** construction, and the construction included in Sections 703 through 707 and such construction shall be visually inspected by the *owner annually and properly repaired, restored or replaced where damaged, altered, breached or penetrated.*

- **Inventory = SYSTEM NUMBER, Manufacturers Installation Instructions, SDS, etc.**

[IFC 2018]

UAE Fire and Life Safety Code of Practice
Maintenance & Management

Chapter 1, SECTION 21
Firestopping

21.15.2 The required fire resistance rating of installed firestop systems shall be *visually inspected by the owner or owner's inspection agency annually.* Damaged, altered or breached firestop systems shall be properly repaired, restored or replaced to comply with applicable codes as per the guidelines of Civil defense.

21.15.3 Any new Openings made therein for the passage of through penetrants, shall be protected with approved firestop system to comply with applicable codes as per the guidelines of Civil defense.

Maintain without SYSTEM NUMBER??

National Fire Code of Canada

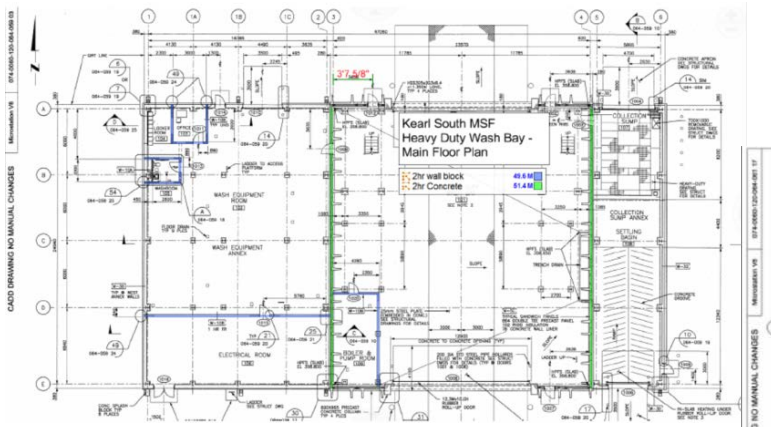
National Fire Code of Canada

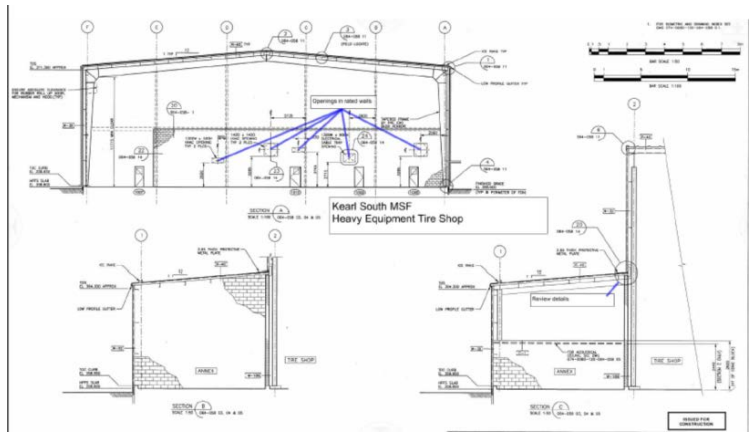
- ***Division B – Part 2, Building and Occupant Fire Safety***

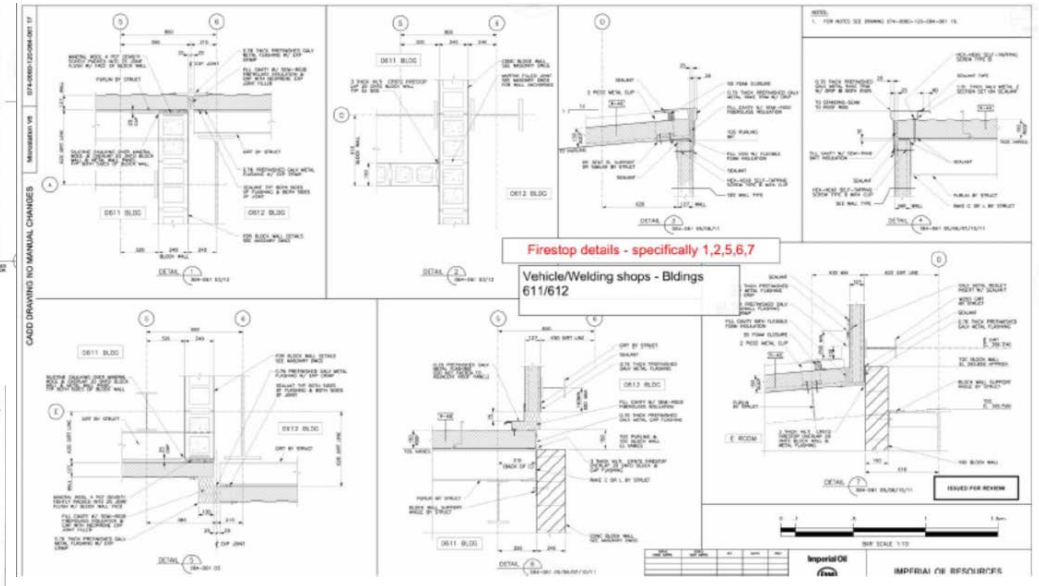
  2.2.1.2 – Damage to Fire Separations – where *fire separations* are damaged so as to affect their integrity, they shall be repaired so that the integrity of the *fire separation* is maintained…

- **Maintain without SYSTEM NUMBER??**

Firestopping & Compartmentation for Safety







FCIA @ Webinar Series
Identification Systems - Labeling

Bill McHugh
FCIA Executive Director
Bill@FCIA.org
Slides – www.FCIA.org