

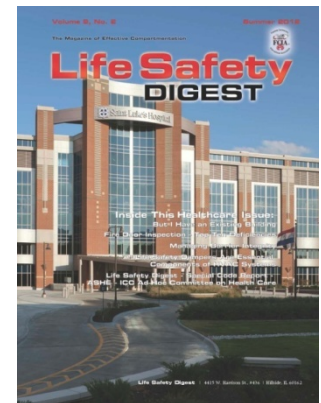
FCIA Best of 2017

Bill McHugh, FCIA
Executive Director
Bill@FCIA.org



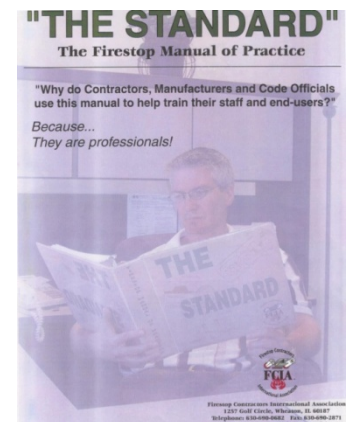
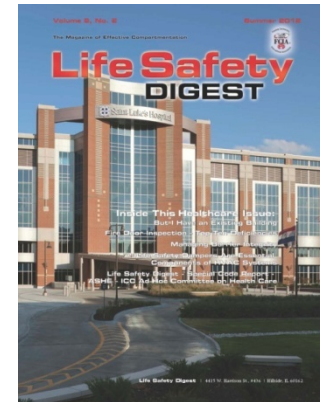
FCIA – Worldwide Association

- Firestop Contractors, Manufacturers, Consultants, Reps, Distributors,
- Life Safety Digest
- FCIA Website Resources - FREE
- FCIA MOP on PDF FREE to Specifiers, Architects, Governmental Bldg./Fire Officials, worldwide..
- www.fcia.org



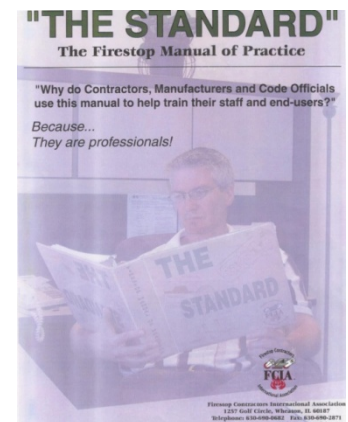
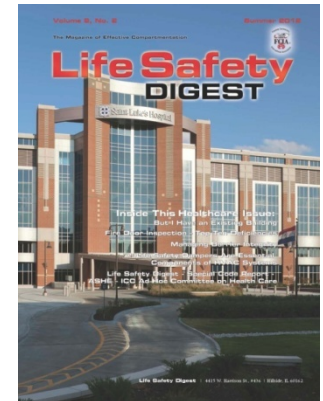
FCIA – Worldwide Association

- Networking
 - FCIA Conferences, Symposiums
- Education & Exposure
 - FCIA MOP, FREE Updates
 - Life Safety Digest
 - Education for FM & UL Exams, FM 4991, UL QFC & IAS AC 291
 - Management System Manual Template
 - FCIA Survey Practice



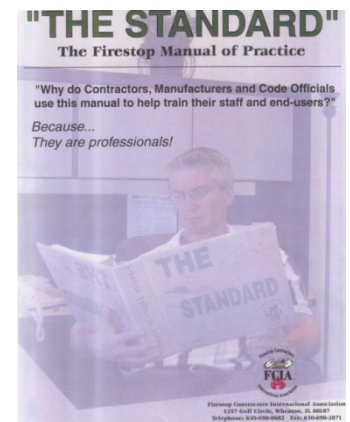
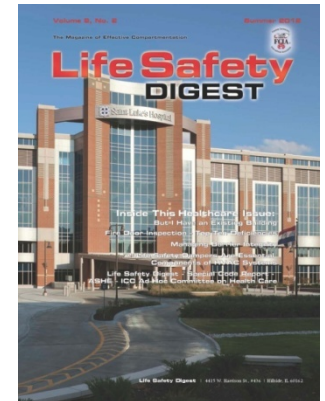
FCIA Member Benefits

- Advocacy – Writing, Speaking, Website
 - Specifiers & Architects
 - Code Development
 - Building Code Officials
 - Fire Marshals
 - Standards Development
 - ASTM & UL
- 3rd Party Accredited Organizations, Verified Knowledge
 - Companies & Individuals



FCIA Member Benefits

- Advocacy – Build an Industry
 - Firestop Containment Worker Education
 - Firestop Special Inspection & FM/UL Exams
 - NAICS Code for Firestopping -
 - O-Net Classification
 - ASHE/UL/TJC/FCIA Barrier Management Symposiums
 - Trade Shows
 - Presentations
 - Articles in Magazines

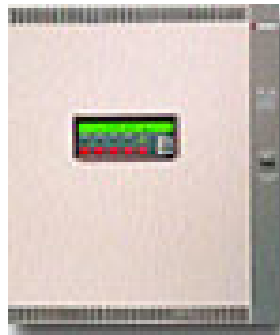


Objective – Keep Buildings Safe

- Barriers & Fire Separations are for Safety – DIIM
 - Properly **Designed** and Specified
 - **Tested and Listed Systems** – Directories, Tables
 - *Specified by RSW, CCS, Professionals*
 - Professional **Installation** Companies
 - Accredited – Workers Educated
 - Properly **Inspected** –
 - Companies, Individuals with Competence
 - **Maintained** –
 - NFPA 101 - 2012 (TJC, CMS)
 - International Fire Code – IFC '09, '12, '15...'18
 - Annual Inspection (Survey), DOCUMENTATION
- **Effective Compartmentation for Fire & Life Safety**

“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



Continuity

Effective Compartmentation Features



Building & Fire Code Requirements

- Fire Barriers
- Fire Walls
- Fire Partitions
- Smoke Barrier
- Smoke Partitions
- Fire Separations (CAN)
- Horizontal Assemblies

Building & Fire Code Requirements

- Smoke Barriers
 - Healthcare
 - Other Occupancies
- NFPA 101 – Smoke Resistance & Firestops
 - Ch. 8 NEW Addition
 - NOT in Occupancy Chapters yet
- IBC – Ch. 7
 - Quantified L Rating for Firestops

Building & Fire Code Requirements

- Compartmentation Codes – US
 - **Smoke Barrier – Firestopping for Continuity**
 - IBC – Hourly Rated, “L” Rating
 - <5cfm/sf (IBC 2006)
 - < 50 cfm, 100sf of Wall Area (IBC 2009)
 - **NFPA – ... ‘restricting the passage of smoke’...
no quantified “L” Rating ... YET**
 - 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*....
- If smoke - “L RATING”

Barrier Continuity SYSTEMS

- **Products Become Systems – Spec 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
- **SYSTEM Testing = Suitability statement for use of a product in a specific system application**



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**



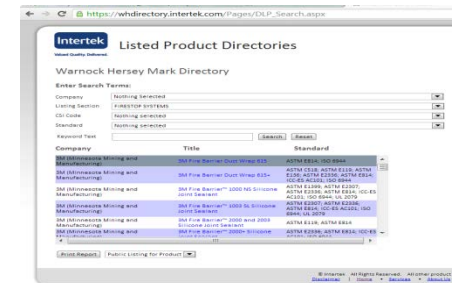
Graphics – 3M



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*
- ***Manufacturer state, ‘This EJ/EFRRRA will pass a fire test according to ASTM E 814, ASTM E 2307, ASTM E 1966, UL 1479, UL 2079, etc.***

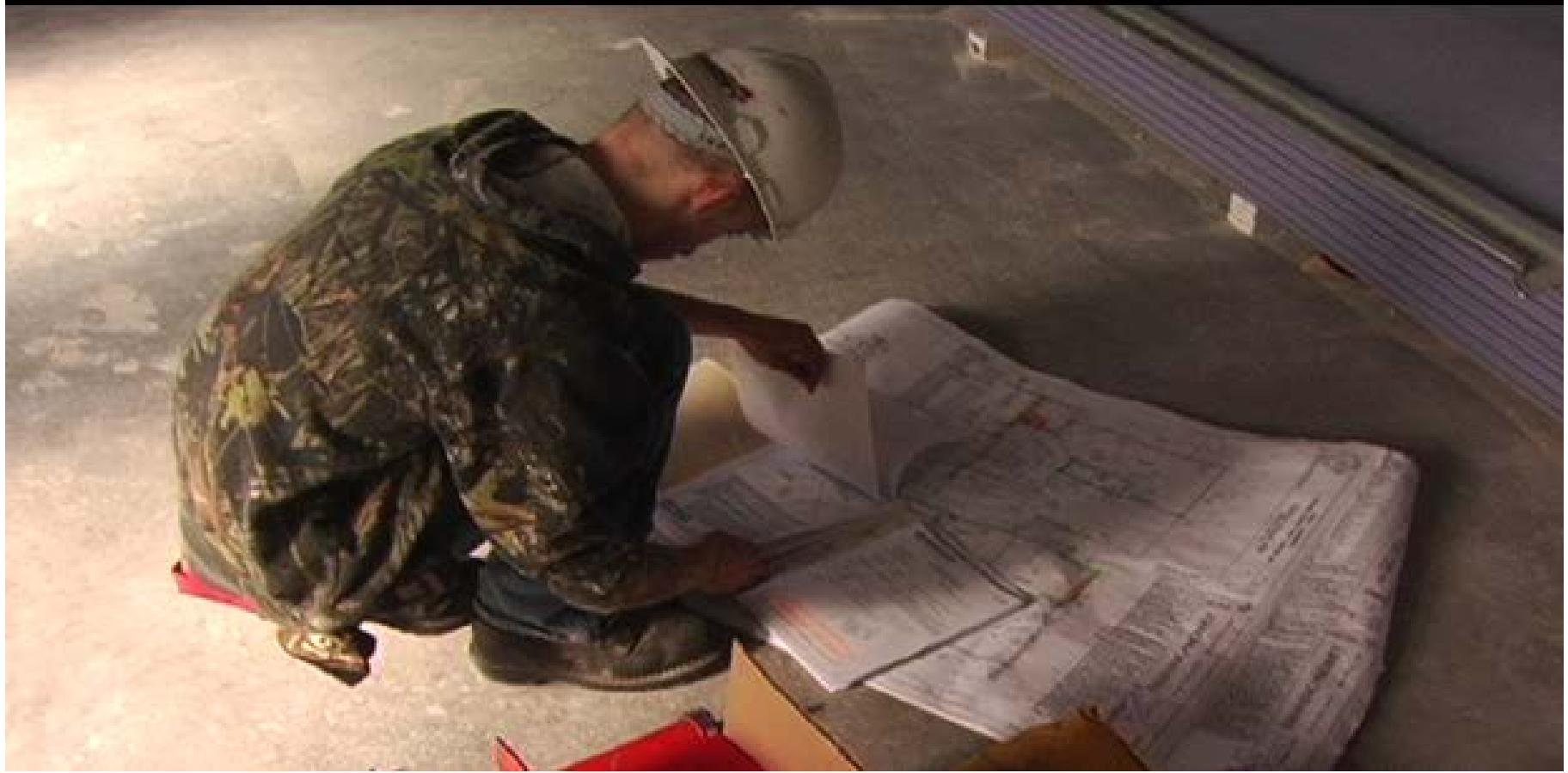
IFC Guidelines for Evaluating Engineering Judgment Guidelines

‘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*.

Barrier Continuity

I – Installation – Listed Systems



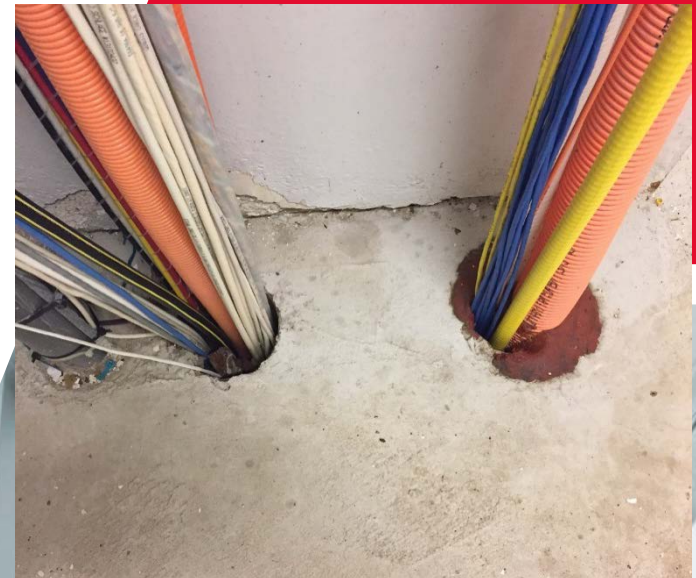
What we See in the Field

Some are Really Not Pretty



What we See in the Field

Some are Not Pretty



What we See in the Field

Some are Really Not Pretty



What we See in the Field

Some are Absolutely Perfect



From a Construction Stand- point:

As a GC, We Should Try To:

- **Use Reputable Companies**
 - **Only One when Possible**
- Obtain the Proper Live Load Deflection for
- Proper Head of Wall Installations
- Include Spec Requirement for Fire Stopping
- Pre-installation Meeting Reviewing Stopping Conditions and Confirm are Complete.



Fire
the Submittals

Contractor Qualifications?

- **FM 4991 – Standard for the Approval
of Firestop Contractors**
- **UL & ULC Qualified Firestop Contractors**
- **Other Industries...???**

What Contractor Qualifications?

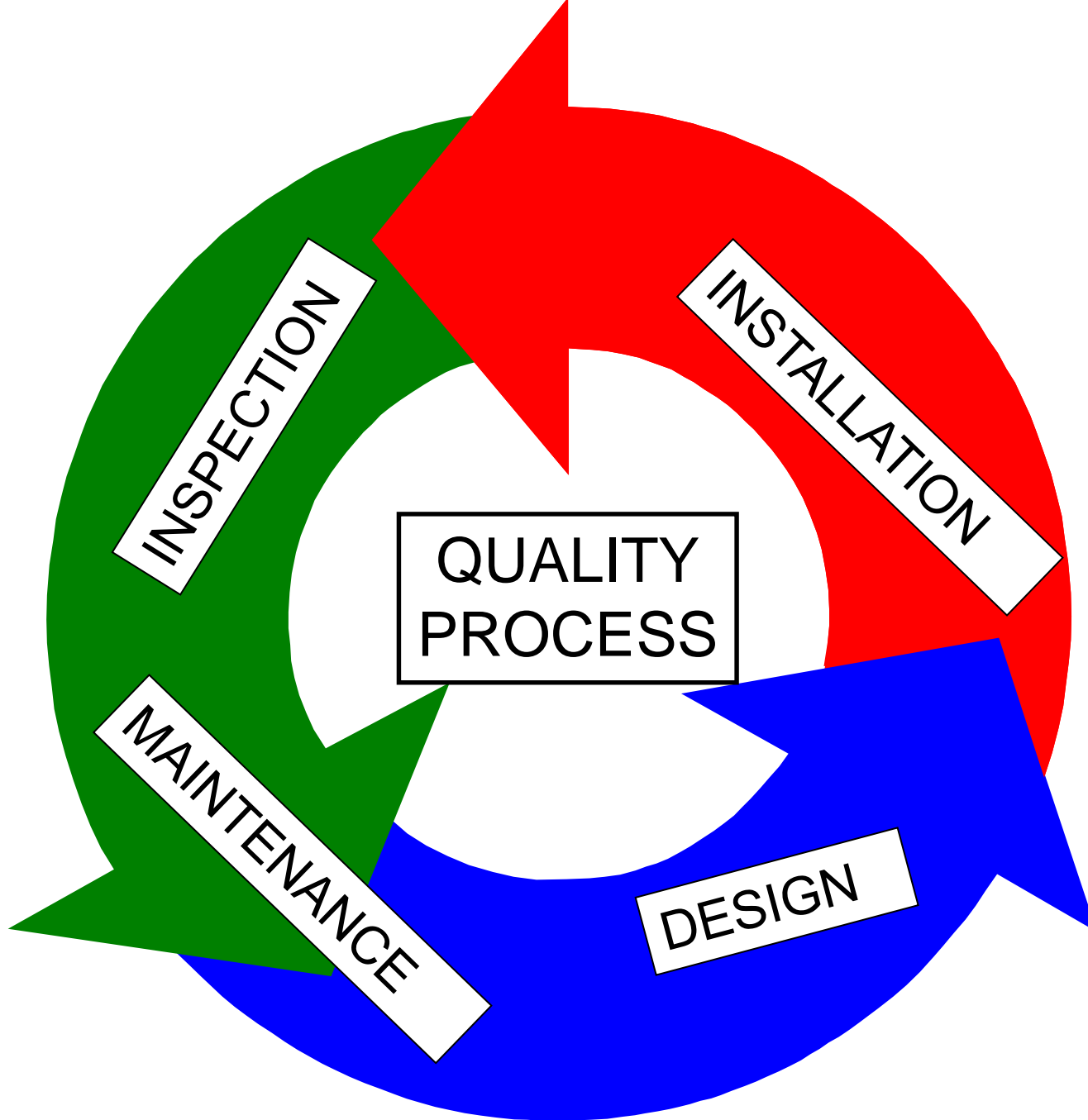
- **FM 4991/UL CONTRACTORS UNDERSTAND**
 - Tested and Listed Systems, EJ's-EFRRRA's
 - Barrier Management
 - **SYSTEMS & DOCUMENTATION**

UL QFC & FM 4991 = Success

- Individual Passes Exam
- Management System (MS)
- Audit of MS
 - **1.0 Construction Document Requirements and Review**
 - **2.0 Procurement of Firestop Materials**
 - **3.0 Storage, Handling, Preservation and Delivery**
 - **4.0 Installation, Application and Field Quality Assurance Procedures**
 - **5.0 Inspection, Testing and Calibration**
 - **6.0 *Control of Nonconforming Firestop Materials and Systems**
 - **7.0 Training and Qualification of Staff**
 - **8.0 *Corrective/Preventive Action**
 - **9.0 Management System Monitoring and Improvement**
 - **10.0 *Documentation and Record Keeping**

What's NEW in Contractor Qualifications?

- **Fire-Resistance, Firestopping**
 - Built right the first time...
 - Documentation
- **SYSTEMS Selection, Analysis, As-Builts, Documents**
 - F, T, L, W Rated Systems
 - Tolerances - Annular Space Sizes, Angles
 - Gap Sizes - Undercuts - Framing
 - Anchors - Spacing – Hardware
 - Closers - Activation Sensors, more...



I – Inspection – Options

- **Contractor Self Inspection**
 - Verify Management System validity
- **Manufacturer Inspection?**
 - Does not exist ... Survey, maybe
- **Special Inspection/Commissioning**
 - Independent 3rd Party
 - Destructive, Non Destructive
 - Specified Frequency
 - Inspection Agency Accreditation – IAS AC 291

I – Inspection – Inspection Agency

- **Company takes business & operational risk**
- **Company has procedures**
- **Company hire inspectors**
- **Records stay with Company**
- **Company is Accredited**
 - **IAS AC 291, Other Accreditations (Mgmt. System)**
- **Individual proves competence**
 - **FM & UL, IFC Firestop Exams = proof**

I – Inspection – Code Requirements

Definitions

[A] APPROVED AGENCY. An **established and recognized agency** regularly engaged in conducting tests or furnishing inspection services, when such agency has been *approved*. [IBC 202. Definitions]

[A] APPROVED. Acceptable to the *building official* or authority having jurisdiction.

[IBC 202 Definitions]

I – Inspection – Code Requirements

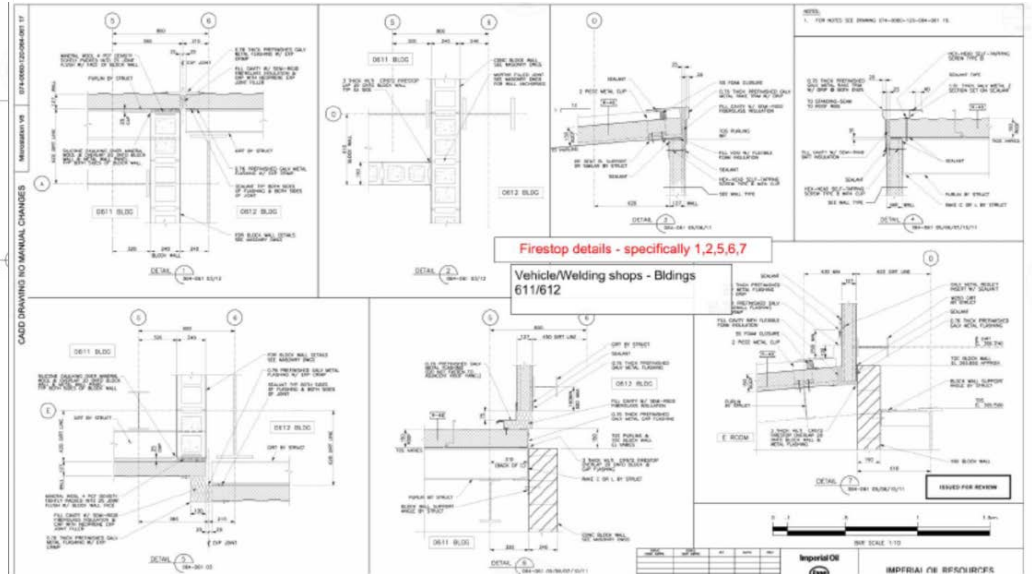
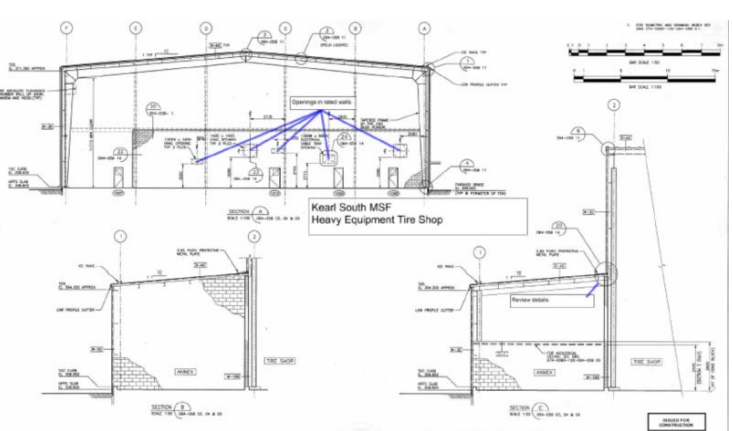
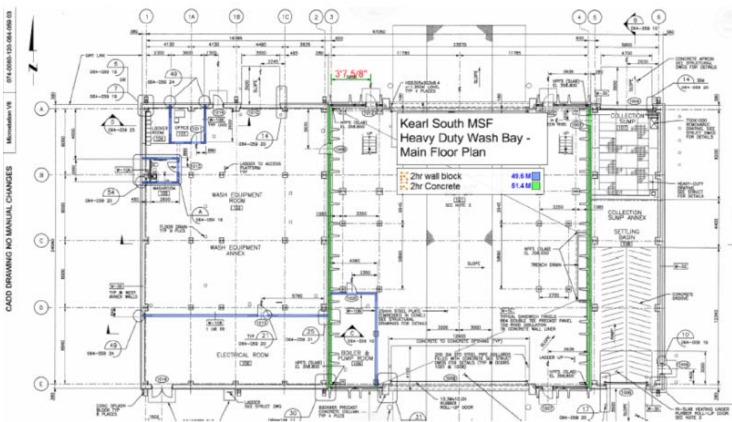
SPECIAL INSPECTOR. A qualified person **employed or retained by an *approved* agency** and *approved* by the *building official* as having the competence necessary to inspect a particular type of construction requiring *special inspection*. [IBC 202. Definitions]

Firestop Installation & Inspection

- ASTM E 2174/ ASTM E 2393 –
“Inspection Process”



Compartmentation for Safety



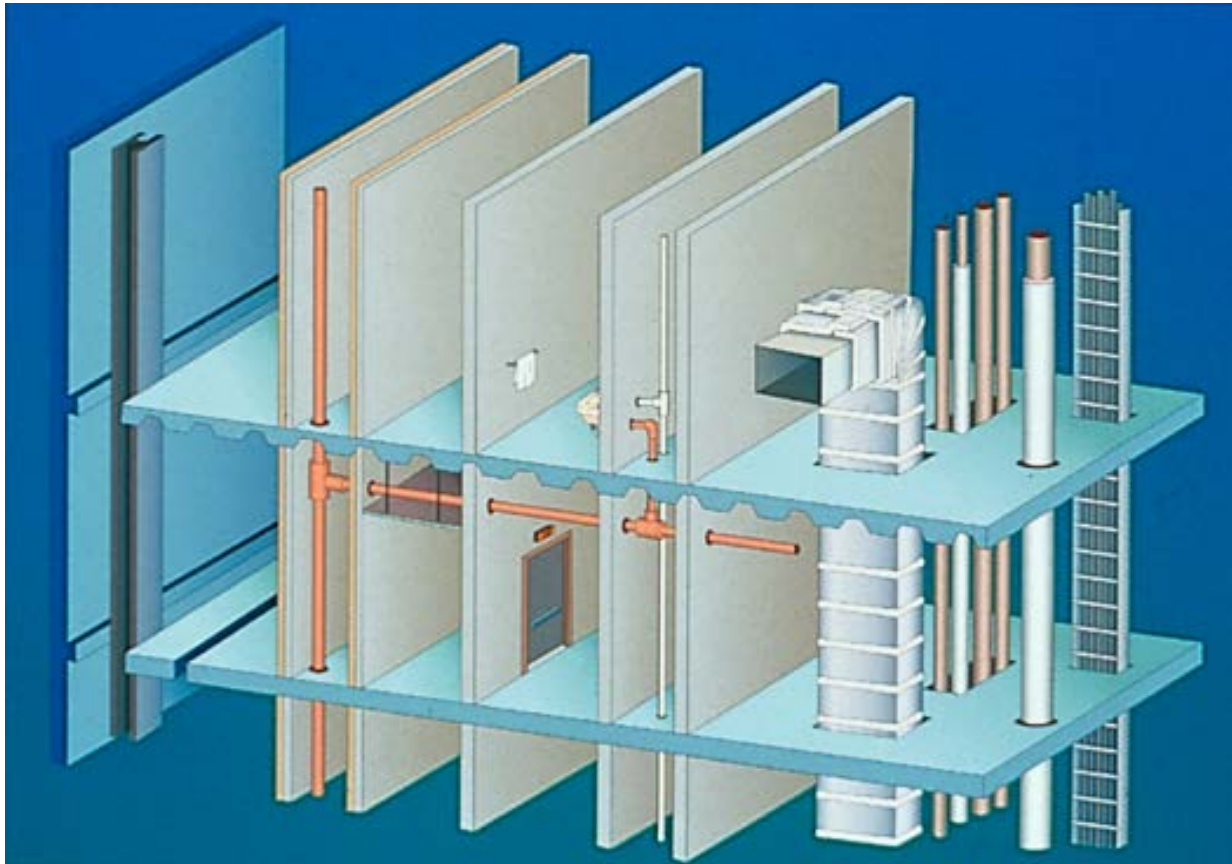
Barrier Management

FCIA Barrier Management Series

Barrier Management Policies



M – Maintenance (& Management)



Fire Code Requires Fire & Smoke Resistance Maintenance

- **International Fire Code**
- **NFPA 101**
- **National Building Code of Canada**
- **UAE Fire and Life Safety Code of Practice**

- **Minimum Requirements Stated**

- **Frequency**

National Fire Protection Association - NFPA 101-2012

- **SECTION 4.5.8 Maintenance, Inspection, and Testing.**
- **4.5.8.1** **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 or requirements developed as part of a performance-based design, or as directed by the AHJ.
[101:4.6.12.1]

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..**



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.



2015 International Fire Code Maintenance

SECTION 703

FIRE-RESISTANCE-RATED CONSTRUCTION

703.1 Maintenance. (continued) 703.1.1 Fireblocking and draftstopping. Required *Fireblocking* and draftstopping in combustible concealed spaces shall be maintained to provide continuity and integrity of the construction.

703.1.2 Smoke barriers and smoke partitions. Required *smoke barriers* and smoke partitions shall be maintained to prevent the passage of smoke. Openings protected with *approved* smoke barrier doors or smoke dampers shall be maintained in accordance with NFPA 105.

703.1.3 Fire walls, fire barriers and fire partitions. Required *fire walls, fire barriers* and *fire partitions* shall be maintained to prevent the passage of fire. Openings protected with *approved* doors or fire dampers shall be maintained in accordance with NFPA 80.



M–Barrier Management Systems

F113-16 – Fire Resistance-NEW

- **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 = DOCUMENTATION***

M–Barrier Management Systems

F113-16 – Fire Resistance-NEW

- **703.1 ... Continued. PC 1**

The materials and firestop systems shall be securely attached to or bonded to the construction being penetrated with no openings visible through or into the cavity of the construction. Where the system design number is known, the system shall be inspected to the listing criteria and manufacturer's installation instruction.

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.

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...

- **FCIA 2020 Proposals – Jim Smiley, Canada Code Committee**

- Annual Survey – NEED PICS...Committee is doubting.
- Inspection to ASTM E 2174, ASTM E 2393
- More....



M–Barrier Management Systems Starts with CONSTRUCTION

- **NEW Buildings – 07-84-00 Specs**
 - www.FCIA.org
- **Part II – Qualifications – “Installer/Contractor”**
 - FM 4991, Standard for the Approval of Firestop Contractors
 - UL/ULC Qualified Firestop Contractor
- **Part II – Qualifications – Special Inspection**
 - **Special Inspection Agency –**
 - IAS AC 291 Accredited Special Inspection Agencies
 - **Special Inspector Qualifications**
 - FM Firestop Exam
 - UL Firestop Exam
 - AND
 - IFC Exam – ASTM E 3038

M–Barrier Management Systems Starts with CONSTRUCTION

- **NEW Buildings – 07-84-00 Specs**
 - [www. FCIA .org](http://www.FCIA.org)
- **FM Data Sheet 1-22 – MFL Walls**
- **Recommends For FM Insured Buildings....**
 - **‘FM 4991 Approved Firestop Contractors’**

FM Approved Contractors

Year	No. of Locations	No. of DRIs
2000	0	0
2002	13	15
2004	18	24
2006	43	59
2008	54	81
2010	80	117
2012	100	148
2014	106	153
2015	103	165
2016	99	153
2017 (Oct)	99	143

FM Approved Contractors





The FCIA's mission is for member organizations to be recognized throughout the construction industry as preferred quality contractors of life safety firestop systems. [Join FCIA Today!](#)



Looking for a Firestop Professional? For the best Firestop Contractors, Associates, Manufacturers, Consultants, Distributors, Reps and more, [FCIA.org Member List](#) is the place for you. From Firestopping Contractors to Special Inspection Agencies, Firestop System Manufacturers to Firestop product Distributors, FCIA Members have the expertise you need. Also, check out the [FM 4991 Approved & UL Qualified Contractors Map](#).

FCIA Knows Firestop Systems

Design, Installation, Inspection, Maintenance & Management

FM/UL Coverage Map

Service Coverage Locations of FM 4991 Approved and/or UL-ULC Qualified Firestop Contractors

(Scroll down for FM 4991 and/or UL Qualified Firestop Contractor Home Office Locations)



About Us

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Board / Committees

Member Services

Events

Barrier Management Symposiums

Member Lists

FM 4991 Approval

UL Qualification

Inspection Firm Accreditation

FM and UL/ULC Firestop Exams

Insurance

Feedback

Membership

Members Only

Merchandise

Resources

Life Safety Digest

07840 Specification

Newsletters

Publications / MOD



M–Barrier Management Systems Starts with CONSTRUCTION

- **NEW Buildings – 07-84-00 Specs**
- **Part III – Execution**
 - **Special Inspection**
 - **ASTM E 2174 - Penetrations**
 - **ASTM E 2393 - Joints**

M–Barrier Management Systems Starts with CONSTRUCTION

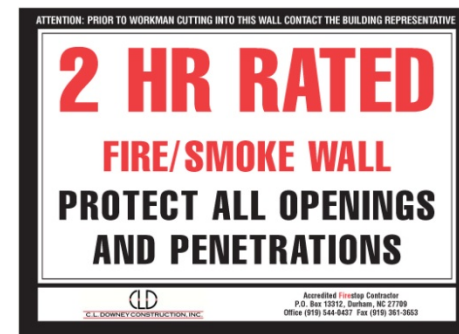
- **Reference 01-78-00 Closeout Submittals**
 - **01 78 13 Completion and Correction List**
 - **01 78 19 Maintenance Contracts**
 - **01 78 23 Operation and Maintenance Data**
 - **01 78 23.13 Operation Data**
 - **01 78 23.16 Maintenance Data**
 - **01 78 23.19 Preventative Maintenance Instructions**

M–Barrier Management Systems Starts with CONSTRUCTION

- **Reference 01-78-00 Closeout Submittals**
 - **01 78 29 Final Site Survey**
 - 01 78 33 Bonds
 - 01 78 36 Warranties
 - **01 78 39 Project Record Documents**
 - 01 78 43 Spare Parts
 - **01 78 46 Extra Stock Materials**
 - 01 78 53 Sustainable Design Closeout Documentation

Firestop Maintenance

- **Maintenance**
 - Code Required
 - How??
- **How to keep Track – Barrier Management Initiative**
 - Paper
 - Software
 - Labeling – Look for a code proposal on this...



Key Points – DIIM - Standards

- **FCIA 2008 Board of Directors**
- **Field Performance Issues**
 - **Shrinkage of Firestop Sealants**
 - **Movement of Penetrating Items/Assemblies**
 - **Aging of Firestop Products**

Key Points – DIIM - Standards

- **ASTM C1241 Added –**
 - Volume Shrinkage on Product Data Sheets
- **ASTM E 2174/2393 – Sealant Thickness Measurements taken where?**
 - Bond Line?
 - Middle?
 - Ask for Manufacturers Inspection Instructions
 - ASTM Votes?
- **ASTM E 3037 – Movement**
 - Fire Test Included
 - Ask for Manufacturers Statements
- **ASTM E 2923 - Aging Standard**

Key Points – DIIM - Standards

- **ASTM E 2174, 2393 –**
 - In 2012, 15, 18 IBC
- **IBC – Inspection Agency & Inspector Qualifications**
 - **ASTM E 3038 - Inspector Qualifications**
 - This standard is not recommended.
 - E3038 is not about the company, only individual.

Key Points – DIIM - Standards

- **ASTM E 2174, 2393 –**
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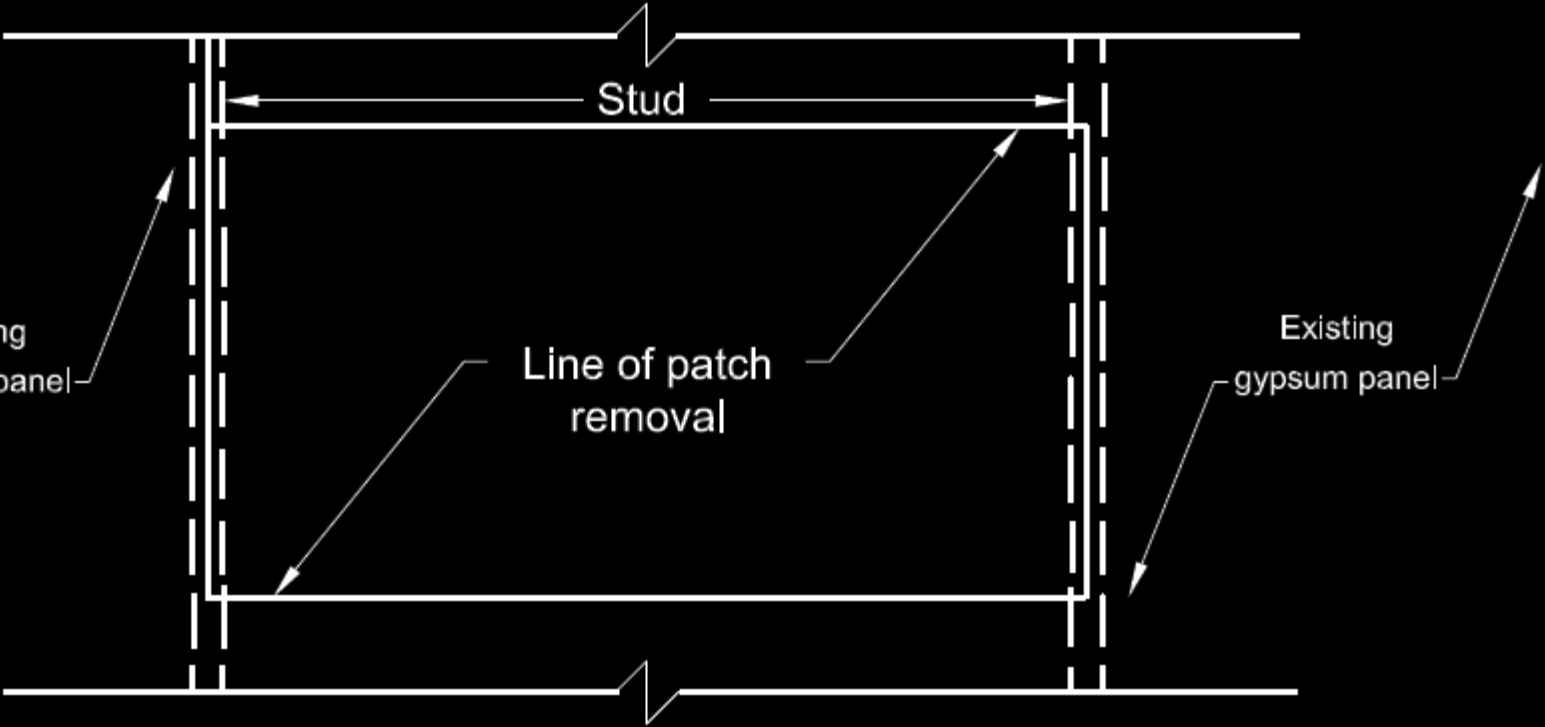
Key Points – DIIM - Code

- **Penetrations & Joints**
 - **Joints –**
 - **Removed, ‘install so as not to dislodge’**
 - **Pens and Joints**
 - **Added, ‘install to manufacturers installation instructions so as not to dislodge.’**

Key Points – DIIM - Code

- **Future...**
 - **Approved/Qualified Contractors**
 - **Maintenance Education**
 - **Identification Systems**
- **Others**
 - **Cladding**
 - **Tall Wood Buildings – Safety?**
 - **Joints**
 - **ASTM E2837**
 - **ASTM E2816**

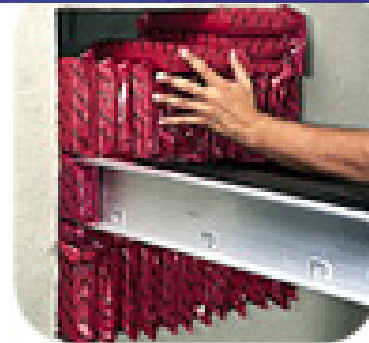
Gypsum Wallboard Repair Large Holes



Partial Elevation - 1

Firestopping for Continuity – NEW Products 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**



Key Points – DIIM - Code

- **Key things to Watch**

- Firestop Workforce Education
- More FM 4991 & UL QFC Contractors
- Both FM 4991 & UL QFC Growing
- FM & UL Firestop Exams for Inspectors too
- FCIA Travelling More, North America & Beyond
- ICC Codes January 8
- NBC Code Ongoing
- FCIA MOP Revisions Out Q1 2018
- More FCIA Education & Barrier Management Symposiums
- UAE Efforts
- India?
- UK & Europe?

Marketing & Accreditation @ Barrier Management Symposiums Over 1,000 Educated....

- | | | | | |
|--------|--------|----------|---------|------------|
| 2014 – | 2015 – | 2016– | 2017 – | 2018 – |
| • CO | • MN | • AR | • 1 TJC | • At least |
| • AL | • IN | • CHES | Central | 4 ... |
| • PA | • TN | • Videos | AZ, | |
| • CA | • ASHE | | MO/S.IL | |
| | Annual | | Chapter | |
| | Conf. | | ASHE | |



Membership Committee

- **Membership – Renewals @ 86%++**
- 1999 - 40 Members
- 2005 – 121 Members
- 2008 - 215 Members
- 2012 – 310 Members
- 2013 – 321 Members
- 2017 – 340 Members
- 2018 - ??
- 2023 - ??

Membership Committee

- **FCIA Membership – 340**
 - Contractors – 270
 - 40 Canada
 - 43 International -
 - Manufacturers - 20
 - Associates – 45
 - 21+ Inspection Agencies
 - 5 IAS AC 291
 - Friends/Retired - 5
- Renewals @ 87%



FCIA Membership

- Why is Member Retention 87% Overall ?
- Involvement...Relationships...Outreach
- 'FCIA On- Location Conferences'



Marketing Committee Trade Shows @ CSI & SCIP, ICC, AIA, ASHE NFPA Expos



Standards Committee

- ASTM E2174, ASTM E2393 Inspection Standards
 - Appendix describes FM & UL
 - ASTM Inspection in 2012 IBC – States, Jurisdictions
 - IAS AC 291 Accreditation Starting to Grow...
- UL Standards Technical Panel – Membrane Pens
- ASME Defeated



Code Committee

- ***Successes***
 - ***Firestop Inspection Standards in Code***
 - ***Fire Code – 703.1 to 701.62016, W/Others...***
 - ***‘Install so as not to dislodge’ to listing and manufacturers installation instructions’.***
 - ***Systems to Chapter 7***
 - ***Fire & Smoke Protection Features***
 - ***Healthcare Proposals***
 - ***Penetrations in stairwells***
 - ***Supported Others, where needed***
- ***IAPMO***
 - ***Removed “4 Years Journeyman Plumber to Install Firestopping”... from UPC 2009***

Membership & Marketing Canada Task Group

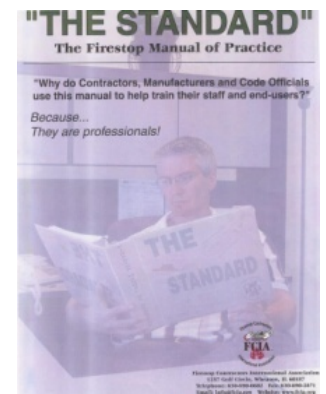
- Canada Task Group Visibility & Outreach
 - **Canadian Healthcare Engineering Society**
 - **Construction Specifications Canada**
 - **Construction Canada**
 - **RAIC, TIAC,**
- NRC-CNRC @ FCIA's Symposiums
- FCIA Education for ULC Firestop Exams
- FCIA @ NEW Canada National Master Spec
- FCIA French Spec @ FCIA.org

NRC - CNRC



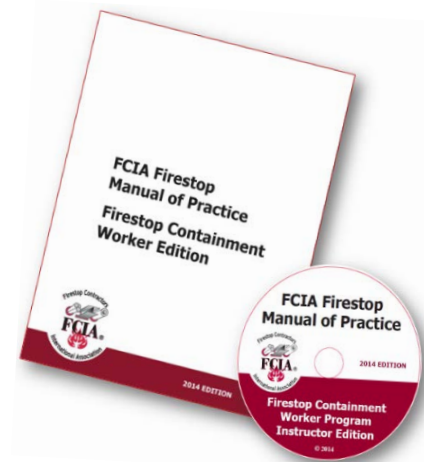
Technical, Education, Apprenticeship

- **MOP & Firestop Containment Worker Education**
 - FCIA Firestop MOP Firestop Containment Worker Edition - Electronic & Paper
 - **Books - \$95/each.**
 - **22 Powerpoint Presentations** with Speaker Notes
 - **22 Quizzes** for students
 - **FCIA Video** – Step by Step
- **Package Price @ \$1495/Members**
 - **DVD & FSCW Book**
 - **2018 Updates**



Workforce Education

- Instruction Guides – Outlines - Powerpoints....22
- Need an Instructor to Deliver
 - Recommend Models for Workers...



FCIA Firestop Containment Worker Chapters

- **3.0 Firestop Materials**
- 3.1 Forming, Damming, Packing Materials
- 3.2 Intumescent Latex Firestop Sealants
- 3.3 Intumescent Silicone Firestop Sealants
- 3.4 Latex Firestop Sealants
- 3.5 Silicone Elastomeric Firestop Sealants
- 3.6 Silicone Firestop RTV Foam
- 3.7 Ceramic Fiber Firestop Sealants
- 3.8 Firestop Spray Products

FCIA Firestop Containment Worker Chapters

- **3.0 Firestop Materials**
- 3.10 Field Fabricated Wrap Strips and Collars
- 3.11 Pre-Manufactured Firestop Collars
- 3.12 Pre-Manufactured Firestop Sleeves
- 3.13 Pre-Manufactured Cast in Place Firestop & Pre-Manufactured Firestop Units
- 3.14 Intumescent Composite Sheets
- 3.15 Firestop Boards

FCIA Firestop Containment Worker Chapters

- **3.0 Firestop Materials**
- 3.16 Intumescent Foam Bricks, Blocks, Plugs
- 3.17 Intumescent Pillows
- 3.18 Pre-Fabricated Intumescent MCT Electrical Firestop Devices
- 3.19 Open Path Electrical Firestop Devices
- 3.20 Mechanical Elastomeric Firestop Devices
- 3.21 Intumescent Putty

FCIA Firestop Containment Worker Chapter Content

- **Advantages**
- **Disadvantages**
- **Limitations**
- **Compatibility**
- **Storage**
- **Surface Preparation**
- **Storage Temperatures**
- **Application Temperatures & Conditions**

FCIA Firestop Containment Worker Chapter Content

- **Product Expiration / Expiry Dates**
- **Transport and Disposal**
- **Surface Preparation**
- **Installation**
- **Curing of Products, Shrinkage**
- **Self Review**
- **Tooling -**
- **Removing Tapes**

FCIA Firestop Containment Worker Chapter Content

- **Post Installation Inspection**
- **Flame Spread / Smoke Developed**
- **Sound Transmission Classes**
- **Service Temperatures**
- **Color**
- **Painting**
- **Clean Up**
- **F, T, L, W, H discussions**
- **Labeling**

FCIA Firestop Containment Worker Chapter Content

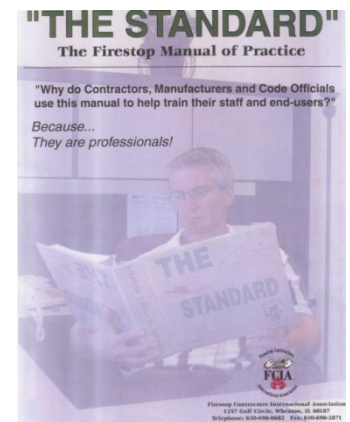
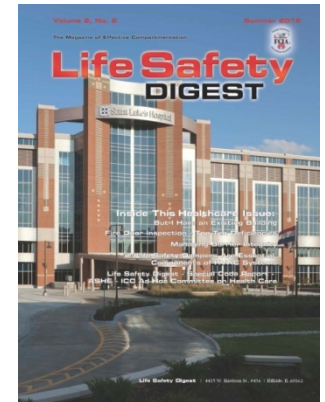
- All sections refer to:
 - **Laboratory Listing** – Tested and Listed System
 - **Manufacturers Installation Instructions**
- Laboratory Listings & Manufacturers Installation Instructions ***Required by Code***

WHY FCIA Firestop Containment Workers??

- Firestopping is a Trade – Fire Resistance
 - Technical in Nature
 - Product Usage Limitations
 - ***Systems not widely known...***
 - Available at Retail Stores?
 - ARE a 2 Year Education Program
 - Complex, with lots of detailed items
 - NOT sold with the Product
 - Dictate Suitability

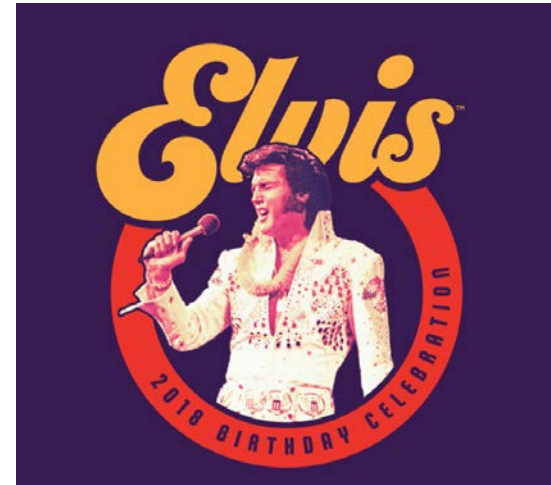
FCIA – Worldwide Association

- Networking
 - FCIA Conferences, Symposiums
- Education & Exposure
 - FCIA MOP, FREE Updates
 - Life Safety Digest
 - Education for FM & UL Exams, FM 4991, UL QFC & IAS AC 291
 - Management System Manual Template
 - FCIA Survey Practice



Don't Miss FCIA's 2018 Conferences

- **FCIA ECA 2018 - The Peabody, Memphis**



- **FCIA FIC 2018 – Austin, Texas**

FCIA Best of 2017

Bill McHugh, FCIA
Executive Director

