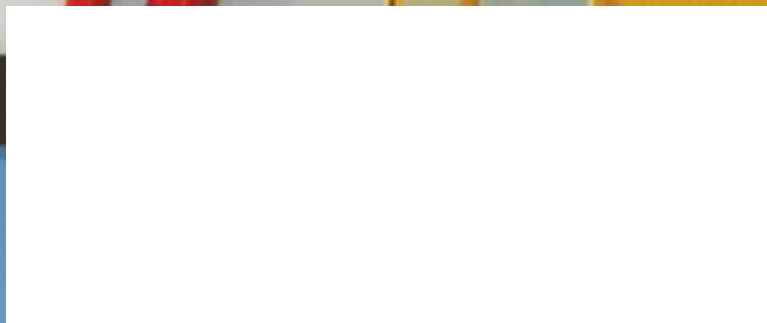# Life Safety DIGEST

SUMMER 2019
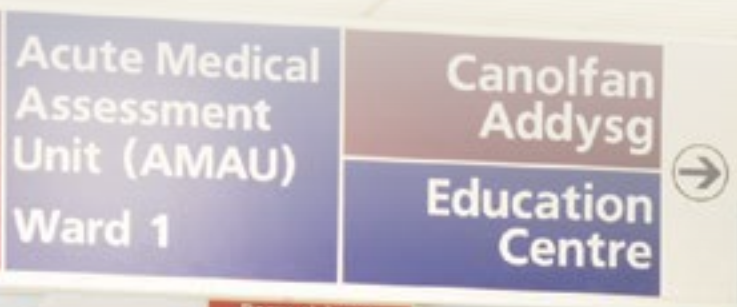
Health Care Issues 2019

Firestop Identification Systems Build Efficiency

Should FM 4991 Approved or UL/ULC Qualified Contractors Approve Another Non-FM or UL/ULC Contractor's Work?

What Can a Master Audit Certificate of Compliance Do for you?

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HEALTHCARE FACILITY CHALLENGES SHOULDN'T BE HANDLED ALONE

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EDITOR'S MESSAGE

It's hard to believe that FCIA is celebrating its 20th anniversary as an Association this year. A lot has been done in a short 20 years by FCIA's Committees and Staff. Whether working at Codes, Standards, Accreditation, Program, Marketing, Technical & Education, Apprenticeship, the Association Committees and their members have made things happen for better fire- and life-safety through FCIA's programs to make installations better.

This issue of *Life Safety Digest* focuses on Fire-Resistance-Rated and Smoke-Resistant Assemblies in Healthcare occupancies – and many positions from the Firestop Contractors International Association.

For many years, FCIA's Barrier Management Symposiums have been educating hospital Facility Directors and their staff about the role that fire-resistance-rated and smoke-resistant assemblies have in protecting people in healthcare campus buildings.

Didn't make a Barrier Management Symposium? Check out the videos funded by ASHE at FCIA's Barrier Management Symposium section of www.FCIA.org. There are 20-minute segments that keep your staff interested in learning the requirements for fire and smoke barriers, firestopping, fire dampers, fire doors, fire-rated glazing and the listings that prove fire-resistance. There's a Barrier Management Section too.

If you are an FCIA Member and/or *Life Safety Digest* advertiser, Thank You. FCIA Members, don't miss the 2019 FCIA Firestop Industry Conference and Trade Show celebrating FCIA's 20th Year, in Miami, FL. We promise a great educational program and a big celebration. Not a member? Join FCIA today.

Thank you for your continued readership of *Life Safety Digest*. 🔥

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FIRESTOP IDENTIFICATION SYSTEMS BUILD EFFICIENCY

dentification Systems – different types of labels and markings – in all their various forms have become extremely commonplace in today's construction industry, and for good reason: they are what's used to communicate important information to those who build, inspect (Special Inspection Agency personnel, AHJs, Fire Marshals and others) and maintain (Building Owners and Managers) the structure and its fire-resistance-rated and smoke-resistant assemblies.

For instance, in an older hospital above the ceiling tiles, the chances of seeing any labels identifying the chilled water pipes or the domestic water lines are slim. However, in new construction, the labels for many types of systems are very prevalent. This assists the facility personnel when it is time to repair and maintain those systems. It also helps with adjustments to the systems when a renovation in the facility takes place.

When it comes to life-safety, labels are very common. For example, there are several Building and Fire Codes that mandate the use of identification systems - labels or stencils - to identify fire-resistance-rated horizontal or wall assemblies. In fact, some Codes stipulate the size of the lettering and the maximum distance that the labels can be spaced.

In the 2018 International Building Code (IBC) Section 703.7, it is stipulated that markings identifying that there is a fire-resistance-rated or smoke-resistant vertical assembly are mandatory.

A swinging fire door with the identification label damaged, painted over, or removed renders the fire door not a fire door. Even the fire-rated glazing requires that a label be present to identify it rated for a wall, side-lite, etc. Labels are required to identify smoke, fire and fire/smoke dampers. Below are representations of the labels on fire door frames, fire doors, the builders' hardware, and more. All these items are labeled. Firestopping is not.

Fire Door Frame Label. Door Security Safety Foundation photo

Fire-Resistance-Rated walls are required to be marked by the International Building Code. Heckler photo

Door Hardware Label. Door Security Safety Foundation photo

Fire Door marking – labels,
with a lot of info, including
hourly ratings. Door Security
SafetyFoundation photo

Fire Door hinge marking - labels.
Door Security Safety Foundation photo

Fire-Rated Glazing has code requirements
for labeling. TGP photo

Fire Dampers have labels. Ruskin photo

Why are labels required by the model Building and Fire Codes for these instances related to fire- and life-safety, from fire-doors to fire-rated glazing, fire dampers and the wall assembly?

The label should give the Authority Having Jurisdiction (AHJ), as well as the Building Owner and Manager, a transparent way to ensure that the proper life-safety measures have been taken to provide the Code required protection for new construction and the life of the building.

The fact that a very inexpensive label was attached brings a certain comfort level to the Building Owner and occupants. Everyone is informed by the presence of a label that what was required by Code has been provided.

Unfortunately, there is an absence in the Code for one more very important aspect of fire- and life-safety labelling: firestopping. If not installed properly, these systems could completely waste the value of all the other clearly labeled components previously listed – and render the wall or horizontal assembly as not functioning as a fire-resistance-rated assembly.

LABELS HELP WITH COMPLIANCE

How could the use of labels in firestopping assist in ensuring that the firestopping was installed correctly by a trained and competent Firestop Containment Worker?

Well, the simple fact is that if is there is no label present, there is no way to determine what tested and listed firestop system was used. Without knowing the

system number, how do we know if the firestop materials were installed in accordance with a tested and listed firestop system or an Engineering Judgement (EJ) or Equivalent Fire-Resistance-Rated Assembly (EFRRA)?

Many times, if the person installing firestop sealant – or more complex firestop materials - is not a Firestop Containment Worker, he or she is simply directed to install - without any systems designs provided to them - a firestop sealant into the construction joint and/or around the penetrating items in a fire-resistance-rated wall or horizontal assembly.

In this event, the installation does not meet the Code required tested and listed firestop system and there is no confidence that the installation is capable of maintaining the desired fire-resistance-rating of the assembly.

On the other hand, when identification systems - labels - are used, they clearly identify the tested and listed system used, which then informs on the materials used for this assembly. When the system is known for each firestop installation, it exposes the knowledge of the Firestop Installation Contractor's workforce.

Labels also allow the Authority Having Jurisdiction (AHJ) or 3rd-party independent Firestop Special Inspection Agency Inspector to clearly see how the firestopping was assembled. This results in faster inspections due to the ease of identifying the system design listing number and a higher confidence level regarding the competency of the Firestop Installation Company workers. As a result, this will help to improve quality assurance and may expedite the project's schedule.

Labels will also allow the firestop installation to be maintained. If the original firestop installation is damaged, the original installation system design number, which has references to the manufacturers' products, the listing, and installation details, is clearly shown in order to be reinstalled accurately, provided the parameters of the assembly still apply.

Can you imagine an assembly passing an inspection if the fire-resistance-rated assembly, fire door, fire damper and fire-rated glazing was not labeled? Of course not.

A concern of the AHJ and Building Owner and Manager could possibly be that the Contractor supplying and installing fire resistance items, might have used an inferior, non-fire-resistance-rated product just to save money and increase profitability. The reality is that the same concern should also apply for the firestopping portion of the fire-resistance-rated and smoke-resistant assembly. Without a label, how does someone know what's been installed?

Another essential reason that identification systems, labels, tags, etc., should be utilized is when a 3rd-party independent Special Inspection Agency Inspector performs an inspection of firestop installations in accordance with ASTM E 2174, *Standard Practice for On-Site Inspection of Installed Firestops* and or ASTM E 2393, *Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers*.

Without the necessary information found on a label, the Inspector has no idea how the firestopping was installed or if the Firestop Containment Worker or Firestop Installation Contractor employee utilized the appropriate tested and listed firestop system or EJ/EFRRA for the situation. If the information is not at the jobsite, the Inspector would be forced to look at the approved submittals or walk the job with a knowledgeable company representative to figure out what system design number was used at the building. Together, they can attempt to inform the inspector of the "assumed" listed system design or EJ/EFRRA the installers "hopefully" used. When labels are not used, the inspection process is completely compromised – and is very time consuming.

FIRESTOP LABELS & SPECS

Many Architects have recognized this and are requiring the use of identification systems for firestop installations on their client's buildings. Below is an example of a very common project specification section mandating the use of labels.

To provide the minimum information that identification systems should provide, the FCIA Standards Committee has developed a Recommended Professional Practice for Identification Systems, i.e. Labels.
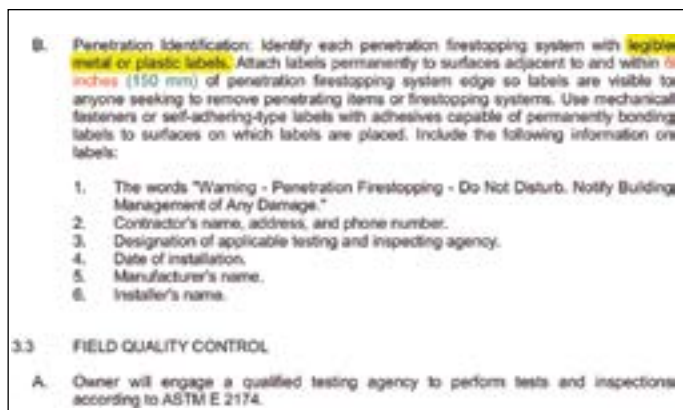
Fire Stop Technologies image

Some examples of the requirements found in the Recommended Professional Practice include:

- Identification Systems - Labels should be placed on the top side of the floor assembly for horizontal assembly penetrations if the installation was performed from the top side of the floor. If the installation was performed on the underside of the floor the label should also be on the underside of the floor. Labels should be on each side of a wall assembly for through penetrations breaching fire-resistance-rated and smoke-resistant wall assemblies. The label is only to be on one side of the wall for a penetrating item that breaches one side of an opening, known as a membrane penetration. Even firestopped blank openings need to be labeled.
- The minimum label size is to be large enough to be legible and contain the following information (*a minimum of seven (7) items are to be listed on the label*):

    1. System Number or EJ/EFRRA Number;
    2. Date of Installation;
    3. Installing Company Name, Contact information;
    4. Installers identifier (Name, employee number, other identifier);
    5. Manufacturer Company Name;
    6. The words "Warning – Firestop System – Do Not Remove or Tamper";
    7. Fire-Resistance or smoke-resistant properties (i.e. Hourly rating).

An additional line that might be appropriate would be the Special Inspection Agency and Inspector identifier if there is an inspection on the project.

The information in items 1-7 can be preprinted or written onto the identification system with ink. The ink is to be dark enough to be clearly seen and is to be considered permanent.

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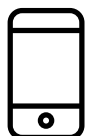
The information to be documented onto the label is to be clearly legible with the correct spelling. Abbreviations should not be used.

The labels are to be metallic, ceramic fiber, paper, or a type of plastic material so that they are very durable. The intent of the paper or plastic label is not for the label to survive a fire; however, they must be capable of surviving the environment where the identification system is to be located. This includes low- or high-humidity or in hot or cold atmospheres for the life of the building.

There are labels that might even survive fire. Embossed ceramic fiber labels resist up to 2,000°F and might be legible after a fire. Metal embossed tags might be as well. Both these labels might be adhered to a wall assembly or hung via a metal wire or ceramic fiber string.

Pre-printed labels from a supplier. Brady Corporation image

There are numerous methods that can be used for the placing of the labels provided it is considered a permanent installation. One option is that the labels can be a peel and stick application. An additional secondary adhesive may be necessary on some surfaces.

The surface where the label will be adhered to is to be free of moisture and dust. The label can be placed onto the surface of the fire-resistance-rated assembly or onto the penetrating item itself. This is provided that the label can be attached or hung in a manner that allows the label to be clearly read.
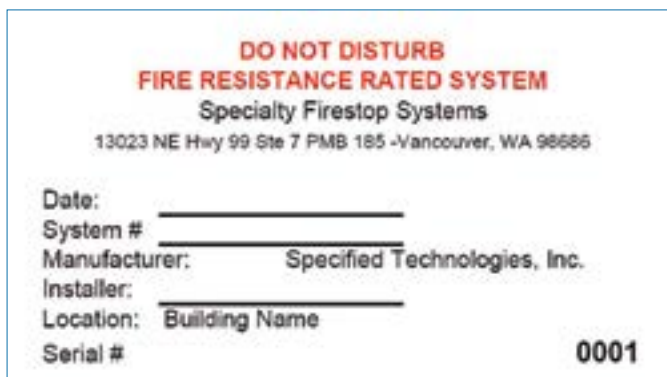
Firestop Sample Label. Specialty Firestop Systems image

For the 'peel and stick' method, testing for adhesion to assure the label is there when the building maintenance personnel need to survey or repair the firestop system assembly is important.

Using a mechanical fastening method in addition to the self-adhesive label is also acceptable. Using a screw as an anchor can help with permanence. Installation of a fastener must be clear of an electrical cable, conduit or PVC pipe hidden in the wall cavity. Using staples may also be a viable option, provided the fastening method does not affect the fire-resistance-ratings of the wall or horizontal assembly.

The FCIA Recommended Professional Practice for Identification Systems states to not wrap the label around a small penetrating item. The small diameter of the penetrating item can cause the label to overlap onto itself covering portions of the label, rendering it illegible.

Labels can also be 'hung' from various service items such as pipes, cables, ducts, etc. as long as the hanging method does not interfere. Tie wires can also be used to hang the label from penetrating items as well.

Based on the FCIA Recommended Professional Practice, the location of the label is to be no more than 6" (150mm) from the penetration firestop system edge when attached to the assembly penetrated.

Hanging Label. Pro-Firestop, Inc. image

If the penetrating item is large enough, it would also be acceptable to place the label on the pipe, duct or conduit itself, as long as the label is able to be easily read. If the label is placed onto the penetrating item, it should be placed within 6" of the firestop installation. By placing the label on the penetrant, the wall can be painted without covering over the label. The label is not to be placed over any firestop system material components and it cannot cover any part of the firestop installation.

A label would also be an important aspect of identifying the tested and listed system used for firestopping the construction joints – head-of-wall, wall-to-wall, floor-to-floor and perimeter fire-containment systems. The labels for construction joints are to be placed every 50', located within 15' (4.6 meters) of the end of the wall. The device is to be within 6" (150mm) of the fire-resistance-rated and or smoke-resistant joint.

The labels are to be placed as soon as the firestop materials have been installed, which is then considered a complete installation. The label should be installed by the person that performed the installation so that the label can serve as a quality assurance device for the Firestop Contractor's quality assurance processes.

Only the Installer could know the exact annular space and other pertinent information that existed when selecting the appropriate firestop system to install. If a different individual other than the Installer completes and attaches the label after the installation has taken place, there would be a disconnect and mistakes could result. In that case, the assumed listed system that is entered onto the label may not be the system that was actually used. This allows the inspection to take place efficiently and with documentation located at the assembly.

Labels can be either custom made or provided by the Manufacturer. However, the labels need to be specific to the installation and must provide the minimum 7 items of information as required by the FCIA Recommended Professional Practice, Identification Systems.

Fire Stop Technologies, Inc. photo

Firestop label with smoke-resistance note. Dalton Protection image

Yes, the small cost of a label and the minimal additional time it would take to fill one out pales in comparison to the value and benefit labels bring to fire- and life-safety in buildings. High-quality and experienced Firestop Installation Contractors welcome the transparency that would result with the use of a label.

The deficiencies that are currently hidden by a vail of mystery would finally be openly exposed to meet the same standards as the labeled walls, doors, dampers, and glazing. 🔥

Jay McGuire is Vice President of Fire Stop Technologies, Inc., in Taylorville, IL and St. Louis, MO. Jay is 2019 FCIA President. He can be reached at Jay@thornburgh-stl.com.

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HEALTHCARE ISSUES 2019

The FCIA Education and Committee Action Conference provided a great opportunity for FCIA Members to hear about current issues in Hospital Accreditation. This article outlines some of the key challenges facing health care facilities today, as well as an overview of hospital accreditation. Firestop Contractors and Barrier Management Services Contractors who understand these challenges and trends may be better positioned to work in hospitals and other health care facilities and provide better services to the facilities they serve.

KEY CHALLENGES

The American College of Healthcare Executives conducted a survey in 2018 to identify top issues facing hospital leaders. Key issues included:

- Financial Challenges
- Governmental Mandates
- Patient Safety and Quality
- Personnel Shortages
- Behavioral Health/Addiction Issues
- Patient Satisfaction
- Access to Care
- Physician-Hospital Relations
- Technology
- Population Health Management
- Reorganizations

Many of these issues are directly related to the health care physical environment. For example, operating health care facilities efficiently can help reduce financial challenges health care organizations face. By ensuring proper infection prevention and control methods throughout the health care physical environment, hospitals can improve patient safety and quality. By planning, designing, and constructing the right buildings throughout the community, hospital leaders can ensure access to care.

One nonprofit organization that understands how the physical environment can help hospitals meet key goals is the American Society for Health Care Engineering (ASHE), which is a professional membership group of the American Hospital Association. ASHE members include health care Facility Managers and Directors, Constructors, Architects, Engineers, and other professionals who work in the health care physical environment. While ASHE members come from diverse professions, all share a dedication to optimizing the health care-built environment.

FINANCIAL CHALLENGES

Hospitals are increasingly facing financial challenges, and those working in the health care physical environment can help reduce operational costs by maintaining hospitals efficiently and effectively. ASHE members strive to reduce costs by reducing utility use, for example, or commissioning buildings.

ASHE is also working to reduce the cost of health care by reducing the regulatory burden on health care facilities. Health care is one of the most regulated fields in the country, and hospitals must meet a variety of overlapping Codes and Standards. While many of these Codes and Standards protect patients, visitors, and staff, there are many regulations that do not further safety and simply add costs. ASHE's advocacy team works to ensure the Codes and Standards regulating health care are necessary and based on science and data.

PATIENT SAFETY

The built environment is critical to patient safety. For example, Facility Directors work to ensure proper air flows in hospitals so that hospital-acquired infections are reduced. When a patient has a disease such as tuberculosis, for example, negative air pressure is required for their rooms so that their contagions do not spread to other areas of the hospital. Rooms housing immunocompromised patients susceptible to diseases may need positive air pressure to keep air flowing out of their room instead of into it, keeping them free from germs from other areas of the hospital.

Water management is another key factor in keeping patients safe. Plumbing must be planned carefully to avoid legionella and other waterborne pathogens.

FUTURE CHALLENGES

Many major trends are currently affecting the health care physical environment and will continue to affect our field in the future. Hospitals, like several other fields, are facing an aging workforce and it can be difficult to find

qualified workers who understand the complexities of the health care physical environment.

The increased use of technology may reduce the need for some hospital spaces as telehealth spreads. If patients can call or video conference with their doctor, fewer buildings may be needed.

As hospitals work to provide more routine services in community-based health care locations (such as clinics), main hospital campuses may become higher-acuity environments, meaning the patients within hospitals will be sicker and need more specialized care. This would require an even greater focus on patient safety in hospitals as we work with patients with mobility issues or those who may be vulnerable to infection. Maintaining the fire-resistance-rated and smoke-resistant compartmentation may become even more critical under these circumstances.

HOSPITAL ACCREDITATION ENSURES FINANCIAL FLOW

Understanding emerging trends in health care is beneficial to Contractors working in Barrier Management, but Contractors should also understand the current pressures and regulatory environment in health care. Health care facility leaders strive to comply with regulations, and knowing which survey issues arise most often (and how to manage them) can help prevent future findings.

Several organizations accredit hospitals.
- Center for Improvement in Healthcare Quality (CIHQ) – Accredits approx. 64 Hospitals
- Healthcare Facilities Accreditation Program (HFAP) – Accredits approx. 214 Hospitals
- DNV GL (Det Norske Veritas and Germanischer Lloyd) - Accredits approx. 500 Hospitals
- The Joint Commission (TJC) - Accredits approx. 4,500 Hospitals (82%).

These agencies survey the hospital physical environment to ensure compliance with Center for Medicare and Medicaid Services (CMS) regulations. It's important to note that fire and smoke barrier issues were in the list of the top 5 findings from Surveyors.

ASHE Image

ASHE Image

You can see that several items related to Barrier Management are included in the most frequently cited survey findings during surveys performed in 2018. LS.02.01.30 states that "the hospital provides and maintains building features to protect individuals from the hazards of fire and smoke." Building and fire protection features (EP3) in existing hazardous areas were found to be an issue 38% of the time. Smoke barrier integrity (EP18) was cited 32% of the time, corridor doors 30% of the time (EP11), and smoke barrier doors (EP19) 20% of the time.

LS.02.01.10 states that "building and fire protection features are designed and maintained to minimize the effects of fire, smoke and heat." Under this regulation, fire-rated doors (EP7) were found not compliant 39% of the time and barrier penetrations (EP14) 38% of the time.

ASHE and FCIA realize that hospitals are always striving to contain costs, serve patients better, and improve the physical environment to eliminate survey findings. Several years ago, FCIA, ASHE, UL and TJC embarked on a new education program – the Barrier Management Symposium – to educate hospital Facility Directors and their personnel about survey and maintenance, in addition to building an inventory of the fire-resistance-rated and smoke-resistant assemblies.

Through the Barrier Management Symposium programs, more than 1,000 hospital facility personnel were educated about how to maintain fire-resistance just as they maintain sprinklers, alarms, and other items.

The Barrier Management Symposium was designed to increase the awareness about how barriers are 'D'esigned, 'I'nstalled, 'I'nspected, 'M'aintained, and 'M'anaged – the 'DIIM' of Firestopping – for long-term fire- and life-safety. The program covered features of fire-resistance-rated and smoke-resistant assemblies, including firestopping, fire dampers, fire-rated glazing, and rolling/swinging fire doors. Facility teams used this knowledge to make changes and reduce survey findings.

WHAT YOU CAN DO

The smoke and fire barriers in our health care facilities help keep patients, staff, and visitors safe. Consider learning more about barriers by attending a Barrier Management Symposium, which is available to ASHE affiliated chapters as one- or two-day programs. There are also videos which divide the technical content into 20-minute pieces for easy viewing. Check the videos out at www.fcia.org/barriermanagementsymposium.htm.

If your company services hospitals or other health care facilities, get involved with ASHE and your local ASHE Chapter. ASHE membership costs just $200 for Associate members, and members have access to a wide range of resources, tools, publications, and education to help you understand the environment of care and how you can help create safe, healing spaces. 🔥

Jonathan Flannery is Sr. Associate Director of Advocacy at the American Society for Healthcare Engineering (ASHE), a membership organization of the American Hospital Association. He can be reached at jflannery@aha.org.

FEATURED STORY WRITTEN BY
BEN URCAVICH, TRACY SMITH, BILL MCHUGH

SHOULD FM 4991 APPROVED OR UL/ULC QUALIFIED FIRESTOP CONTRACTORS APPROVE ANOTHER NON-FM OR UL/ULC CONTRACTOR'S WORK?

To answer the question, first we must provide some background information allowing us understand the FM 4991 Approved and the UL/ULC Qualified Contractor Programs.

One of the key elements of the FCIA's original strategic plan create a way for the FCIA Member Firestop Contractor to separate themselves from those who do not specialize in firestopping or understand the systems-oriented process that firestopping is to be installed by.

To accomplish the goal, FCIA collaborated with both FM Approvals in 1999-2001 and UL/ULC in 2003-2007 to build and launch the FM 4991, Standard for the Approval of Firestop Contractors, and the UL/ULC Qualified Firestop Contractor Programs (ULQFCP). To serve the programs with a body of knowledge from which to base exams, FCIA wrote the FCIA Firestop Manual of Practice, the firestop industry's handbook of accepted firestop knowledge document.

The FM Approved & UL/ULC Qualified Firestop Contractor Programs succeeded at providing Firestop Contractors a way to quantifiably show their qualifications as specialists in this important life-safety firestopping discipline.

There are mandatory elements involved in the FM 4991 and UL/ULC Qualified Firestop Contractor Programs for both individuals and companies to show competence. The individuals that work for the firm must prove competence through writing and passing a rigorous examination. Based on the FCIA Firestop Manual of Practice, the exams cover firestop systems selection and analysis, inspection and installation. The company must prove its ability to manage the installation process through a facility and jobsite procedure audit of the company's Quality Management System – its procedures - by FM Approvals or UL/ULC.

The objective of both programs is to verify that the company who is FM 4991 Approved or UL/ULC Qualified has a Quality Management System that results in firestop installations of great quality for fire- and life-safety. The Firestop Contractor company controls their own installation processes and Quality Management System. It cannot control another company's installation or Quality Management System processes.

WHAT DOES THE FM 4991 STANDARD STATE ABOUT FM 4991 APPROVED CONTRACTORS APPROVING ANOTHER CONTRACTOR'S WORK?

The FM 4991 Standard states that the Contractor company approval is based on satisfactory evaluation of the Firestop Contractor's Designated Responsible Individual, or DRI. The DRI, appointed by the FM 4991 Approved Company, must meet the individual requirements of the program (passing the Firestop Exam), while the Company must pass an audit based on the Contractor company Quality Management System Manual.

The FM 4991 Standard, 1.2 Scope states that the Contractor controls their own Management System:

1.2 Scope
*1.2.1 This standard **sets the requirements for Approval of Firestop Contractors who install firestop systems and their components** that are listed by an accredited third-party testing or listing agency as fire-rated construction of specific hourly ratings.*

*1.2.2 This standard **examines the Contractor's training and education of its workforce,** general knowledge of firestop systems and their components, handling, design selection, installation and application procedures to ensure a practical and reliable installation.*

1.2.3 This standard, in part, assesses the ability of a Designated Responsible Individual (DRI) to interpret and understand the information included in the FCIA's Manual of Practice and FM Approval Requirements as evidenced by satisfying the minimum requirements of written examinations. A contractor who meets this and all other requirements of this standard, shall be listed in the Approval Guide, an online publication of FM Approvals, as an Approved Firestop Contractor.
[FM 4991, Standard for the Approval of Firestop Contractors]

FM 4991 Approval depends on the firestop installation company's implementation of its *own* Quality Management System – or quality assurance program - for the previous period. The company documents that it has met FM's requirements through the year *on its own firestop systems installations*.

WHO GETS FM 4991 APPROVED?

The paragraphs above clearly show that the FM 4991 Approval is for the Firestop Contractor company – and the company alone. Approval is not awarded to individuals. The company is responsible for installation of firestop systems by *the personnel who work for the Contractor*, as well as is responsible for the Management System *used by the Contractor personnel* to successfully install those systems.

CAN FM 4991 APPROVED OR UL/ULC QUALIFIED CONTRACTORS APPROVE ANOTHER COMPANY'S INSTALLATIONS?

It has been reported that FM 4991 Approved or UL/ULC Qualified Firestop Contractors have been requested to approve a non-FM Approved or non-UL Qualified Firestop Contractor's work on a project and certify that the work is acceptable.

It is quite clear in FM 4991's Section 1.2 Scope and 3.5, Approval Categories, and throughout the document that the FM 4991, Standard for the Approval of Firestop Contractors and the UL/ULC Qualified Firestop Contractor Program are company-based programs.

> *1.2 Scope*
> *1.2.2 – This standard examines the contractor's training and education of its workforce, general knowledge of firestop systems and their components, handling, design selection, installation and application procedures to ensure a practical and reliable installation.*
>
> *3.5 Approval Categories*
> *Only a single category of Approval, Firestop Contractor, is available. Contractors who specialize in the installation of firestop joint systems, floor perimeter/slab edge/exterior wall cavity systems, through penetration systems or other types of firestopping, shall be knowledgeable and examined on all types of firestopping systems shown in the FCIA Manual of Practice.*
> *[FM4991, Standard for the Approval of Firestop Contractors]*

The FM 4991 Approved Firestop Contractor or UL/ULC Qualified Firestop Contractor is only able to supervise its own workforce, its own office, and thus provide statements about their own work. The FM and UL/ULC Programs evaluate the Firestop Contractor company Management System for their workforce, their employees, their work. The FM 4991 Standard *does not allow a Contractor to verify another Contractor's work* based on the scope in 1.2.2 and section 3.5. The FM 4991 Approval is for the 'Firestop Contractor, a single category'.

According to Jeff Gould, Senior Engineering Specialist at FM Approvals, who has been heavily involved with the program from the beginning, "The intent of the program was never to allow a company to certify someone else's work."

Mr. Gould also states that the entire FM 4991 Program revolves around a company's quality assurance program and for an individual (the DRI) to be responsible for overseeing and implementing the program. The main duties of the DRI include providing oversight of selecting the proper design, transmitting this information to field personnel and assuring that the installation was done correctly per the company's quality procedures.

Mr. Gould continued, "I just cannot see how this can be done after the fact without knowing who did the installation or what materials might have been used. I'm also of the opinion that there is an obvious conflict of interest in having one company "accept" another company's work because of the incentive to fail the opening in the hopes of being hired to remove and reinstall it."

The FM 4991 Approval (or UL/ULC Qualified Firestop Contractor Program) is not a license to certify that another Firestop Contractor company's work, who is not FM 4991 Approved, is acceptable or not. That was never the intent of the FM 4991 Standard for the Approval of Firestop Contractors Program. The same is true for the UL/ULC Qualified Firestop Contractor Program.

UL/ULC QUALIFIED FIRESTOP CONTRACTOR PROGRAM

In the UL/ULC Qualified Firestop Contractor Program (ULQFCP), there is further proof that the ULQFCP is about the Contractor company and is not intended to be a qualified company approving another non-qualified company's work.

> *7.0 DESIGNATED RESPONSIBLE INDIVIDUAL AND EXAMINATION*
> *7.1 Designated Responsible Individual (DRI)*
> *7.1.1 Each Contractor under this program shall have at least one Designated Responsible Individual (DRI) who is employed by the Contractor and meets the Program Requirements and who has the following responsibilities:*

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- *Defined and documented responsibility for oversight and maintenance of the Contractor's Management System in accordance with Program Requirements.*
- *Defined and documented responsibility for training staff and determining staff has received any required training or qualifications necessary to choose Firestop materials and install Firestop systems in accordance with UL or ULC Fire Resistance Design. The DRI has responsibility to act as a resource to Contractor staff as the Contractor's "designated expert" to assist with resolving questions.*
  [UL/ULC Qualified Firestop Contractor Program]

UL'S POSITION

UL's Ruben Sandoval, Manager of the UL/ULC Qualified Firestop Contractor Program, also weighed in on the issue saying, "The Designated Responsible Individual (DRI) is an individual employed by the UL/ULC QFC who is designated as a DRI by the Qualified Firestop Contractor and who is determined by UL/ULC to meet the Program requirements."

The Designated Responsible Individual (DRI) has met UL/ULC's Program requirements and passed the UL/ULC Firestop Exam that tests knowledge based on the FCIA Firestop Manual of Practice, ASTM Inspection Standards, and the UL/ULC Fire-Resistance Directory, UL/ULC Qualified Firestop Contractor Program. At least one Designated Responsible Individual (DRI) must be employed by the Contractor and must meet the UL Program requirements and has the following responsibilities:

- Defined and documented responsibility for oversight and maintenance of the Contractor's Management System in accordance with Program requirements;

- Defined and documented responsibility for training staff and determining staff has received any required training or qualifications necessary to choose Firestop materials and install Firestop systems in accordance with UL or ULC Fire-Resistance Design. The DRI has responsibility to act as a resource to Contractor staff as the Contractor's "designated expert" to assist with resolving questions.

"The DRI's only conduct these duties for the company they work for under the UL/ULC Qualified Firestop Contractor program", stated Sandoval.

CAN A DRI APPROVE ANY COMPANY'S WORK?

Note that in each section, the UL/ULC Qualified Firestop Contractor's DRI is to supervise their own company's work, their own staff, and not another firm's staff.

Further, the FM 4991 Standard states in section 3.4 Designated Responsible Individual (DRI), that the Firestop Contractor shall employ at least one DRI. In Section 3.4.2, the Firestop Contractor who has company operations in multiple locations where a branch office is required must qualify at least one DRI for each location.

In both the FM 4991 Approved and UL/ULC Qualified Firestop Contractor Programs, there is no statement that allows the DRI to 'certify' a company's work, other than the company that employs the DRI.

In FM 4991, 3.8.2, where firestop identification systems (labels) are mentioned, it states that *"When required by specifications, each Fire-Resistance-Rated System installed by an Approved Firestop Contractor shall bear a permanent label or marking."*

Again, there is no mention of a DRI being able to certify the labels of another Firestop Contractor's work.

FIRESTOP INSPECTION

According to the ASTM E 2174 and ASTM E 2393 Inspection Standards, the Inspection Agency is to only provide a report to the Authorizing Agency (Building Owner) providing the number of deviations to the tested and listed systems that might have occurred during firestop inspection. They are not 'certifying the work'. The inspection to ASTM E2174 and ASTM E2393 is not approving a Firestop Installation Company's work. It's observation or destructive testing of a defined quantity of installed firestops and reporting on the variances.

The only party that can certify the Firestop Installation Company's installation is the DRI at the FM 4991 Approved or UL/ULC QFCP company – if required by the AHJ. For non-FM 4991 or UL/ULC Firestop Contractors, only the company's representative can approve their installations. A DRI, and Inspection Agency, should not 'approve' work. For a Contractor company representative, the successful grade or mark on the FM or UL/ULC Firestop Exam means they can be appointed as a DRI at the FM 4991 Approved or UL/ULC QFCP company once the Firestop Installation Company passes the FM 4991 or UL/ULC Quality Management System audit of company documentation and jobsite.

WHAT CAN A MASTER AUDIT CERTIFICATE OF COMPLIANCE (MACC) DO FOR YOU?

Effective compartmentation provides building safety through protecting people from spread of fire, and when specified, smoke. Firestopping is an important part of effective compartmentation. A successful firestopping installation is a function of the Firestop Containment Worker installing the firestop products to the tested and listed system specs and Manufacturers' installation instructions. But that's only half of the safety equation.

Effective compartmentation also requires ongoing inspection and maintenance. Fire-resistance-rated walls, floors and their penetrating service items, treated to restore the wall/floor fire-resistance-rating, are important parts of a building's fire- and life-safety program. These materials – when installed to the tested and listed system specs and installation instructions – resist the spread of fire and smoke from one area to another.

This important fire protection feature serves building occupants by increasing safety during building fires and providing safe routes to escape. At the urging of industry regulators and Firestop Contractor professionals on FCIA's Accreditation Committee, UL launched its Master Audit Certificate of Compliance (MACC) in 2018. Since its launch, UL has issued MACC building certificates on a diverse array of buildings including hospitals, casinos, universities and airports. The MACC Program provides stakeholders with confidence that the firestop systems installation in their building was completed by a UL Qualified Firestop Contractor and that the contractor was audited to the 10 Element Program Requirements. The MACC is a tool that can be requested by Authorities Having Jurisdiction (AHJs), Fire Marshals, Architects, General Contractors and Building Owners.

SO, WHAT IS THE MACC?

The MACC is a site-specific, project-specific building certificate. It starts the annual maintenance cycle for Building Owners after construction has been completed on a new or existing project. The MACC is a jobsite-specific Management System Audit that verifies that the UL Qualified Firestop Contractor's processes were followed during the installation of Firestop systems.

The MACC allows the Building Owner or representative to have tangible evidence that the installation work has been audited to UL program requirements. After completion of a successful audit, UL issues a jobsite specific certificate that is renewable on a yearly basis giving the Fire Marshal evidence that the annual assessment of firestop has been completed. The annual visual inspection of fire-resistance, including firestopping is required by the International Fire Code and has been for many years.

As stated in the 2018 International Fire Code, it is the Building Owner's responsibility to ensure the building is up to date and in compliance with its original installation. The MACC certificate and the firestop systems documentation builds the fire-resistance inventory required by the 2018 International Fire Code for passive fire- and smoke-protection features. UL recommends Building Owners obtain their MACC certificate at the completion of any new construction project and after any annual assessment of firestop.

TELL ME MORE ABOUT UL AND THE MACC PROGRAM.

UL empowers trust by leveraging a global network of technical experts to deliver firestop inspection services that assist Contractors and their customers gain regulatory approval, demonstrate compliance and mitigate risk. The MACC program is the future of compliance and verification of maintenance.

The certificates can be found online at UL's site https://iq.ulprospector.com under the authorized service provider's Qualified Contractor link. This allows Building Owners and Managers to verify the validity of the issued MACC and the status of the UL Qualified Firestop Contractor at any time, providing real-time assurance of the work that has been completed.

Contact us today to learn more about how we can improve the efficacy, strength and quality of your firestop system or how the MACC program can help you at fire.inspection@ul.com or at 480.290.6987. 🔥

Ruben Sandoval is Program Manager for the UL Qualified Contractor programs for the Field Engineering Group. He is based in Buckeye, Arizona. The Field Engineering Group focuses on assisting clients to navigate increasingly complex supply chains and manufacture safe, high-performing products. We conduct more than 600,000 inspections, audits, field evaluations and product traceability services for clients in more than 120 countries. Field Engineering is leading the effort to both modernize how we partner with clients through technology and the use of data and analytics to drive enhanced field-related decisions.

FCIA'S POSITION

FCIA's position on the issue of DRI's approving another company's work is that the FM 4991 Approved and UL/ULC Qualified Firestop Contractor is responsible for their own
workers, their own management system, and their own operations. The FM 4991 Approved or UL/ULC Qualified Firestop Contractor is not able to approve other company installations – neither third-party accredited Firestop Contractors' installations nor those Contractor companies who are neither approved nor qualified. They are also not able to 'label' another company's work, as Mr. Jeff Gould states above.

Why? First, based on review of the information in both standards, we at FCIA believe that the practice of a DRI for an FM 4991 Approved or UL/ULC QFCP Company approving a non-FM 4991 Approved or non-UL/ULC Qualified Firestop Contractor's work – or any other Contractor's work - is not allowed. Second, without destructive testing, how do we know what listing was used?

Finally, for a person who has passed the FM or UL/ULC Firestop Exam and is not employed by an FM 4991 Approved or UL/ULC Qualified company, FCIA's stance is that that person cannot certify another company's work. Similarly, if the person is employed by an FM 4991 Approved or UL/ULC Qualified Contractor, that individual cannot approve another FM 4991 Approved or ULQFCP's work either. They can only approve the work that their Firestop Installation Company is performing.

This article is meant to provide guidance to the industry about what role FM 4991 Approved and UL/ULC Qualified Firestop Contractors have in the proper Design, Installation, Inspection and Maintenance of firestopping for fire- and life-safety. We're after a safe building. 🔥

Ben Urcavich is Vice President at FCIA, and Accreditation Committee Chair. He is also President at Performance Firestop, Inc. in Green Bay, WI. He can be reached at ben@peformance-firestop.com. Tracy Smith, a FCIA Director and Accreditation Committee Vice-Chair, is Vice-President at Firestop Southwest, Inc., Phoenix, AZ and can be reached at tracys@firestopsouthwest.com. Bill McHugh is Executive Director at FCIA and can be reached at bill@fcia.org.
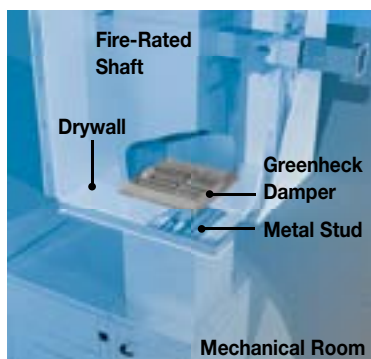
CODES AND STANDARDS NEWS

FCIA & CHICAGO'S NEW BUILDING CODE

Mayor Emanuel, Commissioner, Dept. of Buildings Judy Frydland and Deputy Commr. Grant Ulrich. (City of Chicago photo)

The Chicago City Council passed an ordinance on April 10, 2019 to adopt a modified version of the 2018 International Building Code (IBC). This new code represents the first comprehensive revision to the building code in 70 years.

Since late last year, several City of Chicago volunteer task groups, the Department of Buildings, Fire Department and several Associations have all worked on the new Code. The task groups debated what parts of the Chicago Building Code became part of the 'Chicago-ized' 2018 IBC.

Mayor Rahm Emanuel joined with Commissioner Judy Frydland to thank the many volunteer Architects and Engineers who helped the DOB rewrite the Chicago Building Code at the signing of the ordinance formalizing the new law. The Mayor also signed the Historic Building Code Modernization Ordinance at the reception.

The new "Chicago-ized" ICC Building and Building Rehab Codes will be published in a user-friendly format by the International Code Council this fall. The new code becomes optional December 1, 2019 and mandatory for new permit applications on August 1, 2020.

The City of Chicago's IBC has fire-resistance differences from the base Code. For instance, there are 1-hour fire-resistance-rated corridors in schools. The IBC height and area table has been adjusted. There are not as many sprinkler trade-offs allowed as are in the IBC.

FCIA applauds the City of Chicago's efforts to modernize their Code and was pleased to participate in both this new development and in the process.

FCIA @ ICC

The Structural Committee of the International Building Code met in Albuquerque, NM recently. There were several proposals submitted to address fire walls in townhouses. One proposal would have exempted a plastic sprinkler pipe as it passed through a fire-wall from firestop protection. FCIA was made aware of the proposal by FCIA Code Consultant Bill Koffel and FCIA Member Ed Goldhammer, Hilti. The proposal was DISAPPROVED handily by the committee. Marcello Hirschler, GBH International, and FCIA's Bill McHugh testified in opposition to the proposal and its fire- and life-safety risks.

FCIA CODE Hearings, Albuquerque, NM. FCIA photo

In addition, several proposals dealt with Chapter 17 of the IBC, Special Inspections, in the administrative sections of the Code. The proposals were not related to firestopping.

FCIA @ NFPA

The NFPA Fire Protection Features Committee Meets June 13 in Indianapolis. Watch for a full report on the meeting in the next issue of *Life Safety Digest*.

FCIA @ NBC

The 2020 version of the National Building Code of Canada is under development still. The committees and task groups have been teleconferencing on code proposals. FCIA submitted proposals to add requirements for FM 4991 or ULC Qualified Firestop Contractor Programs, Inspection to ASTM E 2174 and ASTM E 2393 Firestop Inspection Standards. We also requested that existing buildings' fire-separations be visually inspected by the Owner annually. More on this as the process progresses. 🔥

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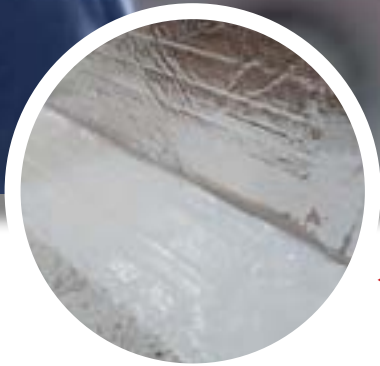
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INDUSTRY NEWS

FCIA EDUCATION & COMMITTEE ACTION (ECA) CONFERENCE

FCIA's ECA Conference this April welcomed its highest attendance for this event in FCIA's 20-year history. Attendees from across the US and Canada were present in Chicago for the three-day event, featuring the FM & UL/ULC Firestop Exams, FCIA Committee meetings, Education Sessions and more.

Education topics covered everything from workforce recruiting and retention, "Winning the War for Talent" with Chris Czarnik, to separate legal issue programs with Paul Simon (Business Mediation Network) and Karen P. Layng, (M.A.I.T. Co.), the new 2018 IBC adoption in Chicago with Judith Frydland (City of Chicago Building Commissioner), Code Development: Past to Now with Bill Koffel (Koffel Associates), and more. The update on ASHE and The Joint Commission with Jonathan Flannery (ASHE) brought great interest. The Firestopping

Installation, Inspection and Maintenance Process from a General Contractor coordination perspective with Corey Zussman, AIA (Pepper Construction) meant a lesson in 'no fly zones'. There's always equipment to maintain at Contractor companies and the Pump Maintenance and Productivity program with Graco helped a lot. Finally, UL Standards introductions with Matt Schumann (UL) and Eric Keeton (Dalton Protection – FCIA Standards Chair), brought us to the next big event, a tour of UL's Fire Test Labs.

FCIA TOURS UL FIRE-TESTING LABS

Over 70 FCIA Members took a field trip to UL's Fire Test Laboratory in Northbrook, IL after the FCIA ECA Conference. We saw the sprinkler testing, reaction to fire, and fire-resistance labs for various components of fire-resistance - from structural to compartmentation and flame spread. Thanks to Rich Walke for organizing everyone!

Thanks UL's FCIA Tour Guides, Rich Walke, Matt Schuman and team. Thanks to Ruben for support, Rich for organizing and Matt for a great presentation on fire-standards. FCIA Photo

FCIA BARRIER MANAGEMENT SYMPOSIUM RECORDINGS

Do you need to study the complete fire-resistance-rated and smoke-resistant package? FCIA's partnership with the American Society for Healthcare Engineering, (ASHE), UL and The Joint Commission resulted in the 1 or 1.5-day Barrier Management Symposium. Visit www.fcia.org/barriermanagementsymposium.htm to find the recordings of the program that FCIA and ASHE partnered on.

Many thanks to Jonathan Flannery at ASHE for funding the recordings and to all the speakers for their time. We hope it results in safer health care buildings.

FCIA @ CSC

FCIA's Bill McHugh spoke at the Construction Specifications Canada Conference in Regina, Saskatchewan, May 25. We had a great discussion about the importance of specifying firestopping in one place, the MasterFormat Section 07-84-00. Using this single source spec, the Specifier can communicate to the firestop installation Contractors the documentation required to be passed on to the Building Owner and Manager. This documentation becomes the 'inventory' of firestopping. An inventory of fire-resistance-rated and smoke-resistant assemblies is something that all Building Owners and Managers need to maintain the structures' important line of defense. Check out the presentation at www.FCIA.org 's home page.

FCIA @ UAE & QATAR

FCIA's Education for the FM & UL Firestop Exams provided a great opportunity for Contractor and Inspection Agency personnel. Each time we are in the Middle East, we meet new friends and renew relationships. We also get a chance to see a different view of firestopping, which we greatly appreciate having.

FCIA Members meet in UAE and discuss issues of strategic importance. FCIA Photo

FCIA Education for FM & UL Firestop Exams. FCIA Photo

FCIA UAE TOUR OF THOMAS BELL WRIGHT LABS

Many thanks to Thomas Bell-Wright International Laboratories for the excellent guided tour of their fire-testing facility in Dubai. This first-class lab provides fire-resistance-rated assembly testing to many standards.

FCIA at Thomas Bell Wright Laboratories, Dubai. Thanks to Abhishek Chabbra for organizing. FCIA Photo.

FCIA @ ASTM E06 MEETINGS

FCIA's Standards Committee leaders Eric Keeton and Jay McGuire travelled to Denver to meet on ASTM Inspection, Exposure, Movement, and other Standards. We at FCIA appreciate that we can discuss issues with the talented Manufacturer technical personnel at these meetings. Watch for new Standards due out soon.

FCIA WEBINARS

Each month, we venture into fire-resistance-rated and smoke-resistant assembly subject matter with the FCIA FREE Educational Webinar Series. PDFs of the monthly presentations are available online. FCIA Members get access to recordings. Not an FCIA Member? Join FCIA to get access to the recordings.

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ICC'S BUILDING SAFETY MONTH

First observed in 1980, Building Safety Month raised awareness about critical safety issues from roofing & structural to fire prevention, plumbing and mechanical systems, and energy efficiency.

Building Codes and the Officials who enforce them are making communities safer and more resilient. Homes and buildings built in compliance with Building Safety Codes result in resilient structures that minimize the risks of death, injury and property damage. ICC's Building Safety Month themes included many facets of Building Codes, and those who work with them every day.

This year's themes were:

May 1-5 - Preparing for Disasters: Build Strong, Build Smart

May 6-12 - Ensuring a Safer Future Through Training and Education

May 13-19 - Securing Clean, Abundant Water for All Communities

May 20-26 - Construction Professionals and Homeowners: Partners in Safety

May 27-31 - Innovations in Building Safety

To learn more about ICC's events and activities, check out:

www.iccsafe.org/about/myicc-membership-resources.

FIREPROOFING WEBINARS

The National Fireproofing Contractors Association (NFCA) produces several webinars each year. These webinars focus on different topics related to Sprayed Fire-Resistive Materials (SFRM) and Intumescent Fire-Resistive Materials (IFRM) Fireproofing.

Check out www.NFCA-online.org for info. 🔥

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FCIA INDUSTRY CALENDAR

JUNE

June 6-8
AIA Conference on Architecture
Las Vegas, NV
www.conferenceonarchitecture.com

June 17-20
NFPA Conference & Expo
San Antonio, TX
www.NFPA.org

June 22-25
BOMA International Conference & Expo
Salt Lake City, UT
www.BOMA.org

JULY

July 14-17
ASHE Annual Conference and Technical
Exhibition
Baltimore, MD
www.ASHE.org

July 15-17
APPA Conference and Exhibition
Denver, CO
www.appa.org

July 22-25
National Association of State Fire
Marshals
Annapolis, MD
www.firemarshals.
org/2019AnnualConference

SEPTEMBER

September 22-24
Canadian Healthcare Engineering Society
(CHES) Annual Conference
Saskatoon, SK
www.ches.org

September 25-26
FCIA Canadian 'DIIM' Symposium
Montreal, Canada
www.fcia.org

OCTOBER

October 9-11
CSI CONSTRUCT
National Harbor, MD
www.constructshow.com

October 16-18
International Facility Managers
Association (IFMA) World Workplace
Phoenix, AZ
www.worldworkplace.ifma.org

October 20-30
ICC Annual Conference and Public
Comment Hearings
Clark County, NV
www.ICCSAFE.org

October 26-30
RAIC 2018 Festival of Architecture
Toronto, ON
www.raic.org

NOVEMBER

November 5-8
FCIA Firestop Industry Conference &
Trade Show
Miami, FL
www.fcia.org

November 6-8
DHI's conNextions
Cleveland, OH
www.DHI.org