

Volume 4, No. 2

April 2008

The Magazine of Effective Compartmentation

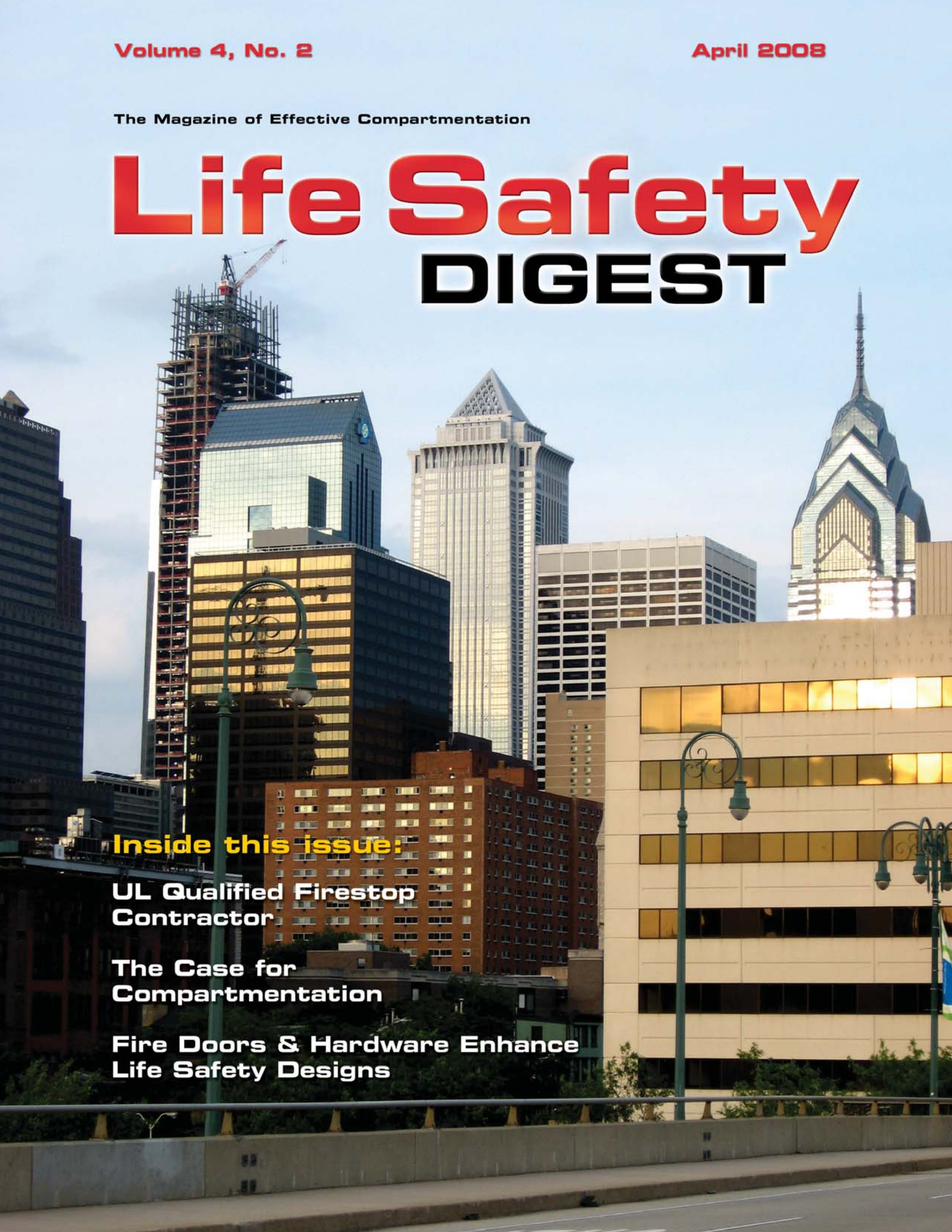
Life Safety **DIGEST**

Inside this issue:

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Contractor**

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Life Safety Designs**



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Life Safety DIGEST

On the Cover:

Effective Compartmentation is critical to fire and life safety in mid and high-rise office buildings in addition to healthcare and other occupancies. Photo courtesy of Pyro-Stop, LLC

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Reprints: Life Safety Digest Magazine Reprints are available from FCIA headquarters; 1-100 - \$.95/issue; 101-500 - \$.90/issue ; 501-1000 - \$.80/issue; 1000+ - \$.70/issue. All shipments FOB Hillside, IL, 60162. Advertisers receive a reprint discount.

Online Availability: Archives of the full magazine, including ads, text of articles and selected tables in this publication are available at www.fcia.org.

Editorial Contributions: You are invited to share your expertise and perspectives. Before writing, contact FCIA at info@fcia.org and view the writing guidelines & policies.

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Editors' Message

FCIA supports all aspects of fire protection in buildings to keep our families safe, businesses operating after an unfortunate event and protected from damage. Buildings can be very well protected when there are fire- and smoke-resistance rated walls and floors protected by fire protection features, in addition to detection and alarm systems, sprinklers, and educated occupants.

Design is important in all structures. Well-researched design sets the stage for our safety in buildings much later in the event of a fire. Exiting through fire- resistance-rated and smoke-rated corridors, living and working in rated-occupancy separations are needed so you are protected from someone else's lack of safety. Also needed are rated floors to stop fire spreading from downstairs to you.

Design issues extend past just fire and smoke protection. In your office, does the wall between you and another person extend through the drop ceiling to the floor or the floor/ceiling assembly above? If not, can someone crawl from next door to your apartment, office, store and get at your secure data, website server or business assets? Without a Fire Barrier or Smoke Barrier, there may be no continuity of the wall, and it will not extend to the next hourly rated structural floor assembly

above. Without this continuity, there are many risks ... sound, fire, smoke, thieves... that can cause the spread of "unwanted stuff," from next door to your space.

FCIA believes that all pieces of Fire Protection - Alarms and Detection, Fire- and Smoke-Resistance-Rated Effective Compartmentation and Features, Suppression Systems and Occupant Education - are needed to keep our families of all ages safe, wherever they are.

Read and enjoy articles about Compartmentation Features (including firestopping, fire-resistance-rated swinging doors and hardware, fire-resistance-rated rolling doors, fire and smoke dampers, fire-rated glazing, fire walls and floors and structural steel fireproofing that supports these assemblies). Join the associations that support effective compartmentation and FCIA. Through education we can establish fire and life safety with compartmentation as a key component. Effective Compartmentation saves lives.

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Value of Quality Processes in the Contractor Industry

UL's New Qualified Contractor Programs

By Betsy Titus

Construction quality is a concern to many, particularly when it comes to the installation of fire and life safety aspects of a building. Why? Installation can be left to contractors that may lack the proper knowledge and best practices to get the job done right. Fortunately, ISO 9000 compliance adapted for the construction industry is rapidly becoming a prerequisite for construction companies seeking international construction contracts, and the same may soon be true for firms operating solely within North America.

Why should the construction industry adopt the ISO 9000 quality management system approach? The discipline and systematic approach helps companies structure their processes to consistently meet clients' requirements. In the construction industry, the key is meeting requirements - code and architect/specifier requirements - that are communicated in construction documents. Meeting requirements is essential to greater assurance of fire and life safety in building construction today.

Establishing ISO 9000 principles in the construction subcontracting industry is a paradigm shift for an industry whose "factory" is a building under construction. Construction subcontractors deal with changing weather, changing

construction teams at each new job-site, and designs that change from one structure to the next.

The paradigm shift comes with great benefits to contractors, as well as everyone concerned about quality in building structures. Installation companies that adopt ISO 9000 principles benefit through increases in "bottom line" profit as a result of better efficiency, continual process improvements and waste reduction. The architect, specifier, general contractor and design-build entities, building owners and managers, and regulatory authorities benefit by gaining a greater assurance that construction products are installed to requirements.

ISO 9000 principles provide consistent and effective control of key processes, project management, promotion and standardization of good working practices, a vehicle for planned training of employees, greater emphasis on communication, leadership, effective remote site management, accountability, contractual control, and control of suppliers - which all translates into use of controlled and consistent processes. This means greater assurance that the specified designs are installed to requirements.

Two such fire and life safety materials and systems that are installed in the field while a building is under construction are firestop systems and spray applied fire resistive

materials (SFRMs). Their performance often depends on the quality of the selection and installation of materials that become systems at the job site. In turn, selection and installation depend on the knowledge and best practices of contractors responsible for those critical processes. Unfortunately, the architects that create the design and specifications, and the general contractors that select specialty contractors to install to specifications on a job site have few resources to help them identify contractors possessing the proper knowledge and that utilize the industry's best practices.

UL's Qualified Contractor Programs assess and qualify contractor firms that have demonstrated knowledge and a comprehensive management system that specifically focus on the selection and installation of firestop systems or spray-applied fire resistive materials. The contractor firm's employees are given exams on industry standards, and the firm's management systems are audited to provide an integrated approach - demonstrated knowledge and management system - to controlling the processes in addressing architectural, AHJ and customer requirements.

The management system requirements are based on ISO 9001 principles that require a complete system of checks and balances, and practices enabling a contractor to comply

with established customer requirements. Management system requirements also incorporate selection and installation best practices established by two key contractor industry associations: Firestop Contractor International Association (FCIA) and National Fireproofing Contractors Association (NFCA).

Contractors are required to establish and effectively implement and maintain a management system that focuses on the selection and installation of firestop systems or SFRMs. Specially-trained UL auditors conduct an audit of a contractor's processes to verify that processes exist and that they are being used effectively on the job. The essential processes required include:

- Construction document requirements and review of building plans

and specifications

- Selection, purchasing, storage and handling of materials
- Installation, application and field quality assurance procedures - transmitting design and installation requirements to the field
- Inspection, testing and calibration of equipment - testing to verify that installed designs meet requirements
- Control of nonconforming materials
- Installer inspections and correction processes
- Training and qualification of staff
- Audits of their own work and processes for continued improvement

Aedan Gleeson, president of Gleeson Powers, Inc. and UL's first Qualified Firestop Contractor emphasized that, "The UL Qualified



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Firestop Contractor Program challenged our company to be the best at what we do. It has made us a better company by implementing quality processes in our work."

Richard Clayton, president of

FCIA Member Gleeson Powers, Inc. 1st UL Qualified Firestop Contractor

Gleeson Powers, Inc. recently received UL qualification as a UL Qualified Firestop Contractor from Underwriters Laboratories (UL), culminating a 2.5-year effort by the Firestop Contractors International Association (FCIA) to build quality and reliability into the firestopping and effective compartmentation industry.

UL's program qualifies contractor firms that have demonstrated exceptional knowledge and a comprehensive management system that specifically focus on the selection and installation of firestop systems.

To earn UL Qualified Firestop Contractor status, a contractor firm's DRI must pass a three-hour written exam based on the FCIA Firestop Manual of Practice, UL

Program Requirements, and specific country publications. The contractor firm must pass a UL-administered audit of the processes that make its management system, both at the contractor's facility and as applied on the job site. The audit is to verify that processes exist and are being used effectively in the field and office.

New Concept in the Construction Industry

"With this new UL Qualified Firestop Contractor Program, FCIA has succeeded in establishing standards for the Firestop Quality Installation Process, part of the DIIM (Proper Design, Installation, Inspection and Maintenance) approach," states FCIA's executive director Bill McHugh.

- Design - Specifications for design professionals at <http://www.fcia.org>
- Installation - UL Qualified Firestop Contractor Program
- Inspection - ASTM E 2174 and ASTM E 2393 Inspection Standards
- Maintenance - FCIA Firestop Manual of Practice

Watch FCIA and UL's websites for new UL Qualified Firestop Contractor Firms as they pass requirements of the program at <http://fcia.org/ulapproval.php>, <http://www.ul.com/contractor/firestop.html>, and <http://www.gleeson-powers.com>.



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Clayton Coatings, Inc. and UL's first Qualified SFRM Contractor said, "Clayton Coatings has utilized quality management processes in our work for years which has challenged our company to be the best. We expect to be able to further differentiate Clayton Coatings as a quality organization by achieving UL Qualified SFRM Contractor status."

The UL Qualified Contractor Program is now included as a contractor qualification option in MasterSpec, one of the leading resources used by architects, engineers and specification professionals to write specifications for projects. MasterSpec is published by ARCOM, for the American Institute of Architects (AIA). As a result of this inclusion, the UL Qualified Contractor Program continues to show up in new building projects throughout North America and beyond.

To earn UL qualified contractor status, a contractor firm's Designated Responsible Individual (DRI) must pass a three-hour written exam. Then, the contractor firm must pass a UL-administered audit of its management system, both at the contractor's facility and as applied on the job site. A contractor firm that meets the UL Qualified Contractor Program requirements receives a UL certificate effective for one year. Qualified Contractors are re-audited annually at both the facility and jobsite to verify that the contractor's management system continues to comply with program requirements.


Visit UL's online directory at www.ul.com/contractor to find contractor firms that have been qualified to UL's Qualified Contractor Program. Accessible to architects, authorities, contractors, manufacturers and building owners, the directory contains a list of Qualified Firestop Contractors and a list of Qualified SFRM Contractors.

Qualified Contractors can also promote their UL Qualified Contractor status by displaying the UL Qualified Contractor logo in their promotional materials.

The Benefits of UL's Program

While other contractor certification programs exist, UL's program has the benefit of being backed by UL's engineering staff with years of knowledge and experience with fire resistive assemblies and effective compartmentation. This, coupled with UL's specially-trained audit staff located throughout North America,

provide an independent, third-party evaluation that architects, general contractors and regulatory authorities can look to for greater peace of mind.

The ISO 9000 quality management system approach can be an appropriate and effective tool for construction firms in North America and beyond. UL's Qualified Contractor Program is now available to provides architects, building owners and managers, general contractors and design-build firms a recognized qualification to specify, identify and select specialty contractors that have been assessed by an independent, third-party organization for their knowledge and best practices using the management system approach. 

For more information on the Underwriters Laboratories' Qualified Contractor programs, contact Betsy Titus at (847) 664-2530 or Elizabeth.Titus@us.ul.com.







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The Case for Compartmentation



Pilkington Pyrostop glazing is fire-rated for up to two hours.

By Jerry Razwick

Today's airplanes are extremely advanced. Technology has made it possible for an international flight to be flown almost entirely on autopilot. With a flip of a switch, you can travel safely from New York to London while the pilot gets in a good nap.

However, it's still a requirement (and a comfort) to have a human in the cockpit. As great as computer guidance can be, there is always the possibility of a glitch - and glitches do happen. You wouldn't want to fly without knowing there was a certain amount of backup protection if something goes wrong.

Good fire protection plans are intended to be the same way. There should be a certain amount of overlap, with multiple layers of safety measures in place. Yet all too often, fire protection is viewed simplistically. Some building owners and managers may put all their eggs in one basket, counting on a single technology concept to function perfectly - every time.

For example in 2000, a fire broke out in one of the dormitories at Seton Hall University. This particular fire spread rapidly and became the deadliest dormitory fire in U.S. history, killing three people and injuring an additional 54.

The investigation after the fire showed that the school had relied primarily on fire alarms to warn residents to evacuate the building. And the alarms did activate as intended. However, school officials had not planned on the way students would respond. It turned out that the

alarms had gone off unintentionally, or as pranks, 18 times in the past semester. So students awakened by the noise assumed it was another joke, then rolled over and went back to sleep. With the lack of sufficient back-up protection in the dorm, the fire quickly spread from a lobby to the residential areas.

It was a costly and tragic lesson, but it highlighted a critical point: Fire protection plans are incomplete if they do not adequately address the range of potential dangers, including those resulting from human behavior.

For a fire safety program to truly be thorough, it must include four basic components: Detection and alarms, suppression, compartmentation, and building occupant emergency education. While there will always be surprises, these elements must work together to provide the best possible strategy for covering all the bases.

Seton Hall had the detection and alarms portions covered. This includes fire, smoke and carbon monoxide alarms that can alert tenants to a threat. They need to be reliable and activated early enough during a fire to allow people to react in a timely fashion.

Sprinklers, extinguishers and fire hoses make up the category referred to as suppression devices. These can provide invaluable assistance in controlling a blaze before firefighters arrive on the scene. They are intended to deal with a fire before it gets out of control, confining fire growth until firefighters can extinguish it.

These two types of protection - detection and alarms, and suppression - have something in common: They are active systems. In other words, they need something to be activated in order to operate.



The Eastside 911 Communications Center in the Bellevue, Wash. City Hall uses Pilkington Pyrostop glass and FireFrames Heat Barrier frames.

Normally, that's not a problem. But there is always the possibility for error. Sprinkler systems perform very well, with high reliability when properly designed, installed, inspected and maintained. However, there is a chance for mechanical or human error with sprinkler systems, and those errors do occur.

Similar points can be made about alarms. Who hasn't forgotten to change a battery in a smoke detector? When the power is out or alarms aren't in close enough proximity to where a fire originates, there is the potential for less-than-perfect performance.

The point is, too many variables can be affected in a real life fire to rely exclusively on active systems.

That's why the third category of fire protection is so vital - compartmentation. Fire and smoke resistance-rated building materials such as gypsum, concrete, firestopping, fire dampers and fire-rated glass

help divide a building into smaller "compartments," providing a number of barriers that can slow or stop a fire from spreading. When properly designed, installed, inspected and maintained, they can withstand the ravages of fire and maintain their integrity long enough for people to evacuate the premises and to protect vital portions of the building. They also provide time for firefighters to arrive and control the fire.

In some areas of the U.S., there has been a decline in reliance on compartmentation over the last few decades. The United States Fire Administration made that observation in their follow up report on a New York City bank building fire:

The report reads: "High-rise construction systems changed significantly in the 1960s and 1970s. Prior to this period, most high-rise buildings were built with relatively heavy construction, providing a high mass to volume ratio, which

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tended to provide natural compartmentation, heat absorption and insulation qualities. The newer buildings have much less mass - they utilize lighter weight steel or concrete structural members, curtain wall construction, more windows and thinner floor assemblies. All of these characteristics make the newer buildings inherently less fire resistive than their predecessors."¹

Fire-resistant materials and systems that makeup compartmentation are essential if anything goes wrong with the detection and alarms or suppression systems. A good back up plan could mean the difference between life and death. But even if sprinklers and alarms operate perfectly, good compartmentation is a must. Two examples will prove the point.

First, non-fire-rated window glass can only withstand a few hundred degrees of temperature, and may vacate the opening. In addition, if the hot glass is impacted by relatively cool water from a sprinkler or other source, the glass is caught between an expansion and contraction dilemma. As a result, it shatters and leaves a pathway for the flames and deadly smoke. In either case, the glass has vacated the opening and flames and smoke are free to spread through the building. The barrier has been breached.

In contrast, fire-rated glass products, such as ceramics and multilayer products, are required to withstand impact from water in a fire hose stream test. Thus, water from sprinklers poses little problem. The glass remains in place and aids in compartmentation while the sprinklers do their work.

A second example of fire-rated glass offering protection is after the fire has been doused. Sprinklers and fire hoses can generate tremendous

amounts of smoke when they control a fire. Fire hoses also make fires contribute smoke more than would a clean-burning fire. If non-fire-resistance rated building not using smoke protection features, glazing and other materials have been used, and they are breached, the deadly smoke is able to travel to other areas of the building, sometimes long after the fire is gone.

Sometimes fire-rated construction materials can even make a difference for the building envelope. Most of the time, no one thinks about compartmentation being an issue for the exterior of the building. After all, once a fire leaves a window, where does it have left to spread?

The answer may depend on the building. In 1988, a fire broke out on the 12th floor of the First Interstate Bank Building, a 62-story high rise in Los Angeles. Fire fighters responding to the blaze encountered unexpected snags with the active fire protection systems: The building's two fire pumps had been shut down to facilitate connection of a new sprinkler system being installed in the building, and the sprinkler system itself was not yet operational.

The fire took full advantage of the three hours and 40 minutes it had to burn. Instead of burning through the floors, the fire burst the exterior windows, then leap-frogged up the side of the building to the next three floors.

Today fire-rated glass and curtain-wall systems, with fire ratings up to two hours, are available to prevent such expansion of a fire. Glass that forms the skin of a building no longer needs to be vulnerable to fire, and in fact, can provide much needed protection.

When it comes to fire safety, too much is on the line to rely solely on a



Fire-rated glass and framing is available for interior and exterior applications, including exterior curtainwalls.

single method of protection. The best of all worlds is when effective compartmentation, detection and alarms, and suppression systems are teamed with occupant safety education for maximum protection on every level. A design that incorporates active and passive fire-protection systems is by far the superior choice. 🔥

Jerry Razwick is Founder and President of Technical Glass Products (TGP), a distributor of specialty glass and framing as well as architectural products. He has been a glass factory agent in foreign and domestic markets for over 25 years. Razwick has served on the Industry Advisory Committee for Underwriters Laboratories, Inc. and is an active member of AIA, CSI, NGA and GANA. www.fireglass.com

¹. United States Fire Administration Technical Report Series, New York City Bank Building Fire: Compartmentation vs. Sprinklers (http://www.interfire.org/res_file/pdf/Tr-071.pdf)

Fire Doors & Hardware Enhance Life Safety Designs



An automatic flush bolt (visible at edge of door) keeps the inactive door latched whenever the active leaf of a pair of doors is closed. For pairs of doors with two types of hardware that require sequential closing, a fire door coordinator (visible at top of door frame) must be used to ensure that the two doors will close completely and in the proper sequence. Electromagnetic hold-open behind door releases if alarm system is activated, allowing door to close.

By Kurt Roeper

Building codes require the use of fire-rated doors, frames and related hardware components on specified openings to protect a building's occupants and ensure that they can safely exit in case of a fire. The National Fire Protection Association's NFPA 101 Life Safety Code and other national and local codes govern doors, hardware components and the integrity of the entire opening. Failure to consider the implications of these codes can lead to problems ranging from a fire inspector's demands for replacement of a non-conforming door and

hardware to disastrous property damage or even loss of life.

The integrity of a labeled fire door opening depends on the interaction of all its components, which must be appropriately labeled. Fire door assemblies are composed of the door frame, door leaf (or leaves), hinges or pivots, door closer(s), and required latching hardware items. All these components must be fire-labeled in order for the opening to maintain a fire rating. Modifying any one of them from their listed configuration could result in the loss of rating for the entire opening, as well as a malfunction that could cost lives during a fire. In recognition of this, the



Delayed exit devices stay locked for a fixed time, usually 15 seconds, while sounding an alarm before they release to allow egress. In a true emergency, the delay is bypassed, and the device unlocks immediately.

National Fire Protection Association Standard 80, Fire Doors and Windows, has new requirements for the annual inspection and functional testing of swinging-type fire doors.

Fire Doors and Frames

Fire doors are rated according to the time they will withstand fire in a specified test. The highest rating is the three-hour door, with other classifications that include 90-minute, 60-minute, 45-minute, and 20-minute fire doors. Three-hour doors are used in walls that separate areas with highly dissimilar occupancy types, while doors with the 90-minute classification are used to limit the spread of fire to a particular area of a building, such as a stairwell. A 20-minute door might be

installed in a corridor, where it would be used mainly to prevent smoke from fire in a small office or hospital patient room from filling the hallway.

A fire door must be labeled to show its fire rating, and when fire exit hardware is used, the door label must state "For use with Fire Exit Hardware." The device also must be labeled "Fire Exit Hardware." These labels indicate that the components have been tested to the appropriate standards by an independent third-party testing laboratory such as Underwriters Laboratories or Warnock Hersey.

Fire Exit Devices

A fire exit device protects life safety by providing emergency egress,

but it also must maintain a separation to contain fire and minimize damage. To meet these demands, the device must remain constantly latched to hold the door closed during an emergency, but also allow someone to exit and re-latch after they leave.

The term "exit device" is used to broadly describe Panic Hardware and Fire Exit Hardware. While both types perform the same function of allowing persons to exit safely from a building or area, fire exit devices provide added fire containment protection and are required when the code demands it.

Exit devices listed under either type will bear a label indicating their appropriate usage, either as "Panic Hardware" or "Fire Exit

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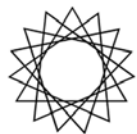
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Hardware.” While panic hardware is approved for panic hazard use and may be installed on any door that is not fire-rated, fire exit hardware must be used where fire doors are required. Fire exit devices are rated for use with comparably rated fire doors and openings.

One important difference between the two types is that Fire Exit Hardware cannot have a manual “dogging” feature, which holds the latchbolt in the retracted position to permit “push-pull” operation. This is done to reduce wear and tear on the latching mechanism. Some manufacturers offer listed Fire Exit Hardware in which the latchbolt is held back electrically or pneumatically. When activated by a smoke or emergency detector, these devices release the latch bolt and allow it to engage the strike, providing the necessary holding action.

When used on pairs of automatic-operated fire-rated doors, fire exit devices must be the vertical rod type. Some manufacturers comply with the listings using devices with either concealed or surface vertical rods, while others are limited to only surface vertical rod devices.

Because the latchbolts must engage the strikes to meet the fire assembly latching requirement, a latch release device is furnished as part of the door operator package and holds the latchbolts in the retracted position while the door operator functions. Latch release mechanisms replace the manufacturer's standard mechanical trigger and are electrically controlled by the building's fire alarm system.

Flush Bolts and Fire Door Coordinators

When used with a pair of fire doors, an automatic flush bolt is permitted in some applications, to

keep the inactive door latched whenever the active leaf is closed. In operation, closing the active door automatically projects the bolt into the head frame, preventing the inactive door from being opened. Opening the active door retracts the bolt, freeing the inactive door for easy egress. To provide the proper three-point latching, flush bolts are usually installed at the top and bottom of the fire doors. Constant-latching and manual flush bolts are normally considered inappropriate for fire door applications that are in the path of egress.

Whenever a pair of doors has two types of hardware that require sequential closing, such as an exit device and an automatic flush bolt or two exit devices and an overlapping astragal, a fire door coordinator (sequencer) must be used. This assures that the two doors will close in the proper sequence and close completely, preventing damage to the doors and their hardware. A bar-type coordinator, which is installed in the upper door frame, is generally favored for aesthetic and vandal-resistance reasons.


Auxiliary Hardware

Certain types of auxiliary hardware, such as overhead stops and holders, do not have fire-listing categories. Any doors with fire labels are required to be self closing as well as self latching, so they will contain a fire if one occurs. In some cases, a wall mounted hold open magnet or door closer with a hold open feature can be used if it is tied into the fire alarm. These must be wired so that any power interruption will cause the doors to close automatically. Under no circumstances should kick down door stops be installed on a fire door.

When used with a fire exit device,

an electric strike can be installed in the frame on single doors and in the door edge on pairs of doors. Contact the door and frame manufacturer to determine if the listing procedure permits the use of a specific strike or latching product.

Delayed egress exit devices were conceived to help resolve the trade-off between life safety and security. These controlled exit devices stay locked for a fixed time, usually 15 seconds, while sounding an alarm before they release to allow egress. The delay and alarm warning allow time to respond to an unauthorized door opening, while the length of the delay is short enough to prevent someone from being trapped in a locked area. In a true emergency, the delay is bypassed and the device unlocks immediately, through a tie-in with the building's fire alarm and/or sprinkler system.

Delayed exit devices and systems are described under Special Locking Arrangements in NFPA 101, Life Safety Code. Some codes list them as delayed egress systems, which augment the requirement for an exit device, rather than replacing it. Both NFPA 101 and local code requirements should be reviewed carefully before installing any delayed exit system to be sure of meeting all mandated life safety needs. 

Kurt Roeper, of Ingersoll Rand Security Technologies in Cincinnati, Ohio, may be reached at (513) 745-6620.

Code Corner

ICC Code Development

The International Code Council's Code Development Hearings took place Feb. 18 - March 1. A diverse committee of 14 people from industry, building officials, and fire marshals participated in the committee hearing. About 100 code change proposals were considered each day, rendering an "Approve or Disapprove", with feedback provided to the proponent verbally right away by the committee, proponents and opponents.

The next steps are that public comments will be submitted by mid-June, with Final Action Hearings in Minneapolis in early September. Final action hearings are attended by building officials, fire marshals and industry representatives, with debate heard by all in attendance. Voting on public comments is restricted to building officials and fire marshals. To overturn a committee decision, a two-thirds vote of the assembly is required have the committee action overturned and become part of the 2009 International Family of Codes.



ICC Code Committees hear proposals.

FCIA at ICC Code Hearings

FCIA believes that fire resistance-rated and smoke-resistant compartmentation and firestopping needs to

be properly designed, installed, inspected and maintained to perform properly when called upon by fire or smoke.

As part of the ICC Code Development Process, FCIA submitted several proposals to support better reliability of firestop systems and effective compartmentation. Here's a sampling of FCIA's code change proposals, noted by the number assigned by ICC. The logic and feedback from the assembly by the Code Development Committee during the hearings is included below:

- Design. G7 - Shop Drawings - 106.2.3 in the International Building Code (IBC) and International Existing Building Code (IEBC) hearings General Agenda, dealt with Shop Drawings. FCIA's code change would require that shop drawings be submitted before the start of systems installation. This is critical for identification of the classified compartmentation and firestop systems. This code change was viewed as logical by building officials, not only during construction, but throughout the life cycle of the building. Although it not was approved, we did hear from the committee that this may be needed, and that we should work on the word "shop drawings" during the public comment process.

- Install. FS83 - 712.2.2 - This code proposal adds a requirement for Certified Contractors by an approved agency. Bill McHugh, FCIA, testified that there are three parts of this code change, including installation to manufacturers instructions, sleeves, and certified contractors by an

approved agency. Firestopping keeps the integrity of the fire barriers, fire walls, smoke barriers, and fire partitions intact, through using classified firestop systems. Selection and installation of firestopping is to "zero-tolerance" requirements. Currently, there are two firms who are approved agencies, FM Approvals and Underwriters Laboratories, Inc. Costs are reasonable at about \$3,000-\$8,000 initially, and \$3000 per year annually. Contractors are listed on FM, UL and FCIA's websites, with available national and international coverage. The certified contractor concept consists of three parts. DRI - A designated responsible individual is tested to industry knowledge, and becomes qualified to operate the firm. Contractor Firm Audit - A contractor firm audit is performed by an approved agency to assure that policies and procedures exist, and are part of the company culture. Then, an audit is done in the field to assure that the policies outlining firestop systems installation to zero tolerance are implemented in the field.

- Inspect. G9 - Inspections, 109.3.5, IBC and IEBC - on the IBC General agenda, attempted to bring inspection of fire- and smoke-resistance-rated construction, by stating that penetrations and openings not be concealed from view until inspected. FCIA heard that we should look at the language, to be sure references are appropriate, and language consistent with the code. G9 was disapproved.

- Inspect. G10 - 109.3.6 IBC, IEBC, on both of these agendas was

Industry News

an effort by FCIA to have smoke barriers and smoke partitions added to the inspection section, in addition to firestop systems. G10 was approved as submitted in both the IBC and the IEBC. During discussion it was noted by James Colgate, City of New York Executive Architect, that inspections are important and, as such, New York City added ASTM E 2174 inspections as a requirement for firestopping.

- **Maintain - F105** - The International Fire Code, (IFC), 703.1, 107.2, has a requirement for visual inspection for passive fire systems including compartmentation features, firestopping, fire dampers, fire doors and hardware, fire-rated glazing, annually by owner. This code change was introduced by the National Association of State Fire Marshals. Read the next issue to learn results of this code change.

- **F104** - Also in the IFC, 701.2, City of Southfield's Wayne Jewell, (also a moderator at the hearings), submitted a code change proposal "where any of the components of this chapter are not maintained and do not function as intended, that the building, or portion of the building be deemed unsafe." This is a very wide sweeping change, with much responsibility given to the building official, and rightfully so. If compartmentation and structural fire resistance is not maintained, it may not perform as intended. Look for results in the next issue.

Compartmentation

Definition - In FS6, FCIA attempted to add a definition for compart-

mentation in the IBC and IFC, in Chapter 2, section 202 definitions. We testified that compartmentation is a very important part of fire and life safety, and an overall overarching concept in the code, and therefore needs definition. The committee disapproved this request. However, several committee members asked questions, and commented that it is a concept that needs to be defined in the code, and urged us to work with opponents to bring the appropriate language for this important code change to be accepted at final action hearings.

- **Corridors - E119, 118, 116, 117 - Table 1017.1** - All of these code changes were heard by the Means of Egress Committee, which dealt with adding one-hour fire resistance rated corridors to various building occupancies. FCIA testified in support with information that since a large percentage of school and university buildings were built with compartmentation as the first line of defense, with sprinklers added, produced the safe buildings we now enjoy. Each of these proposals was disapproved with commentary that one-hour ratings may be overly protective.

- **Height and Area G110** - Kate Dargan, California State Fire Marshal and Dave Collins, Preview Group, representing American Institute of Architects, presented that the Code Technology Committee, Features Study Group met in January, March, June, August, and November to work out differences about height and area with various stakeholders. The

group vetted out code change proposals in a forum that allowed extended discussion about the issues involved in height and area. These issues include how big, and how tall can buildings be before adding compartmentation to limit the fuel load, and slow fire spread in buildings. Another issue discussed was fire flow required at buildings for sprinkler systems, ranging from 1,500 - 2,000 gallons per minute (GPM). At the building code hearings, there were 20 code changes related to Height and Area to review, debate, and for the committee to make determinations. Dargan and Collins mentioned that the code change is not perfect, a work in progress, that will take several cycles to vet through the code development process, with much input sought from various stakeholders.

- **Occupancy Separations - G59** - The North American Insulation Manufacturers Association introduced this code change to reinsert one-hour rated occupancy separation requirements into many occupancies. They were removed last cycle in a code change that was purported to be editorial in nature. This code change proposal was also disapproved.

With two volumes of code change proposals over 3-in. thick, there were many code change proposals to be vetted by the various committees, over the two-week period. Watch next issue of Life Safety Digest, and <http://www.iccsafe.org> for more results.

Testing & Qualification News



Devin Bowman, Technical Glass Products presents at UL Total Fire Protection Systems Symposium.



Hugh Dudley, National Fireproofing Contractors Association, presents at the FCIA - UL Total Fire Protection Systems Symposium.



The Architectural Openings Resource



FCIA / UL Total Fire Protection Systems Symposium

The ICC LA Basin Chapter hosted with UL & FCIA another TFPSS Symposium Jan. 31- Feb. 1 in the Los Angeles, CA area. Over 120 people attended with education from all the Effective Compartmentation, Detection and Alarm, and the Suppression industries. Another is scheduled for April 10 in San Jose, with plans for the east coast as well. Visit the UL Qualification area of <http://www.fcia.org> for info.

FCIA thanks the faculty of the Total Fire Protection Systems Symposium, UL's John Taecker and Betsy Titus, Masonry Institute of CA and National Concrete Masonry Association's John Chrysler, AWCI's Don Smith & USG's Bob Grupe from the Gypsum industry, Greenheck's Sara Stubbe for fire and smoke dampers, Technical Glass Products Devin Bowman for fire-rated glazing, Bill Johnson, Door and Hardware

Institute for swinging fire doors and hardware, Paul Lawrence, Lawrence Doors, Inc. on rolling fire doors, National Fireproofing Contractors Association's Hugh Dudley on structural steel fireproofing, National Fire Sprinkler Association's Buddy Dewar, Bay Alarm's Shane Clary on detection and alarms, and FCIA's Bill McHugh on Firestopping.

FCIA Meets with FM Approvals

FCIA's Aedan Gleeson & Bob LeClair met with FM's Jeff Gould to discuss FM 4991 and further acceptance into the marketplace. FM's 4991 Standard for the Approval of Firestop Contractors is celebrating its eighth year as a viable program, well specified in MasterSpec, SpecLink, and many other key places.

Northeastern Building Officials Elect Leader

Matt Mulvey, Deputy Building Commissioner, Weston, Mass., was re-elected to a second term as president, North East Building Code Association. He was also appointed to serve on the Massachusetts State Board of Building Regulations and Standards Committee that will evaluate a code change proposal requirement for the installation of sprinklers in one and two-family dwellings. Reach Matt at info@mulvey.cc.

International Concrete Exposition Set to Launch

The National Concrete Masonry Association (NCMA), Cast Stone Institute (CSI), the Interlocking Concrete Pavement Institute (ICPI),

Industry News

and the Portland Cement Association (PCA) announced the International Concrete Exposition (Icon Expo). The Icon Expo will be held Feb. 26-28, 2009, at the Indiana Convention Center & RCA Dome in Indianapolis, and continues a long-standing tradition of presenting a combined trade show for the concrete industry. NCMA has been a presenter at the FCIA Symposiums.

FCIA Apprenticeship Standards

FCIA's Apprenticeship Chair, Bob Hasting, reports that the U.S. Department of Labor is in final stages of review before approval of the FCIA Apprenticeship Standards. This 4-year apprenticeship program focuses on educating the "Firestop / Containment Worker" to provide a trained workforce for firestopping and effective compartmentation systems, especially in maintenance situations.

FCIA Education and Committee Action Conference

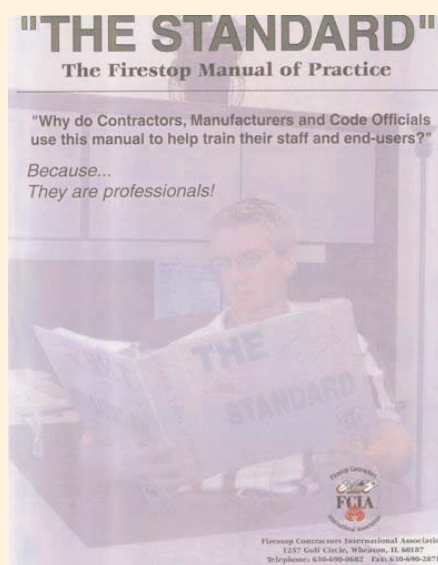


FCIA's committees, UL's Standards Technical Panel (STP) Study Groups, Quality Management System Education, UL & FM DRI Testing, Firestopping and "Green Building," Firestopping and Effective Compart-



mentation Specs, Code Requirements, a Code Development Strategy Meeting, FCIA Member Marketing Toolbox Education, ASHE/Healthcare Firestopping and Compartmentation Education & Code reports from Koffel & Associates, and much more....take place at this conference. Don't miss this important conference at Seattle's Edgewater Hotel.

FCIA Manual of Practice FREE for AHJ's, Specifiers



Offered free to architects, Specifiers, Fire Marshals, Fire Protection Engineers, Building

Officials, this important document about firestopping, brings knowledge to the industry, as a service from FCIA. The manual is sent via e-mail as a PDF Document, to keep costs down, and serve more people. Insert picture of MOP

International Code Council Code Development

FCIA attends, submits proposals and speaks at the ICC Code Development hearings to bring a contractor perspective to building and fire code development where it pertains to firestopping and effective compartmentation systems in buildings. Our philosophy is to build and support better design, installation, inspection and maintenance for effective compartmentation and firestopping for reliability when these important fire protection features are needed...a fire or other emergency event.

Effective Compartmentation Speaker at Door Expo

Steve Hahn, of Lawrence Doors, Inc., has supported the Effective Compartmentation and Total Fire Protection Systems Symposiums since their inception. He is speaking on new requirements in NFPA 80 at the International Door Expo, in Las Vegas, NV, on April 22-24. FCIA appreciates Lawrence and the Door Access and Systems Manufacturers Association for their participation in FCIA's Education Events.

Life Safety Digest 2008 Industry Calendar

March 23 to 27

AWCI, Las Vegas

April 10

FCIA - UL Total Fire Protection Systems Symposium, San Jose, CA

April 22 to 25

International Door Expo, Las Vegas

April 29 to May 2

FCIA Education and Committee Action Conference, Seattle

June 2 to 6

NFPA World Safety Conference & Exposition, Las Vegas

June 3 to 6

Construct 2008, sponsored by the Construction Specifications Institute, Las Vegas

August 6 to 10

National Concrete Masonry Mid-Year Meetings, Huntington Beach, CA

Sept. 17 to 23

ICC Final Action Hearings, Minneapolis

Oct. 6 to 8

Glass Build America, Las Vegas

Oct. 19 to 22

SMACNA Convention, Maui, Hawaii

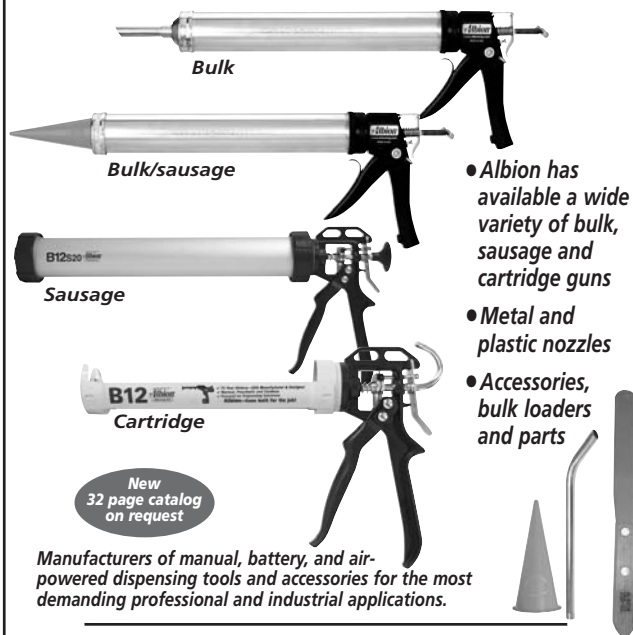
Nov. 6 to 9

FCIA Firestop Industry Conference & Trade Show, San Antonio

Nov. 8 to 15

Door and Hardware Institute Show, Boston

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2"	SONNEBORN NP-2 PECORA DYNATRED PECORA DYNAFLEX	LYMTAL 880 LYMTAL 881 LYMTAL 830	SIKA 2 CNS GE PENSIL 300 GE PENSIL 300 SL
3/4"	PECORA 864 PECORA AC-20 FTR PECORA DYNATROL II GE SIL PRUF GE ULTRA GLAZE GE EP 600 GE PENSIL 300 DOW CORNING 790 DOW CORNING 795 SIKA SIKAFLEX 2CNS SIKA SIKAFLEX ISLM TREMCO VULKEM 921 TREMCO VULKEM 922 LYMTAL 880 GB LYMTAL 881 LYMTAL 830 CARLISLE COATINGS QSC 1026 C.R. LAURENCE CRLM64		



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The Fire Safety Construction Advisory Councils

of the midwest recently commissioned an independent and extraordinarily revealing study evaluating construction costs utilizing wood framing, light gauge steel framing and non-combustible concrete construction.

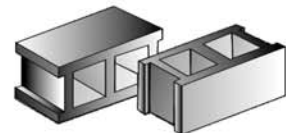
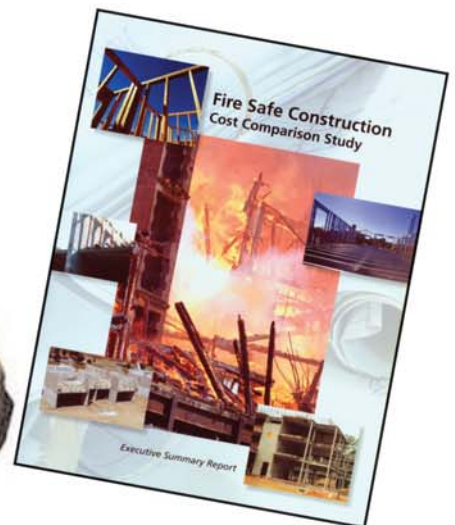
Using a four story building model with two different layout considerations, the study addresses costs in 3 cities in Illinois & Indiana.

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