

Volume 4, No. 1

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Life Safety DIGEST

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Means Easier Maintenance**

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On the Cover:

Attached is the exterior of a building where pre cast concrete panels and fire glass make a fire resistant shell. Photo courtesy of TGP, Technical Glass Products; FireLite IGU.

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Editors' Message

Effective Compartmentation is dividing large areas inside a building into smaller compartments to contain fires to the room of origin until either automatic suppression controls the fire, firefighters extinguish the blaze, or it runs out of oxygen. The elements, or Features, of Effective Compartmentation are fire, smoke or other resistance-rated floor and wall systems, with openings protected by swinging and rolling fire doors, fire-rated glazing, plus fire and smoke dampers, and penetrations protected by firestop systems. **Total Fire Protection** adds alarms, detection and suppression systems, coupled with education of all, including the building's occupants. These are all systems, meant to work in concert with one another.

The Effective Compartmentation Initiative is catching on in Total Fire Protection. Compartmentation is being studied by government, building officials and fire marshals, contractors, architects and specifiers, to name a few. The International Code Council Code Technology Committee, "Features" study group spent over a year on the subject, with code change proposals to be heard in Palm Springs, CA this February.

A large percentage of the office, healthcare and education occupancy structures in the U.S. were built with compartmentation as the first line of defense, with detection, alarms and suppression systems added later. This has produced the excellent fire safety record in buildings.

There's a new movement in the International Building Code that will make it more efficient for profession-

al compartmentation maintenance firms to service fire- and smoke-resistance-rated systems. New required markings for fire-resistance-rated construction 'features' installed during construction make a big difference in servicing the building for building owners and managers.

Read and enjoy articles about Compartmentation Features. 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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Balanced Construction

A rational approach to passive & active fire protection

By Kurt Roeper

Protecting a building's occupants and contents from fire has long been a prime consideration in building codes, as evidenced by historic requirements for fire-resistant construction assemblies (also known as compartmentation), automatic fire sprinklers, detection and alarm systems and occupant education. This article focuses on two parts of fire protection - fire-resistant construction compartmentation and sprinkler systems.

As the model codes evolved, the relative roles of these two technologies have changed, with a greater reliance on automatic sprinklers now than ever before. Many fire service professionals, building officials and others close to the issue are questioning the wisdom of the over-reliance on any one technology, and the loss of safety previously afforded by compartmentation and sprinkler systems.

The transition from the individual BOCA (Building Officials and Code Administrators International, Inc.), Southern (SBCCI-Southern Building Code Congress International) and Uniform (ICBO-International Conference of Building Officials) Building Codes into the 2000 International Building Code (IBC) had some significant effects on how fire protection is designed and applied. In merging these legacy codes, the International Code Council®, publishers of the IBC generally found it favorable to settle on the least restrictive provisions in



Fire resistance-rated doors, hardware and frames protect compartmentation continuity. Photo courtesy of Ingersoll Rand Security Technologies

order to reach common agreement amongst the various constituents. Over the last 30 years, the three national building codes gradually increased the required installation of sprinklers while generally maintaining requirements for fire-resistant compartmentation assemblies such as walls, floors, doors, and ceilings. With each successive edition of the IBC, the trend increasing sprinkler requirements accelerated, while requirements for fire-resistant compartmentation assemblies decreased.

While sprinklers are designed to suppress and control flames, fire-resistant compartmentation building assemblies provide not only a protected means of egress and refuge, but also contain the spread of smoke and fire. This practice of compartmentalizing building interiors limits damage to a burning building and surrounding structures. Most importantly, compartmentation provides a protected means of egress for building occupants. History has shown that neither fire-resistant compartmentation nor sprinkler technology can provide absolute protection by itself, but a combination of the two will most always be more effective than either alone.

Although some have framed the current debate as “passive versus active” fire protection, (compartmentation vs. sprinklers), it is this author's opinion that one technology should not be in opposition to the other. Instead, both technologies should act in concert to achieve an effective balance between sprinklers and fire/smoke-rated construction. The issue has reached such a level of concern that the International Code Council (ICC) has formed a Code Technology Committee (CTC). This group is studying balanced fire protection, height and area, vertical

openings and other topics to provide consensus recommendations in the form of proposed changes to the IBC. The CTC Balanced Fire Protection Study Group scope has been defined as *“to investigate what constitutes an acceptable balance between active fire protection and passive fire protection measures with respect to meeting the fire and life safety objectives of the IBC.”*

Fire service professionals who deal with fire prevention on a daily basis tend to favor the use of fire-resistant compartmentation, sprinklers, detection and alarms in conjunction with occupant education thereby resulting in a balanced approach to fire protection. To achieve this end within the code change process organizations, such as the National Association of State Fire Marshals (NASFM) and the California Fire Chiefs Association, have advocated greater use of fire-rated compartmentation, even where automatic sprinklers are required throughout.

Containment and Compartmentation

The objective of limiting the height and area of an occupancy to prevent the spread of fire (known as compartmentation) is used to limit losses of the contents of a space or room where a fire originates. Fire walls and barriers in addition to fire resistance rated floors between these areas, are designed to contain a fire and prevent it from spreading through a building or beyond to an adjacent structure.

While the primary purpose of fire-rated compartmentation is to prevent the spread of fire beyond the space of origin, (for example, a room, area, corridor, stairway), it also is used in smoke containment. Smoke is often more deadly than flames, making the prevention of smoke migration of paramount



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When fire, smoke or other types of rated compartmentation and construction is eliminated or reduced, it also compromises the protection smoke barriers and smoke management systems may provide within a structure.

Sprinklers have some limitations as the sole safety method, although they play a vital role in fire protection. Supply pipes can corrode over time, sprinkler heads may fail to function, and earthquakes or other events may disrupt the water supply. Also, a system's reliability can degrade rapidly if it is not properly maintained. In a January 2006 paper, *Reliability of Automatic Sprinkler Systems*, commissioned by the Alliance for Fire and Smoke Containment and Control, Inc., William E. Koffel, P.E. concluded that the operational reliability of automatic sprinkler systems is 84% (see table 1), while the performance reliability is just under 20% (see table 2). Additional research by NFPA, released in spring 2006, showed that these statistics can vary by occupancy, with reliability at closer to the low 90% range.

Like sprinkler systems, effective compartmentation has limitations. If holes, gaps, and joints are not firestopped, fire dampers not designed or installed properly, fire-rated glazing

not specified, or fire doors not maintained, the reliability of compartmentation can be compromised.

No matter which reliability number is cited for sprinkler or effective compartmentation reliability, the following assessment is still valid. With a sprinkler system designed to suppress the fire and fire-rated compartmentation construction designed to contain it, the shortcomings of either individual system will be mitigated and supplemented by the installation of the other.

In support a return to balanced fire protection, many recent code change proposals sought a return to the legacy Uniform Building Code (UBC) height and area tables formerly used to determine when an occupancy area had to be subdivid-

ed into compartments. These tables were more restrictive than the present International Building Code requirements for maximum height and areas of various occupancies. The adoption and enforcement of the code always lags its publication; it is likely that some of the building fire and smoke performance trends now seen in the field are based on the adoption of the 2000 edition rather than the 2003 edition. Some of the changes brought about by the adoption of the International Building Code include:

- Increased allowable height and unlimited areas in certain occupancies, removing life saving compartmentation
- Reduced or eliminated fire- and smoke-resistance rated corridor

construction.

- Loss of smoke barrier construction between occupancies
- Eliminated rated openings where rated wall construction is no longer required, along with the subsequent requirements for doors that are self-closing or automatic closing.

Perhaps the most significant element in the ongoing International Code Council fire and building code discussions is the concept of exchanging established passive fire compartmentation code provisions for active protection such as fire sprinklers. These code provision exchanges are known as sprinkler trade-offs. Historically, these were proposed as an economic incentive for building owners to install sprinklers because they reduced con-

TABLE 1 - Operational Reliability of Automatic Sprinkler Systems

Property Use	Estimated Number of Fires with Sprinklers Present (1989-1998)	% of Fires With Sprinklers Where Sprinklers Operated
Public Assembly	30,000	73.9%
Educational	11,700	79.6%
Health Care and Correctional Facilities	41,900	80.0%
All Residential	87,500	84.6%
One- and two- family dwellings	16,900	80.0%
Apartments	50,000	87.6%
Hotels and Motels	12,900	82.7%
Department Stores	28,700	84.9%
Offices	10,700	80.6%
Industrial Facilities	4,100	85.9%
Manufacturing Facilities	49,800	91.1%
Storage Properties	9,000	84.0%
Total All Uses	273,400	83.6%

struction costs at the expense of other fire and life safety building features like compartmentation, fire-resistance-rated exit corridors and occupancy separations. Additionally, reducing a fire rating from three hours to two, if a full sprinkler system was installed, was not considered to be a compromise in fire safety. This practice encouraged the use of sprinklers, which have been shown to reduce property loss and deaths in fires.

However, in this author's opinion, this trend appears to have crossed a threshold, and many experts feel that it is leading to an over-reliance on sprinklers as a replacement for fire-rated compartmentation construction designs. While the International Building Code allows new buildings to be built taller and larger than

before, it also allows for reduction or elimination of rated construction features such as fire walls, fire barriers used for corridors and occupancy separations, with their opening and penetration protection features, rolling and swinging fire doors, fire dampers for air control, fire-resistance-rated glazing, firestopping and protected steel columns.

The International Building Code is revised on a three-year cycle, with the most recent publications being in 2003 and 2006. A supplement in the interim years actually becomes part of the next code, with the full code being published only every third year. As a model building code, it only becomes effective when adopted by local governing bodies. Therefore, from the time

between inclusion of a change and publication in the next edition and the time it becomes actual practice can be lengthy. This is one of the many reasons that the work of the Code Technology Committee, and their pending recommendations for revisions to the International Building Code, are vitally important in setting the course for our future approach to fire and life safety in the built environment. 

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Note: Tables 1 and 2 are from the paper "Reliability of Automatic Sprinkler Systems" by William E. Koffel, P.E, as revised January 2006.

TABLE 2 - Performance Reliability of Automatic Sprinkler Systems

Property Use	Estimated Number of Fires with Sprinklers Present (1989-1998)	Estimated Number of Fires reported to be Extinguished by an Automatic Suppression System (1989-1998)	Percent of Fires Extinguished by System
Public Assembly	30,000	8,000	26.7%
Educational	11,700	1,000	8.5%
Health Care and Correctional Facilities	41,900	5,000	11.9%
All Residential	87,500	17,000	19.4%
One- and two- family dwellings	16,900	3,000	17.8%
Apartments	50,000	10,000	20.0%
Hotels and Motels	12,900	2,000	15.5%
Department Stores	28,700	6,000	20.9%
Offices	10,700	2,000	18.7%
Industrial Facilities	4,100	1,000	24.4%
Manufacturing Facilities	49,800	13,000	26.1%
Storage Properties	9,000	3,000	33.3%
Total All Uses	273,400	53,000	19.4

Fire-rated glazing labels Means Easier Maintenance Professionals outside the industry laud the move

By Thomas S. Zaremba

Editors Note: There's a new marking system that can help design companies, installation firms, inspectors, and building maintenance professionals all at once. At the International Building Code Hearings in May, 2007, markings for Compartmentation Features such as fire rated glazing were debated. "Marking fire barriers and compartmentation components is a huge time saver for the whole building life cycle chain," stated Bob LeClair, FCIA Code Chairman. Whether it's the fire damper, fire door, firestopping or fire rated glazing industry, we're all asking the same question of the building owner/manager, engineer, "where's the fire- or smoke-resistance-rated-walls?"

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Fire rated glazing now has labelling keyed to testing. The letters D-H-NT-20, and OH-20 mean a 20 minute rating. See article for definitions.

Here's a primer on the new system for fire rated glazing to help the construction team understand marking systems.

Relax. Kick back. Enjoy the International Building Code's new marking system for fire-rated glazing. It's going to make your life a lot easier. That's what some people familiar with the new marking system say.

Let's begin at Underwriters Laboratories. According to Bob Berhinig, principal engineer at UL's Northbrook, Ill., facility, UL encourages use of the system as a supplement to its classification mark and has included details of the system at the GuideInfo section of its online certification directory. This system marks fire-rated glazing according to fire tests prescribed by the building code. If it is tested to the American Society for Testing Materials ASTM E 119 or UL 263, it qualifies as a fire-rated wall and receives a "W" designation. If it is tested to the National Fire Protection Association's NFPA 257 or UL 9, including the hose-stream test, it qualifies for use as an "opening" protective, and receives an "OH" designation. If it is tested to NFPA 252 or UL 10C, it qualifies for use in a fire-door assembly and receives a "D" designation. The marking system should eliminate a problem that has plagued the fire-rated glazing industry for years, says Devin Bowman, sales manager for Technical Glass Products in Kirkland, Wash. "There are a lot of products out there being marketed

as fire-rated, but they don't meet code requirements," he says. "Just because a product is 'listed' or 'labeled' doesn't always mean that it meets the prescriptive requirements of the building code. I've seen glazing in the field labeled for 45 minutes or more, but it's tempered and won't pass the hose-stream test. Code officials sometimes allow it in one-hour corridor openings simply because it has a 45-minute label. The fact that it won't pass the hose-stream test can easily be overlooked unless the code official goes behind the product's label to look at its listing. The International Building Code's marking system should eliminate this problem since it carefully tracks the code's prescriptive requirements for walls, opening protectives and fire-door assemblies and only code compliant glazing can be marked under it."

With the new system, building-code officials can determine whether a product is code compliant at a glance. For example, the "OH" marking applicable to products tested to NFPA 257, means that it passes both the fire- and hose-stream parts of the test. If a product is fire tested to NFPA 257 but not tested with the hose stream, there simply is no marking available for such a product under the new system, even if it secures a listing. For that reason, building-code officials should be wary if fire-rated glazing is listed and labeled, but not marked with a "W" an "OH" or a "D."

While weeding out listed products that don't meet code requirements, the system allows manufacturers to mark products that exceed code requirements. For example, suppose a glazing assembly is successfully tested to NFPA 257 for 60 minutes and passed the hose-stream

While weeding out listed products that don't meet code requirements, the system allows manufacturers to mark products that exceed code requirements.

test, it would be marked "OH-60," signaling immediately that it can be used in one-hour corridor openings, even though the code only requires 45-minute rated glazing in one-hour corridors.


Pilkington of the United Kingdom now marks fire-rated glass using the new system. "Pilkington started marking its products under the new system as soon as the IBC adopted it," says Bret Penrod, general manager of Pilkington's North American fire-rated glass operations in Toledo, Ohio. We must avoid confusing code officials and consumers alike. For example, while members of the fire-rated glazing community have recently focused on whether fire-rated glazing does or does not provide protection against radiant heat, the message often causes confusion. For example, in a recent article in Glass Magazine, "Heat transfer and fire-rated glazing," (February, p. 46), the author compared radiant heat emitted through a variety of different fire-rated glazing. Remarkably, however, the testing used as the basis of the comparison appears to have been the Quincy, Mass.-based National Fire Protection Association's NFPA 257, not West Conshohocken, Pa.-based

ASTM International's ASTM E119.

According to Section 703 of the IBC, the only permissible test that may be used to determine whether an assembly "prevents or retards the passage of excessive heat" is ASTM E119 or an alternate method based on the fire exposure and

acceptance criteria of ASTM E 119. Only glazing materials that limit temperature rise on the non-fire side to 325 degrees Fahrenheit at every thermocouple in the test and an average of 250 degrees F for all thermocouples, qualify for designation as a fire-resistance rated glazing under the IBC.

The IBC's new marking requirements will clearly distinguish between products that do, and those that do not, meet code requirements for protection against excessive heat transfer. If a product meets ASTM E119, it will be marked "W." If there's no "W" marking, the product isn't fire-resistance rated and doesn't meet code specifications for limiting heat transfer.

Finally, I spoke with Christopher Young, chief building official for Toledo. His office has fewer officials to inspect more building systems that get more complicated and harder to inspect every year. Anything the code organizations do to make the job of inspecting buildings easier is appreciated and the IBC's marking system for fire-rated glazing does just that, Young says. 

Editors Note: For effective maintenance of compartmentation, building owners and managers will be able to identify and service fire resistance rated glazing installations in doors, walls and other applications. Previously, building operators were limited to noting where these openings were on drawings, and then making a best estimate about location. "Markings are huge in the ongoing operations of buildings", notes FCIA's incoming president, Tom Hottenroth. "We are hired by hospitals and others to service all the compartmentation features in a building...and this new system makes the process more efficient for us all in the building life cycle compartmentation feature management industry." Watch for more on this in future issues of Life Safety Digest.

This article originally appeared in Glass Magazine.

Thomas Zaremba is a consultant with Roetzel and Andress, Toledo, OH. Zaremba's clients have included glass makers, wired glass makers, and others. He can be reached at tzaremba@ralaw.com.

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How'd AWCI Do That?

By Donald E. Smith, CCS

With more states and municipalities adopting the International Code Council model codes (I-Codes) as their building codes, the inquiry I received the other day from an Ohio based thin film manufacturer of thin film fireproofing in Ohio did not come as a big surprise to me. A distributor had informed the manufacturer that Ohio building code officials were now requiring inspection of thin film applications be performed in accordance with the requirements in the Association of Walls and Ceilings International, **“AWCI Technical Manual 12-B, Standard Practice for the Testing and Inspection of Field Applied Thin-Film Intumescent Fire-Resistive Materials; an Annotated Guide.”**

The manufacturer's question was, “How did a document from a trade association of drywall contractors become a part of the building code?” To answer his question, I provided some background on the code development process, as well as the model code that Ohio has adopted.

The 2006 International Building Code (IBC) is the model code for the Ohio Building Code. The basis for many requirements in the IBC and the International Residential Code (IRC) are references to consensus standards. There are also industry standards, but these are not used in the I-Codes. It is important to know the difference between these two types of standards. The Office of Management and Budget in Circular No. A-119 provides the following explanation:

“Voluntary consensus standards bodies” are domestic or international organizations which plan, develop,

establish, or coordinate voluntary consensus standards using agreed-upon procedures ...

“Voluntary, private sector, consensus standards bodies,” as cited in Act, is an equivalent term. The Act and the Circular encourage the participation of federal representatives in these bodies to increase the likelihood that the standards they develop will meet both public and private sector needs. A voluntary consensus standards body is defined by the following attributes: (i) openness; (ii) balance of interest; (iii) due process; (vi) an appeals process; (v) consensus, which is defined as general agreement - but not necessarily unanimity -, and includes a process for attempting to resolve objections by interested parties, as long as all comments have been fairly considered, each objector is advised of the disposition of his or her objection(s) and the reasons why, and the consensus body members are given an opportunity to change their votes after reviewing the comments.

... Other types of standards, which are distinct from voluntary consensus standards, are the following: “non-consensus standards,” “industry standards,” “company standards” or “de facto standards,” which are developed in the private sector but not in the full consensus process.

The consensus standards that we in the fireproofing and plastering trades deal with most often are from the American Iron and Steel Institute and ASTM International Standards and Specifications. AWCI's technical manual was developed under the consensus standards guidelines.

Unlike the legacy codes (BOCA, ICBO and SBCCI, the ICC decided to incorporate by reference standards, instead of spelling out the requirements for many on the tasks

required by the IBC and IRC. This allows the updating of these standards by the originating standards bodies. The ICC does require that when changes are made to the original standard that they be notified so the code can be updated in the next code revision cycle. This also yields significantly lighter and thinner code books than the legacy codes'.

TM 12-B - the other standard referenced in the IBC and IRC - ended up in these model codes by going through the code development process. There will be other standards added as the ICC revises the codes in future years. These facts should be a notice not only to our members in Ohio but to members in other states whose government will be adopting the model ICC codes as their own. If you, as a fireproofing, firestopping or effective compartmentation maintenance company, or building owner/manager, do not currently have a technical document library, it would be a good idea to start one and include those standards that can have an effect on the type of work that your company performs as a contractor or maintains as a building owner/manager. A reference library will allow you to quickly produce a standard that substantiates the quality of work when questioned about a particular item by an inspector, general contractor or building owner/manager, developer...with knowledge that can be used for fire and life safety decisions about intumescent thin film fireproofing in buildings. 🔥

Donald E. Smith, CCS, is AWCI's (Association of Walls and Ceilings International) director of technical services. He has spoken as part of the FCIA - UL Total Fire Protection Systems Symposium faculty. Contact him at smith@awci.org .

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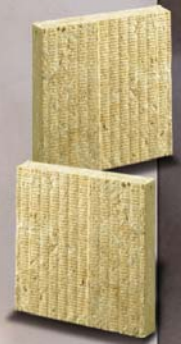
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- Providing customized, automated and hard copy inventory of all dampers; by request, digital photos before and after
 - Offering long term maintenance agreements
- Surveying for and installing fire stopping systems

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Code Corner

Industry News



The 2007 - 2008 International Code Council Building Code Cycle Development Process is beginning. The first step is committee hearings scheduled for Feb. 18 - March 1, 2008 in Palm Springs, CA.

Many code change proposals are heard by a committee of building officials, fire marshals and industry representatives. The proponent of the change is able to present the code change, with two-minute rebuttals and one-minute re-rebuttals by those in support and opposition to the proposed change.

For the Firestopping & Effective Compartmentation industry, there are several code changes that address "Design, Installation, Inspection and Maintenance" (DIIM®). They are:

- Define Compartmentation concept
- Labeling of fire and smoke barriers
- Vertical continuity of fire barriers where they meet non-rated roofs assemblies
- Building Perimeter Fire Protection
- Alternatives to shafts using ASTM

E 2336 fire-resistance-rated insulation systems.

- Marking of fire-resistance-rated glazing.
- Definition of "Areas of Interrupted Water Supply"
- Creating a "Horizontal Smoke Barrier" category
- Firestop systems for penetrations & joints to be installed by "certified contractors by an Approved Agency" (UL & FM) and resistant to field conditions.
- Removing the "L" Rating <5CFM/SF opening area from code requirements
- Requiring Fire and Smoke Damper Maintenance and Inspection
- Marking buildings for hazard content, construction type, sprinklered, etc.
- Change chapter 7 from Fire Resistance Rated Construction to Fire Protection Features
- Two submissions to completely rewrite and reorganize Chapter 7, where Compartmentation features reside
- Heighten design and inspection of fire- and smoke-resistance-rated compartmentation features such as fire dampers, firestopping, fire-rated glazing, rolling and swinging doors through submittal documentation and not concealing from view before inspection.
- Add ASTM E 2174 & ASTM E 2393, Standard Practice for the Inspection of Penetration and Joint Firestops.
- Rewrite of Chapter 5 Height and Area to focus on Compartmentation and Fire Flow concepts.
- Add requirements for the impact resistance of high rise elevator hoistways in buildings.
- Add hourly rated occupancy separations

rations

- Restore corridor fire-resistance ratings in certain occupancies

It will be a very active code hearing in February 2008. Visit <http://www.iccsafe.org/cs/codes/2007-08cycle/ProposedChanges/index.html> for complete information about the process and text of changes. Attend the hearings...as they are public, open to all.

FCIA at NFPA Committee Meetings

FCIA attended the Fire Protection Features Committee Meetings, in Providence, RI to bring the message that qualified and approved contractors, inspected by professionals, means fire and life safety. As a member of the committee, FCIA submitted several comments for discussion, including FM 4991 & UL Qualified Firestop Contractors, in addition to adding the ASTM E 2174 & ASTM E 2393 Standards to NFPA 5000 & NFPA 101. FCIA thanks FCIA past president Kathy Taraba, of Rolling Plains Construction/One Source Firestop Inc., for her seven years of participation at NFPA. Bob LeClair, FCIA past president, will replace her on the committee.

Testing & Qualification News

FCIA Symposia

FCIA'S Effective Compartmentation Symposium was developed as a tool to illuminate the importance of compartmentation in buildings to build support for the discipline. It's been presented at the CSI National Convention and FCIA Firestop Industry Conference. For 2008, it's already scheduled at CONSTRUCT, sponsored by CSI in June. The Effective Compartmentation Symposium is a vital part of the FCIA/UL Total Fire Protection Systems Symposium. FCIA/UL Total Fire Protection Systems Symposia are

being scheduled for California (Jan. 31 & Feb. 1); Toronto, Ontario, Canada; and the Northeastern U.S. Watch <http://www.fcia.org> for schedules.

ICC Committees Meeting

The ICC Code Technology Committee Study Groups continue to meet to discuss compartmentation, sprinklers, alarms & detection and how they relate to building height and area. Jerome Sanzone, a member of the "Features" study group reviewing height and area, spoke to FCIA in early November. "The Code Technology Committee's

number one goal is to make safer buildings." The Features Study Group is reviewing code change proposals for the 2007-2008 Code Cycle, and is committed to making things work, even if it means the 2012 code. "The code change process is a long term project that will take several years to implement. With input from all sides of issues, and for good reason, the process can work."

Gypsum Industry Standards

Robert Wessel, Ph.D., the assistant executive director and director of technical services for the Gypsum

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Association, is featured in a column in the August 2007 edition of ASTM International's Standardization News. The article details how Wessel, serving as the secretary for ASTM's Committee C-11 on Gypsum and Related Building Materials and Systems, coordinated the combining of nine separate gypsum-related material standards into a single umbrella standard, ASTM C 1396/C 1396M, Specification for Gypsum Board.

The Gypsum Association, representing gypsum board manufacturing companies located throughout the United States and Canada, is headquartered in Washington, DC.

FM 4991 Gaining Ground



Jeff Gould, FM's Manager for FM 4991, reported that FM has beefed up its program recently. FM now directly employs 16 people who audit firestop contracting firms throughout the world. FM will also offer its FM Approval Guide on the Web. Approved Contractors are appearing all over. In 2001, zero contractors, and 15 Designated Responsible Individuals (DRI's) existed.. By years' end 2007, FM expects between 44 and 51 FM 4991 Approved Contractors, with around 60 DRI's. Each year there are 15% more Approved Contractors from around the world that become "Approved". Find them at <http://www.fcia.org>.

Jeff Gould also reported on insurance losses due to firestopping. In

25,000 loss reports from the FM Database, only 119 losses in 22 years were reported...and to openings or cracks, not necessarily firestopping. This is more evidence that Effective Compartmentation works when called upon. Using an FCIA member, FM 4991 Approved Contractor means a qualified firm is handling an important fire and life safety system...firestopping. FM is committed to the Approval of Firestop Contractors' program, a great sign for firestop contractors and building occupants.

UL's Qualified Firestop Contractor Program

DRI testing took place at FCIA's Firestop Industry Conference, in Hollywood, FL. Betsy Titus reported that UL's Program focuses on the management system of the firestop contractor firm. To date, several news releases have been published, and auditors have been educated by both UL and FCIA's Accreditation Committee. "People who have passed the UL Designated Responsible Individual Exam (different than FM's) in 2007 have reached 39, with first Qualified Firestop Contractor Firms to be complete in early 2008," stated Titus. Canadian Contractors will be able to receive the "cUL" mark as well. "UL looks forward to offering several FCIA/UL Total Fire Protection Systems Symposiums in 2008, with three scheduled already in the Western U.S., plus plans for the Eastern and Southeast U.S. and Canada.



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Qualified Firestop
Contractor Program

UL Investment means Cost Reduction

"UL is very committed to the Qualified Firestop Contractor Program that it wants to invest in its early success," proclaimed Titus. Cost to become qualified has dropped from \$6,000 for the initial contractor firm and jobsite audit to \$3,000. Yearly contractor firm and jobsite audits remain at \$3,000. Jobsite audits are meant as a check on the firestop contractor firms' management processes, and not a project certification. FCIA and UL's websites have plenty of "how to get qualified" information for contractors and others to review. Other subcontracting industries are looking into the "Quality Management movement. More to come..."

UL Qualified Fireproofing Contractor Program



**Underwriters
Laboratories**

Qualified SFRM
Contractor Program

At the National Fireproofing Contractors Association Convention in San Antonio, Titus reported that 41 DRI's have been approved by UL following the completion of the NFCA Training Program and passing the UL written examination. "To clearly demonstrate support, UL is

providing the same assistance to Fireproofing Contractors as Firestop Contractors, with an offer until late 2008 for a \$3,000 initial audit fee," exclaimed Titus.

UL & FM DRI Testing & QMS Education

The UL Qualified Firestop Contractor Program DRI and FM 4991 DRI Testing had several take DRI Exams. The FCIA DRI Firestop Test Prep Program helped test takers get ready for the exam. FCIA offered a special Quality Management System (QMS) Education Session for a half day on Tuesday for over 30 firms. UL's Besty Titus was there to assist. Watch for another program at the FCIA Education and Committee Action Conference in Seattle.

FCIA Membership Grows

From small beginnings of 35 member firms in 2000, FCIA is finishing 2007 with more than 170 firms from around the U.S., Canada, Dubai, Thailand, and the UK. "FCIA's commitment to serving the firestopping and effective compartmentation industries through advocacy work promoting the zero-tolerance systems concept using a specialty firestop contractor for installations continues to result in growth," states FCIA membership chairman Bill Hoos.

States & U.S. Department of Labor Considering Firestop Apprenticeship

FCIA's Bob Hasting has established the first State Apprenticeship Committee through the State of Washington. As a part of the movement, a Joint Apprenticeship

Committee is now operating, with an existing workforce being tested to the FM & UL Designated Responsible Individual (DRI) Exam. Additionally, one-on-one hands-on firestop application and classified systems documentation examinations are conducted for "grandfathering" those with several years experience as firestop/containment workers. This hands-on firestopping exam provides real world evaluation of the workers skills in the important fire and life safety systems selection and installation process.

FCIA's Bill Hoos & Bill McHugh met with the administrator of the U.S. Department of Labor to move the standards forward in the 23 states under the jurisdiction of the Bureau of Apprenticeship Training. FCIA members in the 27 other State Apprenticeship Committee States are working to get the program rolling locally.

"Look at the FCIA website early next year for a 'How to Start a State Apprenticeship Committee' outline for contractors to use in states that are not under the U.S. Department of Labor Jurisdiction," stated Hasting.

Industry Legal Issues

FCIA's Firestop Industry Conference attendees heard from Stephen Phillips, Esq., a seasoned construction industry attorney involved in roofing and waterproofing for over 30 years. Phillips' experience with the National Roofing Contractors Association, shared with FCIA members of all types, took the group on a legal ride for fire and life safety! Phillips recommended that the business relationship from contractor to supplier to manufacturer be established early, rather than in court later.



Stephen Phillips, Esq., teaches about construction liability.

International Firestop Council at FCIA

Sean DeCrane, executive director of IFC, provided an update of IFC's goals...to strengthen codes, provide better education, and conduct better inspections. In addition to his duties as IFC executive director, DeCrane also serves as the International Association of Fire Fighters Local #93 Representative, (Cleveland Fire Fighters Association) at the ICC Code Development Hearings. Successes include a requirement for labeling fire barriers. Plus, FCIA's Randy Bosscawen worked with FCIA - IFC Manufacturer Members to clarify for an Ohio Building Officials Group an application for firestopping instead of fireblocking when plastic pipes are enclosed in chase walls in wood frame construction.

Building Information Modeling (BIM) helps Compartmentation

BIM brings space age design capabilities to the construction industry to head off conflicts in placement of structural, mechanical, electrical, plumbing, HVAC and other services. "By alerting the design and building team to conflicts before they occur, strategic placement of these items



Diane Davis, AECInfosystems and Ian Robertson talk about BIM

can be discussed long before crews argue in the field, and change orders fly," stated Diane Davis, CSI, president, AECInfosystems, MD. "With many takeoffs already incorporated into BIM Models, this will totally change the way we estimate projects," stated FCIA president Mike Dominguez. Davis challenged FCIA by saying, "get involved in the process and help us create better information at the right time for your industry." Look for participation by FCIA in this important arena through CSI and other groups.

FCIA at ASTM

FCIA member Bill Weber, of Multicon Fire Containment, Inc., joined Bill McHugh, FCIA executive director, at ASTM E-06 Meetings in Tampa, FL. A discussion about firestop inspector qualifications took place with John Nicholas, Intertek/Omega Point Laboratories. FCIA now chairs the ASTM E 2174 & ASTM E 2393 Standards Task Groups, as well as the Inspector Qualification Standard. With inspector qualifications, debate continues about how "qualified" an inspector should be. From the contractor perspective, the inspection person should be able to select, ana-



FCIA Members watch as Graco demonstrates spray pump productivity.

lyze, and dissect a firestop system for assurance that the system was installed to the classified system or engineering judgment.

Safety & Scaffolding

Jeff Stachowiak, Scaffolding Industry Association member, brought safety tips to FCIA members when using scaffolding and lifts. Look in the member's only area, <http://www.fcia.org> for the complete presentation in December.

Graco Has New Capabilities

Graco's Mark McGowan brought years of expertise and a new "Pump Handbook" for contractors to FCIA's Firestop Industry Conference. "Spraying firestop systems and intumescent fireproofing can be a challenge. We're reorganizing to meet these challenges, and are here to help," stated McGowan.

DHI Conducts Class for First Responders and Building Code Officials

Twenty-eight first responders and code enforcement officials from South Carolina attended the first "Fire-Rated Doors and Hardware - A Guide to Field Inspections" in early 2007 at the South Carolina Fire Academy in Columbia. These officials attended this one-day course to learn about the updated NFPA 80 Standard for Fire Doors and Other Opening Protectives, installation, operation, features, basic criteria and maintenance of fire-rated doors.



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The updated standard now makes the inspection of fire-rated doors a yearly requirement. "This is an important step in helping local officials understand what to look for when they are approving the installation and on-going maintenance of fire-rated doors," said Bert Polk, retired fire marshal from South Carolina.

The foundation is working in coordination with the Door and Hardware Institute's certified members to provide these classes at no cost to the fire and building official attendees and to ultimately be a vehicle to provide the inspections. The class is providing fire and code officials a better understanding of what to visually verify when they see that a fire-rated door has passed inspection. "Part of a fire marshal's job is to enforce life safety codes, and an instructional class such as this certainly makes that job easier," added Polk. For further information, contact Bill Johnson, managing director of the foundation. He can be reached at bjohnson@dhi.org

NCMA Fire & Sound Calculator

Specifiers and building owners/managers can calculate sound transmission of fire-resistance-rated compartmentation walls made of concrete block at the National Concrete Masonry Association website. Check out the tool to see fire/sound relationship at http://ncma.org/fire_acoustic_calc/.

CSI & USGBC

The Construction Specifications Institute (CSI) and the U.S. Green Building Council (USGBC) signed a Memorandum of Understanding (MOU) which will provide an open



Everding and Gantner are honored by Chief John LaVenture, Clayton, MO, St. Louis Fire Marshals' Association.

exchange of information regarding "green" or "sustainable" building and maintenance practices during the entire facility lifecycle. It articulates several areas of joint interest, including development of documentation practices and procedures that achieve sustainability in construction.

Specifiers Honored by Fire Service

Steve Gantner and George Everding, Greater St. Louis Chapter, Construction Specifications Institute (CSI), were recognized by the Metropolitan Fire Marshal's Association and the Fire Chiefs Association. Both groups recognized their impact on the practice of protecting buildings by creating effective compartmentation through firestopping gaps and holes around pipes, cables, etc. as they pass through fire and smoke resistance rated walls and floors through specification qualifications.

Gantner raised the standard for firestop installation quality at a hospital by writing a "Reference Specification." The specification referenced the Firestop Contractors International Association's Firestop Manual of Practice as the standard for perform-

ance for firestop installation.

Everding, a full-time specification writer and university-level instructor of specification writing Updated specifications to include the Manual of Practice certification of the installation company, which resulted in the use of a single contractor firm (installer) on a project, for improved fire and life safety. This is very different than the traditional "whoever-made-the-hole, fills-the-hole" method of firestopping where there's less quality control measures required of the installing contractor firm. The use of multiple trades for firestopping installation may allow a wide array of manufacturers' products and installation quality on the same jobsite due to multiple contracts for firestopping, making inspection and maintenance difficult.

Everding's specification also called for labeling of each individual penetration and joint, with accompanying as-built firestop installation documentation. Documentation is imperative for building owner and manager maintenance personnel who identify the systems for the life cycle of the building. Both men are members of the Greater St. Louis Chapter, CSI.

Life Safety Digest 2008 Industry Calendar

Jan. 31 and Feb. 1

FCIA - UL Total Fire Protection Systems Symposium, Los Angeles

Feb. 7 to 9

NCMA Annual Convention & Expo, Denver

Feb. 18 to March 2

ICC Code Development Hearings, Palm Springs, Calif.

March 23 to 27

AWCI, 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

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

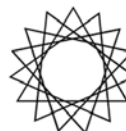
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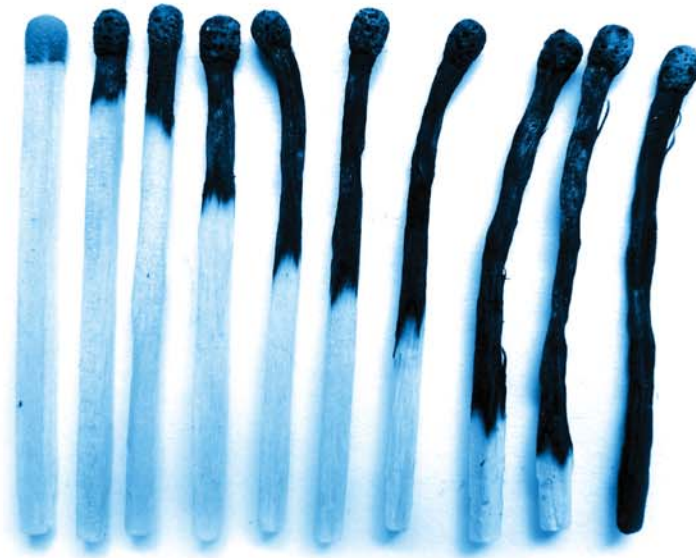
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