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Inside

- 2 Editorial:** When a Fire Occurs, and a Fire Extinguisher is Nearby... GRAB IT and USE IT!
- 2 Employee Spotlight:** Meet Cindy Thompson, Account Manager
- 3 Feature Article (Cont'd):** Replacing Problematic Concealed Sprinkler Cover Plates Ensures Proper Operation
- 4 Article 1:** The Importance of Portable Fire Extinguishers
- 5 Article 2:** Major Changes in Emergency Lighting You Need to Know!
- 5 Article 3:** Electronic Equipment Protection: Are You Installing the Right Extinguishers?
- 7 Legislation & Code:** Brooks Tracks Legislation and Extinguishers for US Military
- 8 Product Gallery**



Replacing Problematic Concealed Sprinkler Cover Plates Ensures Proper Operation

By Mark Conroy

Building owners will periodically hire painters to spruce up their interiors. But one common problem with painters is they sometimes paint over the concealed sprinkler cover plates in the ceiling. The reason is that most painters do not understand the function of the cover plate. The application of paint is detrimental to the normal operation of the sprinkler assembly and could act like a glue and significantly delay the release of water from the sprinkler system. That is why NFPA 13, *Standard for the Installation of Sprinkler Systems* prohibits painting of the covers by anyone other than the manufacturer. Other problems commonly found with installed sprinkler systems, include damaged, missing, and improper fitting cover plates. Here is what you need to know regarding replacement of problematic cover plates, which will help assure your customer's sprinkler system will work as intended.

Why Are Concealed Sprinklers Installed?

A concealed sprinkler assembly consists of the cover plate and a recessed pendant sprinkler with a support assembly to accommodate the cover plate. Concealed sprinklers are very inconspicuous. When looking at the ceiling, the only thing that is exposed is the small flat cover plate, most often the same color as the ceiling.



Continued on Page 3

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When a Fire Occurs, and a Fire Extinguisher is Nearby... GRAB IT and USE IT!

By Mark Conroy

Portable fire extinguishers are most effectively utilized when they are readily available in sufficient number and have adequate extinguishing capacity. They are installed throughout buildings as a first line of defense to cope with fires of limited size. That is a fire in the initial or beginning stage that can be controlled and extinguished by the use of a portable fire extinguisher. An available extinguisher can be safely used on this type of fire, provided the operator retrieves the extinguisher quickly and begins discharging it immediately. When the extinguishing agent is directed at the burning



materials, the fire will be extinguished and damage will be limited to the area of fire origin. A fire extinguisher used immediately on a fire helps ensure the safe evacuation of building occupants, limits property damage, and supports business continuity and revenue generation. Fire extinguishers save lives, but remember to notify others, sound the fire alarm, and call 911. ♦

Mark Conroy is an engineer in our Boston office and a member of the NFPA Technical Committee on Portable Fire Extinguishers.

“Success is..knowing your purpose in life, growing to reach your maximum potential, and sowing seeds that benefit others.” ~ John C. Maxwell

Employee Spotlight

Meet Cindy Thompson, Account Manager

Joining Brooks in December of 2017, Cindy hit the ground running in her new position with the Sales Team. Having a long, interesting past in sales, Cindy spent a number of years representing a high-end Honduran custom door company in the United States. Hand-carved and one-of-a-kind, these doors were made of Honduran mahogany, making them very exclusive and very expensive—she sold a set of two 12’ doors once for \$30,000! She also worked for a kitchen equipment company, as a National Account Manager, helping customers meet their cooking equipment needs.

Coming from these industries has helped make Cindy competitive and self-motivated, two traits that serve her well here at Brooks. As an Account Manager for Brooks, she works hard interacting and building relationships with her customers. Relations built on trust, which Cindy believes, “helps build business.” She appreciates getting to know her customers on a personal level, too, “I’m genuinely interested in not only their business but their families and

what they do outside of work—I have formed friendships with a lot of them,” she says.

Outside of work, Cindy has a host of things keeping her busy. She has three daughters (30, 28, and 27) and four grandchildren (10, 8, 2, and 10 months), whom she absolutely loves spending time with. Self-described as a “HUGE Kid Rock fan” as well, Cindy has accumulated some serious frequent flyer miles going to see him all over the country—sometimes twice a year! She just returned from a cruise in the Caribbean too. She had so much fun; she’s counting the days to the next one—Mediterranean anyone? And last, but certainly not least, she loves to cook. One of her favorite dishes—escargot. Cindy, your family, concerts, and cruises sound great. But I’d have to take a hard pass on the snails. ♦



Replacing Problematic Concealed Sprinkler Cover Plates Ensures Proper Operation

Continued from page 1

These decorative sprinkler assemblies are installed in hotel lobbies, office buildings, churches, and restaurants where an architect or building owner wants to have a flush-finished look. A cover plate fully conceals the sprinkler in the ceiling, which makes them aesthetically pleasing. They are installed in both drywall ceilings and drop ceiling tiles. The cover plates not only provide a finished look, they protect the sprinkler from accidental contact or intentional tampering and activation.

How Concealed Sprinklers Work

Similar to sprinklers, the cover plate is heat sensitive. Typically, the cover plate is soldered to the retainer piece at three points. When exposed to a fire, the heat will melt the solder and the cover plate drops out. Once the cover plate is gone the pendant sprinkler is exposed, which allows the sprinkler to be heat actuated and water flow to occur. The temperature-sensitive solder in the cover plate melts about 15°F–35°F lower than the sprinkler (depends on temperature rating of sprinkler). Concealed sprinkler assemblies are only permitted to be installed in wet pipe sprinkler systems.

Problems with Painting, Caulking, and Gluing

In addition to the prohibition on painting, the use of caulking or any type of glue is prohibited when installing sprinkler cover plates. Painting the cover plate can retard the thermal response of the sprinkler. Caulk and glue do not react to temperature the same as the manufacture's solder and could cause a delayed response or worse—the sprinkler assembly could become inoperative. Wherever a cover plate has been painted by anyone other than the sprinkler manufacturer, the cover plate is required to be replaced. Similarly, if caulk or glue is identified during an inspection, the cover plate is replaced.

NFPA 13 (2019), Standard for the Installation of Sprinkler Systems

16.2.3.2 Where cover plates on concealed sprinklers have been painted by anyone other than the sprinkler manufacturer, the cover plate shall be replaced.

16.2.5.4 The use of caulking or glue to seal the penetration or to affix the components of a recessed escutcheon or concealed cover plate shall not be permitted.



CP726B

Replacement Cover Plates

Cover plates are used to cover the annular space around a sprinkler. A missing cover plate will permit heat to escape through the gap, delaying the actuation of the sprinkler. The gap also allows smoke to vent from the protected space, which could delay the smoke detection system from providing an early warning for occupant evacuation. Since a cover plate is part of the listed sprinkler assembly, a missing cover plate must be replaced. Immediate replacement of missing cover plates is essential for life safety reasons.

Damaged or improperly fitting cover plates will either drop out too early or cause a delay in operation. Both conditions impact the safety of building occupants in the event of a fire. That is why regular inspections of concealed sprinklers are essential. Problem cover plates can be identified during an inspection and replaced before a fire occurs.

NFPA 25 (2017), 5.2.1.1.5 Escutcheons and cover plates for recessed, flush, and concealed sprinklers shall be replaced with their listed escutcheon or cover plate if found missing during the inspection.

Ordering Replacements

Each concealed sprinkler model has a specific cover plate that matches the sprinkler assembly. Cover plates can vary slightly or drastically in circumference, operating temperature, and method of attachment. So it is important to remember that cover plates are manufactured and listed, as part of the concealed fire sprinkler assembly, and each one is intended for a specific model sprinkler. In order to get the right replacement cover plate, it is essential to find the Sprinkler Identification Number (SIN). The SIN is alpha numerical and is located on a label on the cover plate. The SIN helps you identify the manufacturer brand and model number. This information is critical for ordering replacements.

The work on fire sprinkler systems should only be done by qualified sprinkler fitters (most states require licensed sprinkler fitters). Replacing damaged, missing, and improperly fitting cover plates, along with replacing any other necessary parts found to be deficient, will help ensure the sprinkler system is operational and up to code, once the replacement work is completed. ♦

Mark Conroy is an engineer in our Boston office and a member of several NFPA Technical Committees.

The Importance of Portable Fire Extinguishers

By Mark Conroy

The New Year is a good time to remind your customers of the value of portable fire extinguishers. According to the NFPA, a fire department in the United States responds to a fire somewhere in the nation every 24 seconds. The most recent data collected for 2017 shows there were more than 1.3 million fires in that year. Those fires resulted in 3400 deaths and \$23 billion in fire loss¹. Portable fire extinguishers play a critical role in saving lives and reducing fire losses. Here is information that you can share with your customers so they realize how important fire extinguishers are in the early stages of fire, prior to the fire department arriving.

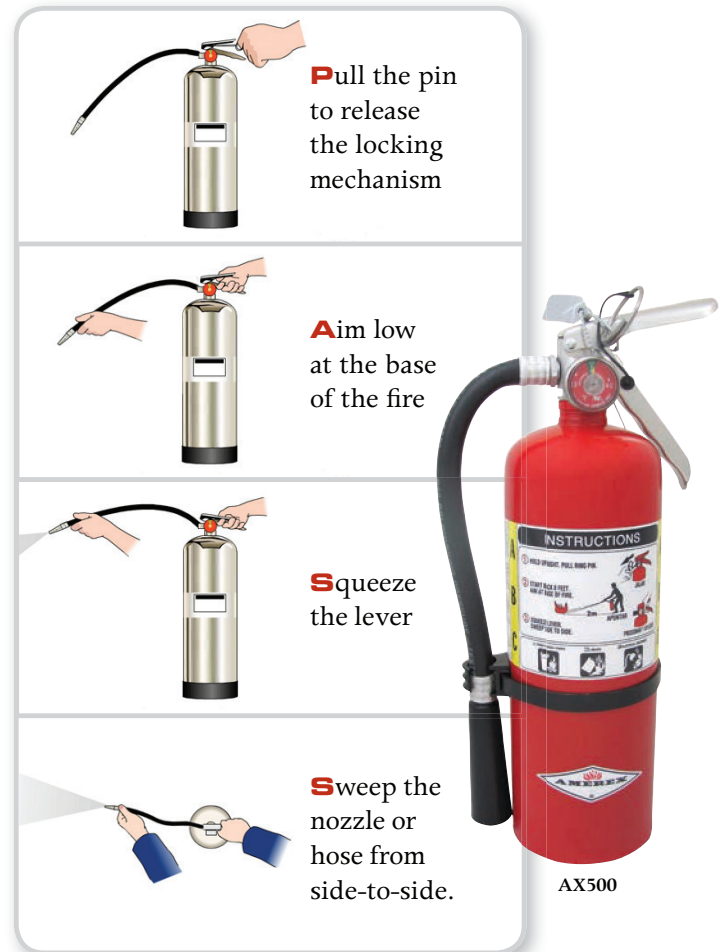
During your next service call, visit with the property manager and engage in a discussion about fire safety. In addition to explaining that you are there to ensure each fire extinguisher is functional and up to code, offer to explain fire safety and the importance of the fire extinguishers that are strategically installed throughout their facility. Make sure they understand that the fire extinguishers are there as their first line of defense in the event of a fire emergency. That is because fire extinguishers are intended for use during the early stages of a fire and help maintain a fire-free escape path for people evacuating the building. Make sure your customer also knows that fire extinguisher use, most often, results in minimal damage to property. Alternatively, where fire extinguishers are not employed, fires will grow quickly while waiting for the fire department to arrive. Taking no action typically results in extensive damage and business disruption that can last days or even weeks. Here are some helpful hints to leave with your customers.

Fire extinguishers can be helpful for a small fire or almost any fire during the initial stages. When discussing fire safety with employees and other building occupants, they should consider the following:

- Alert others in the building of the fire
- Make sure someone is in the process of calling 911
- Fire extinguishers are intuitive to use, so building occupants should not hesitate to use them
- Fire extinguishers can be effectively used when a fire is small
- Make sure the room is not full of smoke when using a fire extinguisher
- Always make sure to have a clear escape path when using a fire extinguisher

If a fire is large, it is not safe to use a fire extinguisher, leave the building with everyone else. When calling 911, state the nature of the emergency, the address, and make sure to stay on the line to provide further information.

When operating a fire extinguisher, remember the acronym PASS:



Your customers have invested in this safety equipment and rely on you to keep it in working order. Spending a few moments of your time to explain fire safety will help them respond appropriately, with portable fire extinguishers, in the event of a fire emergency. ♦

Mark Conroy is a fire protection engineer and a member of the NFPA Technical Committee on Portable Fire Extinguishers.

¹Fire Loss in the United States During 2017, NFPA Journal Magazine, September/October 2018 <https://www.nfpa.org/News-and-Research/Publications-and-media/NFPA-Journal/2018/September-October-2018/Features/2017-US-Fire-Loss-Report>.

Major Changes in Emergency Lighting You Need to Know!

By Bob Mete

Emergency lighting is installed in almost every commercial, industrial, and governmental building in the country. Over the years, a lot of these lights have become or will become antiquated and will need replacing, like the Emergi Lite JSM18-2 (below), which has been in service for decades. Very popular in its day, it will eventually need to be replaced. This is usually done during a monthly or annual inspection, as required by your State's Fire Code. Unfortunately, you may not be able to replace it with another PAR36-style unit, due to major changes in emergency lighting design.



JSM18-2 w/ Old Style
PAR36 Lamp Heads

JSM18-2 w/ New
LED Lamp Heads

Always at the forefront of technological change, the emergency lighting industry has recently introduced one of its most exciting changes—illumination via LEDs (light emitting diodes). This new technology means more efficient light, requiring less power. It also means physically smaller fixtures, compared to the old technology. The picture shown above is the new JSM18-2. Notice that the lamp heads look

very different—they are smaller than PAR36 lamp heads. They are also more powerful, more efficient, and more reliable than PAR36 lamp heads.

That difference in size and appearance can present a problem too. Why? Let's say you are performing a customer's annual inspection. He has 25 of the JSM18-2's on location. And at the end of the test, five of his units need replacing. BUT the customer wants the replacements to match the other 20 older units with PAR36 lamp heads, which are no longer available. What do you do?

As ALL manufacturers phase out older emergency lighting units, with the larger PAR36-style lamp heads, in favor of the smaller, more efficient LED lamp head versions, this scenario will continue to play out as your customers are faced with replacement over repair. The only way to overcome their objections is by educating your customers on the new version's benefits (smaller footprint, greater illumination, and replacement-free LEDs). You can also explain that they are easy to install with straightforward inspection and testing procedures, which may save them some money on service. Hopefully, all of this will help make the transition to these newer models a lot easier for both you and your customers, helping to keep your customer's facility safe and compliant—especially during a power outage. ♦

Bob Mete is the Product Manager for Emergency Lighting & Batteries for Brooks Equipment and a Board Member of the New Jersey Association of Fire Equipment Distributors (NJAFED).

Article 3

Electronic Equipment Protection: Are You Installing the Right Extinguishers?

By Mark Conroy

Your customers have options for protecting their electronic equipment and operations, but they rely on you to make the best decisions for them. That is because fire protection is a specialty field and the most knowledgeable people regarding portable fire extinguishers are fire equipment distributors (FEDs). The owners of FEDs hire technicians and make sure the technicians have the training and understanding to make important decisions, regarding fire

equipment, for the protection of buildings and operations within those buildings. Although multipurpose dry chemical extinguishers are installed throughout buildings, they are not appropriate for many areas within the building for fires in or near electronic equipment. Here is what you need to know to assure your customers are getting the best and most appropriate extinguishers that that can be relied upon in the event of a fire in one of these areas.

Continued on page 6

Continued from page 5

When it comes to fire extinguishers in a building, occupants are instructed to follow the emergency safety plan, which includes retrieving the nearest extinguisher and using it and/or evacuation. With this concept in mind, the extinguisher installed in areas where there is electronic equipment should be one that has an extinguishing agent that will not cause damage to the electronic equipment or cause a disruption of operations.

Extinguishers Installed Throughout Buildings

All buildings have common combustibles. Consequently, extinguishers with Class A ratings are required throughout buildings. Those extinguishers are typically ABC dry chemical units and are installed and spaced uniformly in normal paths of travel, including entrances and exits and along corridors. Class K extinguishers are installed in the kitchen cooking areas of company cafeterias. Other areas, like cleaning supply closets and laboratories would also need Class B extinguishers, sized to match those hazards.

Class C Rating of Fire Extinguishers

Electronic equipment is electrically energized and requires extinguishers with a Class C rating. But the “C” rating only means that the extinguisher has been tested for conductivity, and the discharging extinguishing agent will not create a shock hazard to the extinguisher user. No fire tests are conducted for the Class C rating and no numerical ratings (fire extinguishing capability) are assigned to the “C” rating. The “C” rating means the extinguisher is safe around energized electrical equipment. Nothing about the Class “C” rating relates to firefighting capacity or fire extinguishment capabilities.

Extinguishers for Protecting Electronic Equipment

Portable fire extinguishers that are appropriate for the protection of electronic equipment include carbon dioxide (CO₂), Halotron I, Halon 1211, and water mist. All four of these extinguishing agents are electrically nonconductive and leave no residue, making them appropriate for use

EXTINGUISHER RATINGS AND CHARACTERISTICS

EXTINGUISHER	RATING	DISCHARGE	NOTES
Halon 1211	ABC*	Streaming	Extremely effective
Halotron I	ABC*	Streaming	Better for environment
Carbon Dioxide	BC	Short Range	Supplemental protection only
Water Mist**	AC	Short Range	Cleans, soaks, and cools

*Smaller Halon 1211 and Halotron extinguishers are rated BC
**Only non-magnetic extinguishers are appropriate for MRI centers

Assessment

Performing an assessment of the electronic equipment and its uses is important in order to determine the need for special protection. Electronic equipment, such as copiers, computers, monitors, servers, telecommunications, communications devices, memory hardware, and robotics typically fall into the category of electronic equipment that is vital to operational needs. Owners of electronic equipment do not want to lose the use of this equipment, as it relates to revenue generation. Continuous functioning of this electronic equipment is vital to operations and earnings. Fire protection measures employed for protection business continuity are much different than for common areas of buildings, such as hallways and reception areas. That is why special extinguishers are needed for areas where the electronic equipment is located.

on electronic equipment. The extinguisher ratings should be used for compliance to minimum code requirements, but these extinguishers can also be used as supplemental protection (in addition to code-required extinguishers). The table above provides information regarding each of these extinguishers to help you make informed decisions on the most appropriate extinguishers for the protection of your customers’ electronic equipment and operations.

Where fire extinguisher technicians install the most appropriate extinguishers for the protection of electronic equipment (and building occupants use them immediately), fire losses related to electronic equipment and business interruption will be drastically reduced. ♦

Mark Conroy is a fire protection engineer and a member of the NFPA Technical Committee on Portable Fire Extinguishers.

Brooks Tracks Legislation and Extinguishers for US Military

By Mark Conroy

Iowa - Military Service Reciprocity for Extinguishing and Alarm Systems Contractors/Installers

Iowa developed proposed rules for military service and veteran reciprocity for fire extinguishing and alarm systems contractors and installers. The proposal is for military service applicants to obtain service credit that can be applied toward licensure. There have yet to be any discussion on this topic by the Iowa Administrative Rules Review Committee.

Minnesota - Continued Deletion of Extinguisher Exception

A proposed rule for Minnesota would continue with the deletion of the IFC 906.1 line 1 exception, but includes an insertion for an exception for extinguishers in schools. This is consistent with previous Brooks/FEMA efforts in Minnesota, where extinguisher requirements were reinstated.

New York - Sprinkler Fitter Apprenticeship Program Bills

Several bills require a sprinkler fitter apprenticeship program, which includes experience in work on fire suppression systems, related instruction, and classroom or shop instruction in the sprinkler fitter trade. All three bills failed to make it out of Committee before the legislative session ended June, 2019.

North Carolina - Licensing Bill for Fire Equipment Distributors

North Carolina Licensing Bill HB 553 requires an FED to have insurance and technicians to pass an examination for portables and systems. It was referred to the Senate Committee on Rules and Operations. The North Carolina's formal legislative session concluded July, 2019, with no passage.

Virginia - Extinguishers in All Buildings Rejected by Oversight Board

As reported previously, a code change proposal was submitted for the Virginia Construction Code, on behalf of FEMA, to require extinguishers in all buildings. FEMA appealed the earlier decision to deny the inclusion of extinguishers during a meeting of the Virginia Department of Housing and Community Development Board September, 2019. At the meeting, the Board did not overturn the earlier decision, so Virginia will continue to have limited requirements for extinguishers in the next edition of the Virginia Construction Code.

Washington DC - Construction Board to Consider Extinguishers for All Buildings

Washington DC is moving forward in adopting the 2015 version of the IFC with the 906.1 exception for extinguishers in their draft code. Most recently, the Construction Codes Coordinating Board has decided to move away from embracing the 906.1 exception. The Board's emergency code change will move forward without the 906.1 exception, which will ensure extinguishers will ultimately stay in DC buildings. The Board will submit the code with the emergency change to the City Council and the Mayor for adoption.

US Department of Defense - Update on Extinguisher Requirements at Military Facilities

The industry effort to reinstate the wording in the Uniform Facilities Criteria (UFC) to include extinguishers in all military installations continues. As reported previously, there is a House Bill which mandates extinguishers (independent of sprinklers and fire alarms), while there is a similar Senate version, although weaker. There has been a campaign in recent months by Brooks and FEMA to push for the final conference bill to be as close as possible to the House Bill. If that bill passes, it will bring military bases back in line with NFPA and ICC regarding extinguishers and ensure our armed services have the same level of fire safety as the rest of us. At the time of this writing, no decision had been made. ♦



L to R: Alan Perdue - Guilford County Commissioner, Bill Vesgo - Buckeye, Jeff Terrey - Rasky Partners, James Estes - Representative of US Senator Thom Tillis, Robert Bell - Brooks Equipment

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Space Age - LifeGuard Networks



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W3BASE

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