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Hot Topics

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Fire Codes Require Storage Cabinets for Fire Alarm Documents



The fire alarm system records documents are required to be stored in a cabinet specially designed to support both electronic media and printouts of files and documents. Typically, the records include the system's test and certified inspection record, equipment manuals, service records, and the as-built system drawings. Today's cabinets are required to comply with NFPA 72, *National Fire Alarm and Signaling Code*¹, which is virtually adopted in all 50 states². The cabinets are necessary so that technicians can easily access important information they need to inspect, test, and service the systems. Here is what you need to make sure the cabinets you install in your customers' buildings are code compliant and have the necessary features to support your technicians' activities and the expectations of the authority having jurisdiction (AHJ).

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Two Multiple-Fatality High-Rise Fires are Frighteningly Similar

A fire on January 9, 2022, in a high-rise apartment building in the Bronx, NY, has many similarities to another Bronx apartment building fire just a few years earlier on December 30, 2017. The fires claimed the lives of 17 people and 12 people respectively and many more were hospitalized with smoke inhalation based on news media accounts. Although city fire laws were updated in 2018 to prevent a reoccurrence, the fire earlier this year has many frightening similarities to the 2017 fire. How this could happen again, despite the new law, in the same part of New York City, is very perplexing. Comparison of the fires is based solely on news reports found online. Here is information that you can use to help prevent a similar tragedy from happening in your community.

Each fire started in an apartment on a lower floor. Although fire spread was more significant in the 2017 fire, the deaths and injuries in both fires were due to smoke inhalation. In 2017, occupants of the first-floor apartment of fire origin immediately evacuated but left the apartment door open as they escaped outside. This allowed the fire to propagate and spread out of the apartment and to the upper floors of the building through the exit stairwell. According to a CNN news report, “the apartment’s stairway acted “like a chimney” as the fire burst from the apartment, feeding the flames, and allowing them to spread throughout the building.” FDNY Commissioner Daniel Nigro said¹.

Following the 2017 fire, New York City Local Law 111 was enacted in 2018. It created a new mandate that requires all multifamily residential buildings to have self-closing mechanisms installed on doors that provide access to individual apartment units, interior corridors, and stairways. The law reads as follows:

§ 28-315.10 Self-closing doors.

All doors providing access to interior corridors or stairs in occupancy groups R-1 and R-2 shall be self-closing or equipped with a device that will ensure closing after having been opened by July 31, 2021².

A door with a self-closing mechanism will act as a kind of fire barrier and will normally mitigate the spread of fire from one walled-in space to other areas of a building. If maintained in good operational condition and working properly, a self-closing device on an apartment door and



one on the door leading to the exit stairwell would likely have prevented many of the fatalities and injuries on the day of the 2017 fire.

Here is how the fire this year is similar to the 2017 fire. The origin of the fire was determined to be in a third-floor apartment of a 19-story building. When the occupants evacuated, the door remained open. It was also reported that the door to the exit stairwell on that floor remained open and another one on the 15th floor of the stairwell was open at the time of the fire, allowing smoke to migrate up the stairwell. Although it was reported that the flames were contained to the floor of fire origin, smoke migrated to other floors where most of the fatalities and injuries occurred.

It is too early to tell if the self-closing doors were maintained and operational at the time of the 2022 fire. Even in good shape and working correctly, doors can be propped open. If you come upon a stairwell door that is propped open, immediately close it and report the incident to the building manager. Also, report any derelict doors. Here are some other common-sense measures to keep people safe.

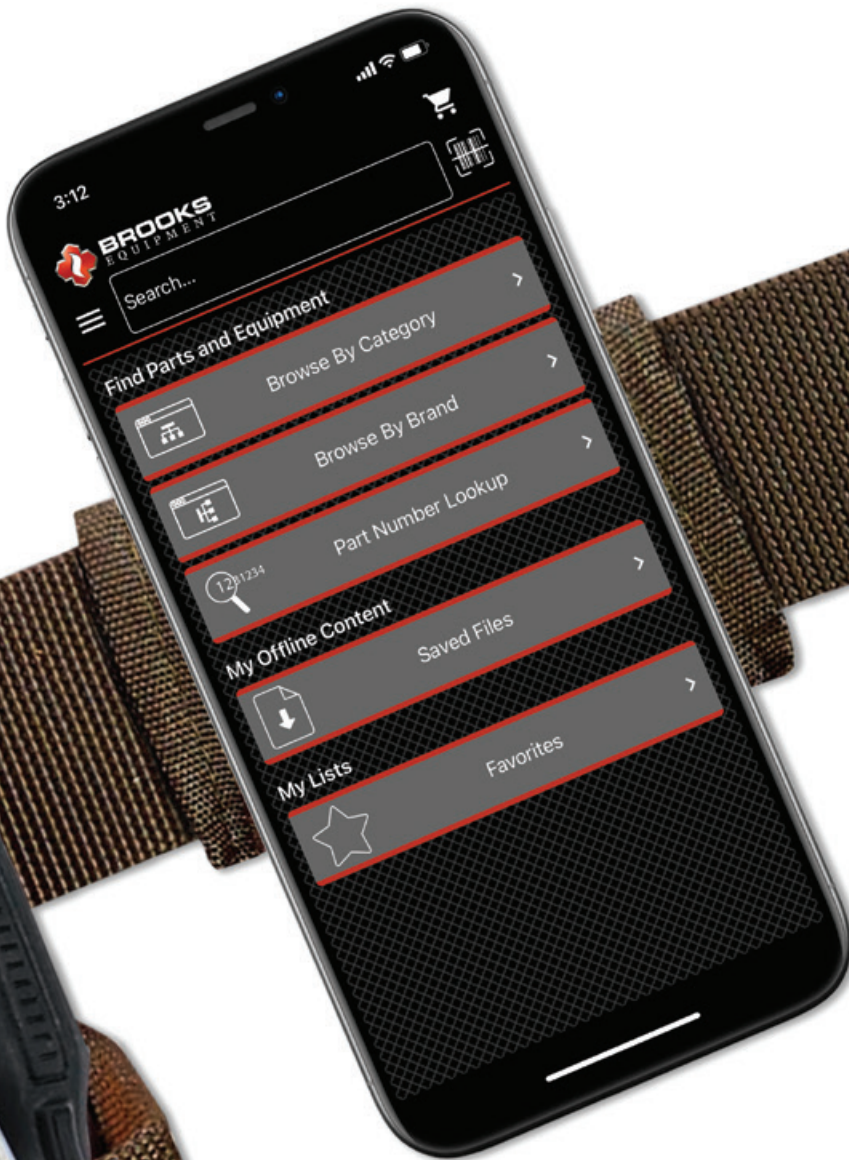
Safety Tips

- Buildings with 3 or more apartments should have self-closing apartment doors
- Self-closing doors for exit stairwells should be kept closed at all times
- Smoke alarms should be updated to the latest technology, tested regularly, and maintained
- Fire extinguishers should be installed/maintained in common areas and within apartments
- Building managers and tenants should have fire emergency and escape plans
- Exits and exit paths should be marked with exit signs
- The 90-minute operational test should be conducted on all emergency lighting annually
- Fire sprinkler systems should be inspected, tested, and maintained
- Call 911 in the event of a fire emergency



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Fire Codes Require Storage Cabinets for Fire Alarm Documents

Specifically, NFPA 72 requires a documentation cabinet for every new system, meaning when a system is installed during the construction of a building and when a system is installed during a major retrofit of an existing building. But from a practical standpoint, a documentation cabinet is needed to support the technicians that service the systems. They need access to equipment technical data sheets, software and firmware control documentation, and, frequently, they need the as-built drawings of the system.



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Location

Once installed, all of this information is available to the technician at the documentation cabinet, which is typically located in a convenient place near the alarm panel. In the vicinity of the panel is the most convenient location for the technician, who will use the cabinet during service calls to inspect, test, and maintain the system. But NFPA 72 allows the cabinet to be located remote from the panel if a suitable place cannot be found near the panel. If the documentation cabinet is installed remotely, the cabinet location must be identified at the panel, typically with placard. If you decide to locate the documentation cabinet remote from the panel, make sure to get the approval of the AHJ.

Labeling

NFPA 72 requires that all documentation cabinets be “prominently” labeled “SYSTEM RECORD DOCUMENTS”. Additionally, companies that service the fire alarm system have their company name and logo added to the cabinet

cover. That way building owners and managers can quickly identify who to call in the event of a trouble signal, so a technician can respond and fix the operational issue with the system. The company name and logo are added prior to delivery of the cabinet too. If you are ordering a cabinet from Brooks, make sure to specify this as part of your order.

Installation

Only certified low-voltage technicians are permitted to work on fire alarm systems. But a system record storage cabinet can be installed by almost any technician who is capable of securely mounting equipment to a vertical surface. For example, a fire extinguisher technician, who is competent at installing extinguisher brackets and cabinets to walls, can easily install a documentation cabinet, once an appropriate location has been identified.

Key-Locks

The decision to add a key lock to a cabinet is made based on whether the cabinet is in a public location (lock needed) or whether it is accessible to authorized personnel only, (no lock provided). Assess each situation and order cabinets with key locks as needed.

Obsolete Electronic Media

Something else required by NFPA 72 is that the building owner or manager review the electronic documentation media formats and associated interfacing hardware for compatibility on an annual basis (7.7.2.6). It is important to make sure that all documentation is stored on electronic media that can be read by modern computers. Today’s computers have USB ports for reading flash drives but do not have the disc drives that came with older computers. Any service records, inspection records, equipment manuals,

Documentation Cabinet Checklist

✓	BUILDING FIRE ALARM SYSTEM DOCUMENTATION CABINET	NFPA 72
	Documentation cabinet installed at control panel	7.7.2.1
	Cabinet installed at an alternate location approved by AHJ	7.7.2.1
	Placard posted at control panel for alternate location	7.7.2.4
	Cabinet sized to house all necessary documentation	7.7.2.2
	All signaling system documentation stored in cabinet	7.7.2.3
	Cabinet has approved label, such as “SYSTEM RECORD DOCUMENTS”	7.7.2.5
	Cabinet has a key lock or accessible to authorized personnel only	7.7.2.7
	Cabinet contains fire alarm system (FAS) documentation	7.7.2.8
	Cabinet contains emergency communications system (ECS) documentation	7.7.2.8
	No documentation allowed in fire alarm system control panel	7.7.2.3

as-built drawings, etc., stored on obsolete media, must be transferred to electronic storage media that can be read by the technician's computer. This task is most often performed by the technician servicing the system. The technician will also make any updates necessary for compliance with NFPA 72. To avoid sticker shock, the owner/manager should be informed prior to performing any updates.

Checklist

The Documentation Cabinet Checklist can be used by you and your customer. Work with your customer and check only the items that apply. The checklist contains information on cabinet location, cabinet features, and cabinet contents. The checklist can be submitted to the AHJ for approval of a new cabinet installation.

Most responsible organizations with existing fire alarm systems will want to upgrade and have their system's

records stored in a NFPA 72 code-compliant System Records Documentation Cabinet. These cabinets not only allow for efficient use of a technician's time during service calls, which results in savings for your customers, they also make it convenient for when the AHJ requests documentation. The documents are normally up-to-date, secure, readily accessible, and can be made available for immediate review and approval. ♦

¹NFPA 72, *National Fire Alarm and Signaling Code*, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=72>

²Smarter About Smoke, Richard Roux, *NFPA Journal Magazine*, May/June, 2018, <https://www.nfpa.org/News-and-Research/Publications-and-media/NFPA-Journal/2018/May-June-2018/Features/NFPA-72-Changes>

Employee Spotlight

Meet Jake Bross, Director of Business Development

A native Buckeye, Jake started with Brooks in October of 2020. Coming from Tyco/JCI, where he was Regional Suppression Leader and Subject Matter Expert for their Western Operations, he has spent nearly 30 years in the Fire and Life Safety industry.

Today, as Director of Business Development, his main goal is to drive Brooks' business forward. He does this through customer connections, programs, training, employee development, and pushing new product lines. Getting to know Brooks customers and what their needs are is also part of it. "Brooks has never lost sight of what makes them successful; keeping the customer as the focus rather than today's bottom line. Long-term relationships mean more today than they ever have," says Jake.

Most of Jake's career in fire protection has centered around special hazards. NICET 4 certified, he has a keen interest in how equipment is tested through the UL listing process. Why different chemicals are used on different types of fires is another special interest of his. And if not for the Fire and Life Safety industry, Jake says he would most likely be in a mechanical engineering field somewhere—maybe

"teaching and learning every day," which is a personal mantra of his.

Away from Brooks, Jake's favorite place in the world has to be the Cayman Islands. He and his family vacationed there once, swimming with dolphins and stingrays and taking in the absolute beauty of the islands. As for his favorite food, Jake's very partial to his wife's homemade chicken and dumplings. "She

makes the dumplings from scratch from her grandmother's recipe." Jake also spends time away from work playing golf, woodworking, and oil painting. And when he got married, he wasn't old enough to drink at his reception! He's been married for 29 years and has a 1-year-old granddaughter. He wouldn't change a thing either. ♦



Jake and his granddaughter

Are There Any Drop-In Replacements for Foam? Not Yet!

Foam concentrate, used for mixing with water to generate foam solution has come under recent scrutiny. According to a newsletter, published by the trade association Fire Fighting Foam Coalition (FFFC), there are now federal and state laws that restrict the sale and use of aqueous film-forming foam (AFFF)¹. Any foam that includes the chemicals known by their acronym PFAS (per and polyfluoroalkyl) is being targeted. That is because when PFAS is released into the environment, it eventually gets into lakes and streams and affects our water supply. It then can accumulate in the blood of humans and animals. These chemicals are known to contribute to adverse health outcomes, including thyroid disease, liver damage, and kidney cancer.

The FFFC newsletter (June, 2021) identified 19 states with new laws regarding PFAS. Additionally, the US Navy plans new restrictions on the use of AFFF, and the Federal Aviation Administration (FAA) plans to make changes to their allowance of the use of AFFF at airports for aircraft rescue and fire fighting (ARFF) purposes.

In January, 2020, the NFPA Fire Protection Research Foundation published a report on their findings of fire testing of replacements for the foams containing PFAS². That research was reviewed by the NFPA Technical Committee on Foam, and information is now contained in the 2021 edition of NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*³. The information on Synthetic Fluorine-Free Foam (SFFF) Research Testing is provided in Annex H of NFPA 11.

As noted in Annex H of NFPA 11, "...FFFs (fluorine-free foams) have come a long way, there is more to learn about their capabilities and limitations. As of today, FFFs are not a drop-in replacement for AFFFs. However, some can be made to perform effectively as an AFFF alternative with proper testing and design (i.e., with higher application rates and densities)." The annex goes on to say "The FFFs typically required between 1.5 to 3 times the application rates to produce comparable performance as the baseline AR-AFFF for the range of parameters included in this assessment."

As a note of caution, NFPA has determined that the alternative foams, called FFFs, are not drop-in replacements for AFFF. Additional testing and analysis is needed to determine effectiveness, application rates, and other parameters before they can be used in systems and portable



fire extinguishers. Also, the manufacturers' Safety Data Sheets (SDS) provide clear information on use of these products (one manufacturer SDS states the FFF can be used for training purposes only).

Although there is much information on the health impact of fluorinated foams, including AFFF, the jury is still out on the replacement FFFs. End users should be made aware of this information before they make any decisions related to using FFFs. Also, since there are health concerns related to the release of any products containing PFAS, they should be cautious not to inadvertently release AFFF into the environment and to report any use of AFFF to local, state, and federal environmental agencies.

Along with keeping close communication with federal entities, states, and localities, the US Environmental Agency (US EPA) provides updates on their webpage as the issue evolves⁴. Any FED, end user, or other stakeholder that has questions regarding this issue should contact the US EPA⁵. ♦

¹Fire Fighting Foam Coalition (FFFC) newsletter "AFFF Update", June 2021, <https://www.fffcc.org/#:~:text=Over%20the%20last%20two%20years,are%20key%20ingredients%20in%20AFFF>

²Evaluation of the Fire Protection of Fluorine Free Firefighting Foams, January 2020, <https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Suppression/Appendix-Comparative-Characterization-of-Gasoline-Samples.ashx>

³NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2021 Edition, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=11>

⁴Per- and Polyfluoroalkyl Substances (PFAS), <https://www.epa.gov/pfas>

⁵Contact US EPA about PFOA, PFOS and other PFAS, <https://www.epa.gov/pfas/forms/contact-us-about-pfoa-pfos-and-other-pfas>

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“A proactive safety plan does not rely on any single safeguard.”

The NYC law, enacted in 2018, requiring self-closing mechanisms for doors to apartment units, interior corridors, and stairways, was not enough to save the 17 people lost in the 2022 Bronx fire. We have learned that self-closing doors are only part of the solution. We should all keep in mind what the Fire Equipment Manufacturers Association (FEMA) says, “a proactive safety plan does not rely on any single safeguard.” Layered fire protection means that

you install and maintain safety equipment in buildings according to code so that occupants do not need to rely on a single fire protection feature to survive in the event of a fire emergency. ♦

¹CNN, December 30, 2017, *Fatal NYC fire started by a 3-year-old playing with a stove, officials say*, <https://www.cnn.com/2017/12/28/us/bronx-fire/index.html>

²Local Law No. 111, *To amend the administrative code of the city of New York, about self-closing doors*, https://www1.nyc.gov/assets/buildings/local_laws/ll111of2018.pdf

Legislation & Code

US Coast Guard Issues Q&A for Fire Extinguishers on Recreational Boats

The US Coast Guard (USCG) Office of Auxiliary and Recreational Boating Safety is in the process of issuing new fire extinguisher requirements for recreational boaters. The USCG has developed questions and answers (Q&A) intended to help recreational boat owners and extinguisher servicing companies comply with the new USCG regulations that are under development. The draft regulations for fire protection for recreational vessels were recently published and can be viewed and downloaded at <https://www.federalregister.gov/documents/2021>.

These regulations will be incorporated into 33 CFR 175, Sub-Chapter S in the near future. The regulations cover both rechargeable and non-rechargeable fire extinguishers. The final rule became effective April 20, 2022.

The following information is provided in the USCG Q&A document regarding rechargeable and non-rechargeable (disposable) fire extinguishers:

- A non-rechargeable fire extinguisher, also referred to as a disposable fire extinguisher, is intended for one-time use only.
- A rechargeable fire extinguisher is recharged once used.
- Disposable (non-rechargeable) dry chemical fire extinguishers must be removed 12 years after their date of manufacture.
- A rechargeable does not need to be removed from service after 12 years, but it instead must be maintained annually by a technician.



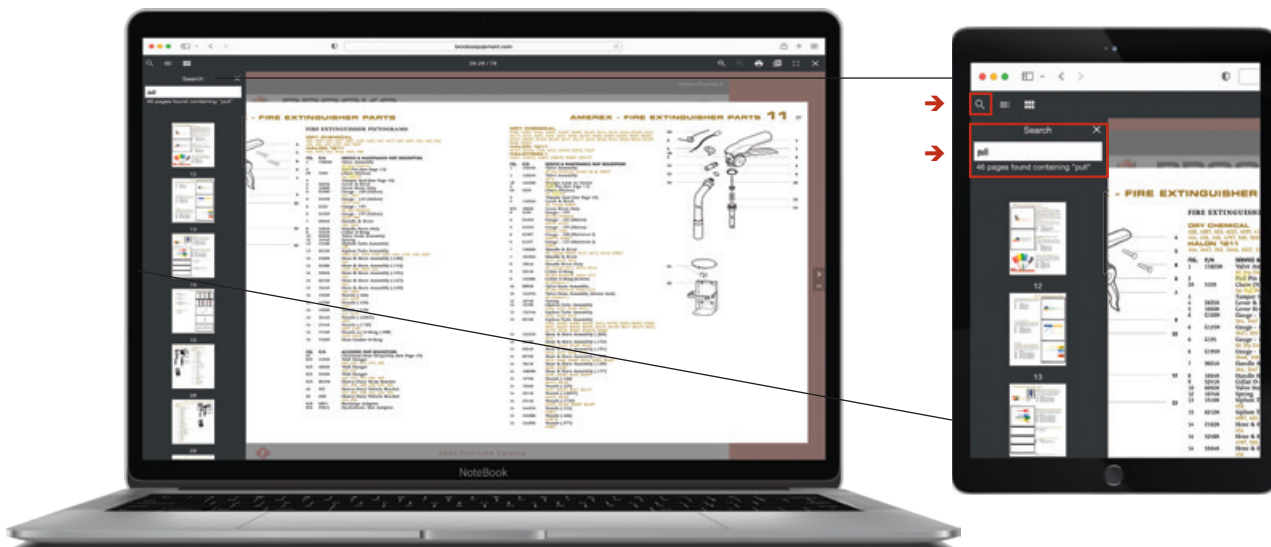
This information is in alignment with the requirements in NFPA 10, *Standard for Portable Fire Extinguishers*. ♦

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