

2024

Hot Topics

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FAA Regulations for Aircraft Fire Extinguishers

The Federal Aviation Administration (FAA) is the regulatory authority regarding aircraft extinguishers. FAA has mandatory regulations and an advisory document to help keep aircraft safe with the right number and type of hand extinguishers. Here is a brief look at extinguishers installed in small, medium, and large fixed-wing aircraft in the United States.

The most referenced Federal Aviation Regulation (FAR) for fire extinguishers is 14CFR 25.851. That regulation provides a table on the number of extinguishers needed for passenger-carrying aircraft based on the passenger capacity of the aircraft. *The table is not a standalone table because there are also important requirements following the table.*

Requirements Mandating Additional Extinguishers

- A fire extinguisher must be installed in the cockpit.
- A fire extinguisher is required for each Class A, B, E, and F cargo or baggage compartment.
- A fire extinguisher is required for each galley.

| Passenger Capacity | Number of Extinguishers |
|--------------------|-------------------------|
| 7-30 | 1 |
| 31-60 | 2 |
| 61-200 | 3 |
| 201-300 | 4 |
| 301-400 | 5 |
| 401-500 | 6 |
| 501-600 | 7 |
| 601-700 | 8 |

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FAA Regulations for Aircraft Fire Extinguishers

Additionally, aircraft with 31-60 passengers must have at least one Halon 1211 or equivalent extinguisher, and aircraft with 31 or more passengers must have at least two. Although 14CFR 25.851 provides the extinguisher table and explanations of other extinguishers and their uses, many other regulations, including 14CFR 23, 29, 91, 121, 125, 127, and 135, address portable fire extinguishers.

Fortunately, in addition to the FAA, there is an advisory circular (AC) to help explain the intentions of the FAA. Advisory Circular 20-42D, Hand Fire Extinguishers for Aircraft, was issued in 2011 and replaces the previous edition (20-42C). One of the reasons for the updated AC is to provide insights on which Halon replacement agents can be used for replacement extinguishers while still in compliance with the FAA regulations.

FAA issued the updated AC 20-42D for persons responsible for selecting, purchasing, and maintaining extinguishers onboard aircraft. The AC also provides guidance for manufacturers, installers, modifiers, owners, and aircraft operators. The AC is advisory in nature and is not a regulation. It can be used as an interpretive guide and provides additional information for compliance with the FAA regulations.

One of the main points made in the AC is that the FAA encourages owners and operators to consider using Halon replacement agent extinguishers that the FAA approves. Those extinguishers contain replacement agents called Halocarbon clean agents. Halocarbon extinguishers must be listed according to UL 711, *Standard for Rating and Fire Testing of Fire Extinguishers*, and UL 2129, *Standard for Halocarbon Clean Agent Fire Extinguishers*.

Halon 1211 extinguishers can still be recharged with Halon and are often the extinguishers that continue to be maintained on aircraft today. But the FAA is encouraging aircraft owners and operators to consider replacing Halon 1211 extinguishers with Halon replacement-agent extinguishers. This might be an opportunity to help your customers upgrade to newer extinguishers that comply with FAA regulations.

If you replace an older Halon 1211 extinguisher with a clean agent extinguisher, like Halotron, check that the rating is equivalent or higher, and make sure to use a bracket intended for the new extinguisher. Aviation safety is paramount, and having the right extinguishers is an important part of any aircraft operator's safety plan. ♦

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The Advantage of LED Strobes in Notification Appliances

LED strobes have become a critical component of notification appliances for alerting building occupants of an emergency and the need for evacuation. While speakers and horns serve as the audible portion of notification appliances, LED strobes have become the norm for the visual part of the appliance. Strobes are devices that produce regular synchronized-flashes of light. Although the strobe can be used alone for visual notification, it is often used with a speaker or horn that provides audible notification. This makes for a more effective notification, since a speaker can provide different tones or a voice message, and the horn is recognizable for evacuation since it has been used effectively for decades. Strobes are considered essential for the notification of a person who is hard of hearing.

The latest generation of strobes use light-emitting diodes (LEDs) for many reasons. There are many important advantages of LEDs as a light source for visual notification appliances when compared to previously employed lighting technologies.

Notification appliances are devices that let people know there is a fire in a building and a need to evacuate to save lives. Using notification appliances with LED lighting increases the likelihood that these appliances will work when needed and effectively alert people to a fire emergency, increasing the safety of occupants in buildings where they are installed. ♦

Advantages of LED Strobes

1. Helps Alert People in Emergencies

The strobe can be adjusted to increase the eye's perception (older Xenon strobes cannot be adjusted this way).

2. More Energy Efficient

They require significantly less current to produce an equivalent light intensity than traditional lighting technologies. Other cost savings are achieved in less frequent battery replacements and smaller wire sizes used during installations.

3. Often Last 10x Longer than Xenon Strobes

An LED can last 50,000 to 100,000 hours vs. a Xenon bulb that can last 1,000 to 5,000 hours.

4. Provides a Bright Light Source

LED Strobes work well in strobe applications, immediately grabbing the attention of anyone near the notification appliance.

5. Less Prone to Breakage and Outage

“...Strobes are considered essential for the notification of a person who is hard of hearing...”



P2RLED

Are Your Kitchen Exhaust System Inspections Up To Date?

Restaurant fires not only claim lives and injure people each year, but millions of dollars in property loss are attributed to those fires. The National Fire Protection Association (NFPA) reported that between 2010 and 2014, there were an average of 7,410 restaurant fires each year.¹ Annual losses contributed to those fires were three deaths, 110 injuries, and \$165M in property damage. The good news is that two-thirds of those fires did not spread beyond the area of origin. That means the hood systems and extinguishers probably controlled or extinguished these fires before the fire department's arrival. These fires were the ones that fire departments responded to. The number of restaurant fires where the installed fire equipment performed well is much higher.

Failure to Clean Leads to Fire Losses

However, the troubling statistic in the NFPA study is that "failure to clean was a factor in 22% of the fires in these properties." A takeaway from the NFPA statistics is that if we do a better job inspecting and cleaning kitchen exhaust ducts, we can reduce the losses from future restaurant fires. Here is information you can use and share with your customers to help them save lives and minimize restaurant property losses.

Thorough Inspections are Key to Safety

The first step in maintaining hoods and ducts to keep grease levels reasonable is to follow a strict inspection protocol. Although it would be ideal always to have bare metal hoods and ducts, this is impossible, since grease-laden vapors deposit grease on these surfaces as soon as cooking commences after cleaning. Therefore, the objective is to inspect them on a schedule based on cooking operations and clean them when the grease depth reaches a specific limit.

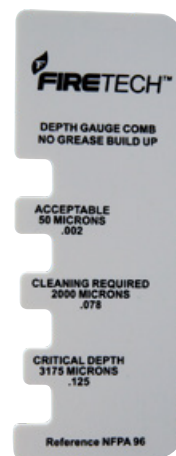
Special Tool Used During Inspections

The inspection frequencies established in NFPA 96² are in the table to the right. But to use the table, you'll need a special tool called a depth gauge comb, more commonly known as a grease comb. According to NFPA 96, a grease comb measures the grease depth of hoods, ducts, fans, and other surfaces exposed to grease-laden vapors to measure the grease buildup. There are three levels of grease measured with this

depth gauge. Two of the measurements trigger the need for cleaning (i.e., grease depth of hood and duct surfaces must not exceed 0.078 in., and grease on fan housings must not exceed 0.125 in.). The third measurement is the maximum allowable depth of grease permitted to remain on surfaces after cleaning (0.002 in.).

Create a Cleaning Schedule

A cleaning schedule can be developed based on the inspections performed per the frequencies outlined in NFPA 96. The important thing to remember is that the NFPA requirement is for inspections (monthly, quarterly, semiannually, and annually). There is no cleaning frequency table in NFPA 96. The need to clean is triggered by the measurement of grease depth as determined using the grease comb.



FireTech™ Grease Comb

This plastic FireTech™ GREASE COMB accurately measures the amount of grease buildup on hoods, fans, ducts, and other surfaces using depth-gauge teeth (clearly printed in microns and inches).

Grease Buildup Inspection Frequencies

| Cooking Volume | Inspection Frequency |
|-------------------------|----------------------|
| Solid Fuel Cooking | Monthly |
| High-Volume Cooking | Quarterly |
| Moderate-Volume Cooking | Semiannually |
| Low-Volume Cooking | Annually |

Grease Buildup Inspection and Cleaning Reports

Two reports are now required based on the 2024 edition of NFPA 96. Upon completion of an inspection for grease buildup, a written report must be submitted within 2 weeks to the owner or the owner's agent [96, 12.6.14]. Similarly, a written report is required within 2 weeks after completion of cleaning [96, 12.6.15]. NFPA 96² provides details in the updated 2024 edition on what is required for each report.

Documentation Must Include the Following Information:

After an exhaust system is inspected, an adhesive label is required to be attached to the hood with the following information:*

- Date service was performed, indicated by a perforation
- Name of person performing the work
- Name, address, and phone number of service provider

**The label must remain affixed until the next inspection or cleaning event.*

After an inspection for grease buildup is complete, a written report is required to be provided to the system owner or owner's agent within 2 weeks. The report is required to provide a record of the following information:*

- Areas in need of cleaning where grease is found to exceed the limits outlined in NFPA 96
- Areas that are inaccessible and were not inspected
- Areas that are accessible but were not inspected
- Location(s) of duct access panel(s)
- Location(s) of visible leakage(s) from ductwork
- Location(s) of leaking access panel(s)

** Where required, the inspection report is submitted to the authority having jurisdiction.*

The need to clean kitchen exhaust systems is not only for the safety of restaurant workers and patrons. On August 29, 2007, two career firefighters died fighting a fire at a restaurant in Massachusetts, where exhaust cleaning was identified as an issue.³



We can all do our part to help reduce fire loss statistics from restaurant fires. An important activity to help improve those numbers is to inspect and clean kitchen exhaust systems diligently. Following the kitchen exhaust inspection and cleaning criteria outlined in NFPA 96 improves safety. ♦

¹“Structure Fires in Eating and Drinking Establishments”, Richard Campbell, February, 2017, https://nfpa.access.preservica.com/uncategorized/IO_7f915fd2-b09c-4848-a45e-58b584638170/

²NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2024 Edition

³Death in the Line of Duty...A summary of a NIOSH fire fighter fatality investigation, F2007-32 Date Released: November 9, 2009, <https://www.cdc.gov/niosh/fire/reports/face200732.html>



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Meet Phillip Simpson, National Sales Manager

Having graduated from Appalachian State University in 1987, Phillip began his career path at a Charlotte Group Home, counseling troubled youth until he joined Brooks in 1988. As one of the most tenured people at Brooks, Phillip started his Brooks journey in the Charlotte warehouse. After spending five years pulling, packing, and shipping, he was asked by then-Brooks CEO Rick Fairclough to come work in Sales.

Ever a Team player and all-around nice guy, Phillip excelled at his duties, so much so that today he heads up Brooks' National Sales. In this current position, Phillip assists his team in partnering with Brooks customers. He really enjoys helping his newer team members grow in their understanding of how Brooks can become a part of their customer's organization.

Just because Brooks is a place Phillip has called home for almost four decades doesn't mean he doesn't dream about doing other things. Phillip said, "My mom always told me to dream big." So, he does, explaining that if the Carolina Panthers asked him to join the Team as their Offensive Coordinator, he'd have to say bye-bye to Brooks! It's no surprise that "Keep Pounding" is his motto, too.

Outside of work, there's nothing better than the perfect vacation. To Phillip, that would be sitting around a fire, beside a river in the North Carolina mountains, or snorkeling the aqua water in the Caribbean. As for his idea of the perfect meal, a well-prepared bone-in ribeye steak can't be beat. Hanging out with his family or coaching youth basketball or baseball in his free time is also one of his favorite pastimes.



Meeting Atlanta Braves legend Dale Murphy at his Atlanta restaurant while eating wings with friends from GAFSED.

When asked about his best career lesson, Phillip says, "I've learned that the key to helping our customers grow is finding a way to help them no matter what." And that's what Phillip has been doing at Brooks for almost 40 years—helping customers and teammates alike. ♦



Legislation & Code

Brooks Tracks State Codes and NFPA Standards

Washington State

The State of Washington is updating their licensing. Currently, technicians must pass the ICC/NAFED certifications to become qualified to work on pre-engineered wet and dry chemical systems. The new licensing requires the NICET Special Hazards certification in lieu of the ICC/NAFED. The Fire Equipment Manufacturers' Association (FEMA) submitted comments in opposition to the new rules. Many fire equipment distributors within the state also sent letters in opposition. While the new Washington State Fire Code was to take effect on March 15, 2024, implementation of the licensing provisions has been delayed to July 1, 2024. Brooks, FEMA, and local FEDs are coordinating their efforts to return to the previous ICC/NAFED certification.

NFPA 10

The NFPA Technical Committee on Portable Fire Extinguishers met October 31 – November 2, 2023 in Quincy, MA and developed a first draft revision of NFPA 10, *Standard for Portable Fire Extinguishers*. Subsequent to that meeting, the first draft passed a written ballot and was posted for comment on March 21, 2024. The deadline for submitting comments on the draft is May 30, 2024. The committee will meet later this year to review and act on any public comments received on the draft. The meeting date has not yet been set.

NFPA 17, 17A, and 96

NFPA is planning to revise NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, and NFPA 96, *Ventilation Control and Fire Protection of Commercial Cooking Operations*. NFPA has established a deadline for Public Input of June 4, 2024 for all 3 documents. The committees responsible for updating these standards will meet later this year to act on the Public Inputs and develop first revisions of these standards. ♦

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