



Weekly Safety Tip

10 Things About Sprinklers



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10 Things Safety Professionals Should Know About Fire Sprinkler Systems



Fire protection engineer Chris Butts, P.E., PMSFPE, AET, SET, CFPS, ARM recently provided a thorough review of fire sprinkler systems in an ASSP webinar for its Fire Protection Practice Specialty.

He highlighted 10 things safety professionals should know about fire sprinkler systems.

1. Use NFPA 13 as a Guide

NFPA's [standard](#) provides information on the design, installation and testing requirements for fire sprinkler systems, but it does not tell you *when* fire sprinkler systems are required. The organization offers more guidance in [NFPA 1: Fire Code](#), but most requirements are implemented by local jurisdictions and municipalities, so be sure to check your local fire codes, Butts says.

2. Know the Basic Requirements of a Fire Sprinkler System

Each fire sprinkler system has basic requirements:

- All system materials and devices essential to successful system operation must be *listed* by an organization such as Underwriters Laboratories (UL) or Factory Mutual (FM).
- Sprinklers are required in all spaces and areas of a building unless permitted by an exception in NFPA 13.
- Sprinklers must be positioned and located to provide "satisfactory performance" with respect to activation time and water distribution.
- Clearance between the sprinkler deflector and the top of storage or contents of the room must be 18 inches or greater.

3. Sprinkler System Requirements Are Based on Hazards and Occupancy

Each building is categorized based on hazards and occupancy, which dictates the kinds of sprinklers and systems required. These categories include "light hazard," two groupings of "ordinary hazard," two groupings of "extra hazard" and two groupings of "storage."

Hazards include content quantity and combustibility, heat release rate and stockpile height. For example, a standard office environment is usually considered "light hazard" while a dry cleaner may be "ordinary hazard" and an aircraft hangar may be "extra hazard."

Weekly Safety Share



10 Ladder Reminders



It's a good time for a reminder about some common mistakes that can lead to ladder-related injuries.

1 - Not determining if a ladder is the safest equipment for the job

In certain cases, it might be best to use a different piece of equipment. For example, a scissor lift can allow workers to use both hands, or the lift can move people more efficiently from spot to spot during a job. This is why it's important to perform a job hazard or task hazard analysis to determine which equipment is the safest option for the task.

2 - Not choosing the right ladder

EXAMPLE-1: Selecting a ladder that's too short can cause workers to climb to an unsafe level to reach something (more on this later). EXAMPLE-2: Anyone working near power lines shouldn't use a ladder made of a conductive material such as aluminum. Instead, they should choose one made of non-conductive materials such as wood or fiberglass.

3 - Failing to inspect a ladder before use

It's vital to catch issues such as broken rungs or other damage beforehand. If a ladder is damaged, OSHA requires employers to place a "Do Not Use" tag, or a tag with similar language, on the ladder and take it out of service. Also, make sure the ladder is free of mud, snow or other debris that could cause a user to slip or fall.

4 - Not knowing the proper angle

When placing a ladder against a wall or any other kind of vertical surface, it should be set up at a proper angle, according to OSHA and others. To do so, set the base a quarter "of the working length of the ladder" away from the wall or vertical surface. So, if it's a 4-foot ladder, place it 1 foot away from the wall. If it's an 8-foot ladder, place it 2 feet away from the wall.

This way, the ladder will be at an optimal 75-degree angle.

5 - Not using at least three points of contact

Three points of contact is generally accepted as two feet and one hand or one foot and two hands. Those three points of contact will help maintain stability while on a ladder and provide a safeguard against the most hazardous situation: falls from height.

6 - Carrying items

Attempting to climb a ladder while holding tools or other objects can cause workers to lose their balance, which could lead to a fall. The American Ladder Institute recommends using towlines, a tool belt or an assistant to "convey materials so that the climber's hands are free when climbing."

continued on next page



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