

Fire Extinguisher Training

Preparing Employees for a Fire Emergency

By
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A fire extinguisher safety program should include several educational components and hands-on instructional opportunities.

OSHA requires that employees be educated in the use of fire extinguishers every year. Specifically, OSHA 29 CFR 1910.157(g) states:

Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.

A fire extinguisher safety program should include several components and hands-on instructional opportunities. Each program can be tailored to the realities of a given worksite (e.g., an office complex versus manufacturing facility, or a hospital facility versus a university dorm. Even within a given workplace, programs should be adjusted for different groups of personnel depending on the threats they face and the emergency response protocols that are established. Still, a complete program should include several core classroom and hands-on elements.

Sources of Fire

Describe the basic sources of fire and various ways of stopping the combustion process. Fires are

chemical reactions that occur when fuel, oxygen and an ignition source combine. Fire extinguishers work by removing one or more of these sources, with different extinguishers working in different ways. For example, water extinguishers remove the heat and carbon dioxide (CO₂) extinguishers remove the supply of oxygen. Understanding these basic firefighting principles is important in knowing what type of extinguisher is most effective for a given hazard.

Classes of Fire & Fire Extinguishers

Describe the types (classes) of fires and the extinguishers that should be used in each situation. Many fire extinguishers are designed for use on specific types of fires. The most common fire extinguishers are:

- Class A: water
- Class BC: CO₂
- Class ABC: dry chemical powder

Many types of specialized fire extinguishers are available so employees must know exactly which tools are available and how they work. In addition, users must understand that operating a fire extinguisher which does not match the class of fire at

SPOTLIGHT

Best Practices



Fire Safety Video

Fire Prevention—It's Up To You is a new training video from **E.R.I. Safety Videos** that educates employees about how to identify fire hazards and become an active agent in a facility's fire safety

plan. The video will help trainees identify combustible materials and how they create a fire, the components of a facility's fire safety plan and an employee's responsibility in handling work fires. The video uses past instances as reference and teaching tools.

www.eri-safety.com

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Emergency Evacuation

Work Safe Solutions Inc.'s Emergency Action Plan and Fire Safety training program instructs both the employee and employer on how to create written emergency and fire evacuation plans. The program explains the elements of a required safety plan and details 14 elements to include in an emergency or fire safety plan. Employee training sessions are documented and interactive, and include flip charts, videotapes and handouts.

www.worksafesolutions.com

Combustible Dust Training

The video *Combustible Dust—Up In a Flash*, from **Coastal Training**, is designed to teach employees the potential hazards of combustible dust buildup. The video demonstrates how to control the fire hazard through effective house-keeping practices while demonstrating how dust ignites. Methods to combat this problem and the necessary PPE and methods of damage control in case of an incident are covered as well.



www.coastal.com

hand can actually increase the fire hazard and endanger the user and those nearby.

For example, water extinguishers should not be used on class C (electrically charged) fires due to the obvious risk of shock. CO₂ extinguishers can be effective on class B fires (flammable liquids) but are not recommended for wood-burning combustibles since hot embers tend to rekindle once the CO₂ agent has dissipated. Talking about the classes of fires and the best fire extinguisher for each situation is essential in any fire safety training program.

Identifying a Fire Extinguisher

Teach employees how to identify an extinguisher, including its class and the size of fire it is designed to combat by the codings and markings on the fire extinguisher label. Help employees identify the actual extinguishers found around their place of work. Have employees point out and pick up the extinguishers they could actually be using in an emergency situation. Users are often surprised by the weight of an extinguisher, and it is important that they feel comfortable handling the devices. Ensure that extinguishers throughout the workplace are easily accessible.

Assessing a Fire Situation

Focus on assessing and measuring fire risks. As portable fire extinguishers are designed for incipient stage firefighting, employees should be familiar with how to properly assess a fire situation. They should know when and when not to attempt to extinguish a fire.

Many metrics can be used. A common one is that individuals should not use a portable fire extinguisher to combat fires larger than themselves. Other considerations used when making a “fight or

flight” assessment include the fire’s location (is it fully visible or has it spread behind walls or equipment?), levels of heat (is the room too hot to remain in comfortably?), presence of thick smoke or fumes, and the availability of sufficient egress routes.

Fire Emergency Protocols

Ensure that employees understand how the use of fire extinguishers fits into the organization’s overall emergency response protocols. Many response plans require that the first step in a fire situation is to provide an alert. The familiar P.A.S.S. technique (pull, aim, squeeze, sweep) could be modified to A.P.A.S.S.—with *alarm* (e.g., yelling “fire,” calling safety personnel or pulling an alarm) as the first true action step. Each organization should clearly instruct employees as to what alerting actions are required and when evacuation is required. Ideally, employees should never attempt to fight a fire without signaling that there is an emergency.

Practical Training

Most importantly, train employees how to operate fire extinguishers. Nothing compares to actual practice. Hands-on training is by far the most successful way to familiarize one with extinguisher usage. Watching a video or providing a classroom demonstration is no substitute for seeing a fire, reaching for an extin-

Five Classes of Fire

Class A fires involve ordinary combustible materials such as cloth, wood, paper, rubber and many plastics.

Class B fires involve flammable and combustible liquids, such as gasoline, alcohol, diesel oil, oil-based paints and lacquers, and flammable gases.

Class C fires involve energized electrical equipment.

Class D fires involve combustible metals such as magnesium, titanium and sodium.

Class K fires involve vegetable oils, animal oils or fats in cooking appliances. Class K extinguishers are designed for commercial kitchens, including those found in restaurants, cafeterias and caterers.

Best Practices continued on page 28

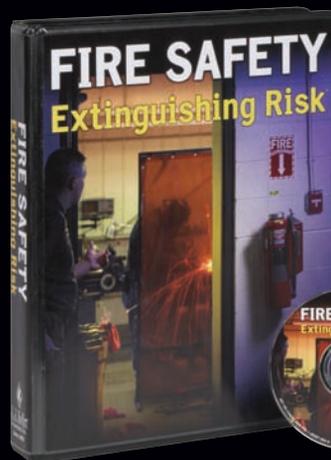


Employee Training

The BullsEye fire extinguisher training system from BullEx is designed to simulate the discharge of a dry chemical extinguisher for a completely clean, safe, effective training experience. System’s digital panel responds to the laser extinguisher as the trainee aims and sweeps. Product uses a conical laser to replicate extinguisher discharge, making it ideal for training in an actual work environment where an extinguisher might be used. System features an onboard rechargeable battery and a speaker that simulates the sound of a discharging chemical extinguisher. www.bullexsafety.com

Fire Safety Training

Reliable Fire Equipment Co. provides training that covers fundamental life safety practices such as recognition of specific types of fire, and the effects of proper and improper use of fire extinguishers. Programs cover fire protection basics and include demonstration of fire extinguishers, discussion of their effectiveness and requirements for proper handling. Company’s programs also cover the P.A.S.S. technique and team firefighting. www.reliablefire.com



Employee Training

J.J. Keller’s Fire Safety: Extinguishing Risk video-based training program is for first-time and refresher training. Program covers common fire hazards and how to control them; recommended evacuation procedures; and portable fire extinguisher guidelines. It is designed to educate employees about fire characteristics, what happens during a fire, fire outcomes, how fires start and preventive measures. Package includes a 22-minute closed-captioned video (DVD or VHS), instructor’s guide, employee handbooks, trainer tools CD-ROM

that includes customizable transparency masters, quizzes, clip art and training logs, and an awareness poster. www.jjkeller.com

guisher, pulling the pin and squeezing the trigger. Fire extinguishers are an important safety tool located throughout the worksite but, like any tool, proper training is needed to support safe and effective use. In fact, National Association of Fire Equipment Distributors reports that trained individuals are 250% more effective in extinguishing fires than those who are unfamiliar with fire extinguishers.

Hands-on training engages trainees as they are able to put what they learned in the classroom into practice, and new learning points are uncovered through the hands-on experience. Hands-on training not only builds confidence, it also breaks down overconfidence. Most employees who have not actually used an extinguisher are amazed at how little discharge time one has. A standard 10 lb ABC extinguisher provides just 20 seconds of discharge. Learning this helps employees further assess risk and appreciate the limits of portable extinguishers.

A well-executed fire extinguisher training program offers much more than a means of regulatory compliance. A comprehensive program that includes

Tips for Hands-On Training

Hands-on training provides many opportunities for teaching employees to use a fire extinguisher effectively. Consider these tips for further engaging and educating employees.

- Simulate various fire situations, including different types of fires or fire level difficulties.
- Consider using digital fire simulators, which can help create added situation realism.
- Have employees work with varying sizes of extinguishers so that they understand the potentials and limits of each.
- Teach employees to maintain proper distance from fires depending on the size of extinguishers used and

the type of fire. Demonstrate how to properly move away from a fire once it is believed to be under control.

- Teach employees to check the pressure gauges and test extinguishers before approaching a fire. An excellent learning tool can include having trainees select from multiple training extinguishers where one or more are not fully charged.
- Keep class sizes small, ideally fewer than 20 students at a time. This will make it easier for everyone to participate, ask questions and stay engaged. Allow all trainees to extinguish the fire and provide them with opportunities to refine their technique and retry if they fail.

both classroom and hands-on education to help employees understand the risks, challenges and opportunities in facing a fire emergency will truly engage employees in the company's fire safety policies, creating a safer workplace for all.

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Fire Safety Trailers

The Fireflash series of fire safety trailers, from **Fireblast**, allows fire safety training to come to your chosen location. Available in one or two stories, the trailers safely simulate fires and smoke, and can be used to train employees for interior and exterior fire safety, as well as search-and-rescue and fire behavior training. The company also offers fire training in pick-up truck simulators and flammable liquid and gas training.
www.fireblast.com

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Training Video

Fire Extinguishers—Ready to Respond is a video from **CLMI** that explains how to handle and put out a fire. The 13-minute video examines fire causes, types of fires, fire prevention and fire extinguishers. Video comes with employee handbooks and a PowerPoint presentation.
www.clmi-training.com



Extinguisher Training

Cintas offers fire extinguisher and safety training in compliance with OSHA training guidelines. Program includes an evaluation of current fire protection equipment, and review of evacuation procedures, emergency preparedness training and fire extinguishers.
www.cintas.com

Instructor Training Video

Fire Instructor Training Products (FITP) products can be used to train employees and firefighting professionals. Products such as the Aquarium recreate smoke and flames, and the company also offers simulations in casualty and chemical incidences. FITP also offers training products for cabin crew fires, dustbin fires, office desk fires and computer training.
www.fitp-ltd.com