

If caught early, a large percentage of fires can be easily extinguished with the proper type and amount of extinguishing agent.

Portable fire extinguishers are designed for this purpose, but their successful use depends on the following conditions:

- The fire must be discovered by a person ready, willing and trained to use the extinguisher.
- The extinguisher must be the proper type for the fire that occurs.
- The extinguisher must be properly located and in good working order.
- The fire must be discovered while still small enough for the extinguisher to be effective.

Classification of Extinguishers

Fire extinguishers are classified by the types of fires they will extinguish:

- **Class A**—Used on fires in ordinary combustible materials such as wood, paper, cloth and rubber. This class of fire requires the heat-absorbing effects of water, the coating effects of certain dry chemicals that retard combustion or the interruption of the combustion chain reaction by halogenated agents.
- **Class B**—Used on fires in flammable or combustible liquids such as oil, gasoline and grease. Class B extinguishers work by depriving the fire of oxygen and interrupting the release of combustible vapors.
- **Class C**—Used on fires in live electrical equipment that require the use of nonconductive extinguishing agents. If the electrical equipment is de-energized, Class A or B extinguishers may be used.

- **Class D**—Used on fires in certain combustible metals (magnesium, titanium, zirconium, sodium, etc.) that require a heat-absorbing extinguishing medium that does not react with the burning metals.



- **Class K**—Used on grease and cooking oil fires in commercial kitchens and restaurants. The Class K extinguishing agent is similar to, and should be used in association with, the chemical found in UL300 compliant kitchen fire suppression systems.

Many fire extinguishers are designed to extinguish multiple types of fires. For example, ABC extinguishers will extinguish Class A, Class B and Class C fires, while BC extinguishers will extinguish only Class B and Class C fires. It is important to use the correct type of extinguisher, as additional hazards may result from using an improper type.

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Training

Fire extinguishers are only valuable if employees are trained in their proper use and handling. If employers decide their own employees will fight early stage fires, the employees should be trained initially and retrained annually thereafter. The most important part of fire extinguisher training is to instruct employees that if they are ever unsure of their ability to fight a fire, they should call 911 and evacuate the area immediately. Training should also inform employees of the specific fire hazards and locations of extinguishers in the facility, as well as give the employee “hands-on” experience with the extinguisher. Hands-on training should describe the PASS system of fire extinguisher use.

Pull—Pull the pin. This will also break the tamper seal.

Aim—Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire.

Squeeze—Squeeze the handle to release the extinguishing agent.

Sweep—Sweep from side to side at the base of the fire until it appears to be out. Watch the area. If the fire re-ignites, repeat steps 2-4.

Location of Extinguishers

Fire extinguishers should be distributed throughout the facility at locations accessible to all employees. Signs or other means of identification should be used to identify fire extinguisher locations from a distance. All fire extinguishers should be mounted at accessible heights in highly visible locations, and should not be placed on the floor or on a shelf.

OSHA requires employers to select and distribute fire extinguishers based on the classes of anticipated fires and the potential hazards associated with each class. Fire extinguishers should be distributed according to the chart on the right.

Classification	Maximum Travel Distance
Class A	75 feet
Class B	50 feet
Class C	Based on hazard
Class D	75 feet
Class K	30 feet

Extinguisher Inspections

Fire extinguishers should be visually inspected monthly and professionally serviced annually. The monthly inspection should ensure that all fire extinguishers are mounted in their assigned location, are not blocked or hidden and show no signs of damage that would render them useless in an emergency. All unsealed, discharged, or inoperable extinguishers should be removed from service immediately and recharged or repaired by a qualified fire extinguisher servicing company.

For Additional Information

Occupational Safety & Health Administration:

www.osha.gov

National Fire Protection Association:

www.nfpa.org