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## **Chapter 12 : FIRE PROTECTION/PREVENTION**

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### **INTRODUCTION/OVERVIEW**

Some very disastrous fires occur on construction jobs. Most of them are caused by a violation of basic, commonsense fire safety precautions. Listed below are nine simple fire prevention regulations our employees and supervisors must adhere to at the jobsite. This summary outline is then expanded upon with information taken directly from OSHA Standards 1910.155, 1910.157, and 1926.150.

1. **RUBBISH** Cleanup prevents fires. Remove all rubbish and debris daily.
2. **HEATERS** Use only safe, U.L. or F.M. approved heaters. These should be in good condition, insulated from the floor and sturdy enough that they won't be knocked over by a careless act. They must be placed well away from flammable materials, vented to the outside or placed in an adequately vented area.
3. **FLAMMABLE LIQUIDS** Store in U.L. approved containers. Do not store in "GI" cans or open containers. Shut off all vehicle and equipment engines before fueling. No smoking is permitted in the area. Welding and cutting operations are also prohibited. Do not keep temporary heaters in the area where these liquids are stored.
4. **FIRE EXTINGUISHERS** Provide the required number of extinguishers. Make certain they are the correct type for the hazard and that their location is properly marked. Check and inspect them periodically. Every individual on the job should know both where they are located and how to use them. It is too late for instruction after the fire starts.
5. **WELDING AND CUTTING** Keep all fire extinguishing equipment nearby and in a state of readiness. Remove or cover all flammables in the area. Watch where the sparks are going. Check for smoldering sparks or fires both during the operation and about one-half hour later.

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6. **NO SMOKING** Smoking is strictly forbidden. Take special care to check for butts at break and quitting time.
  7. **EXITS AND EXIT SIGNS** Provide at least two means of exit. These must be remote from each other and not able to be blocked at the same time. Erect an extra ladder or two if need be. Exit signs are cheap. It's better to have too many than none at all.
  8. **ACCESS** Make certain that a fire lane is kept clear at all times so fire equipment can reach the building.
  9. **WHAT TO DO IN CASE OF FIRE** Actuate the fire alarm on the jobsite if applicable, and call the fire department. Second, evacuate all personnel as quickly as possible. Third, direct the fire department to the fire. Before the fire department arrives, try to put the fire out yourself if possible. However, remember that your men are construction workers and not firemen. Even if you have a fire brigade, they must be concerned with their own safety above all else.

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**OSHA STANDARDS - FIRE PROTECTION**

**SUBPART F**

**PORTABLE FIRE SUPPRESSION EQUIPMENT**

SCOPE, APPLICATION AND DEFINITIONS

**Class A fire.** A fire involving ordinary combustible material such as paper, wood, cloth, and some rubber and plastic materials.

**Class B fire.** A fire involving flammable or combustible liquids, flammable gases, greases and similar materials, and some rubber and plastic materials.

**Class C fire.** A fire involving energized electrical equipment where safety to the employee requires the use of electrically nonconductive extinguishing media.

**Class D fire.** A fire involving combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium.

**Dry chemical.** An extinguishing agent primarily composed of very small particles of chemical; e.g., sodium bicarbonate, potassium bicarbonate, monoammonium phosphate.

**Dry powder.** A compound used to extinguish Class D fires.

**Extinguisher rating.** The numerical rating given to an extinguisher which indicates the extinguishing potential of the unit based on standardized tests developed by Underwriters' Laboratories, Inc.

**Fire brigade.** An organized group of employees who are knowledgeable, trained, and skilled in at least basic fire fighting operations.

**Halon 1211.** A colorless, faintly sweet smelling, electrically nonconductive liquefied gas (CBrC1F<sub>2</sub>) which is a medium for extinguishing fires by inhibiting the chemical chain reaction of fuel and oxygen. It is also known as bromochlorodifluoromethane.

**Halon 1301.** A colorless, odorless, electrically nonconductive gas (CBrF<sub>3</sub>) which is a medium for extinguishing fires by inhibiting the chemical chain reaction of fuel and oxygen. It is also known as bromotrifluoromethane.

**Incipient stage fire.** A fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or breathing apparatus.

**Interior structural fire fighting.** The physical activity of fire suppression, rescue, or both, inside buildings or enclosed structures.

PORTABLE FIRE EXTINGUISHERS - 1926.150

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## GENERAL REQUIREMENTS

General requirements regarding portable fire extinguishers include:

1. Mount, locate and identify extinguishers so that they are readily accessible to employees in accordance with the following requirements.
  - a. At least one size 2A extinguisher for every 3,000 square feet of protected building area.
  - b. Within 100 feet of any point.
  - c. On each floor of a multi-story building near each stairway.
  - d. One size 10B extinguisher within 50 feet of area where more than 5 gallons of flammable liquid is stored.
2. Use only approved extinguishers..
3. Never use carbon tetrachloride or chlorobromomethane extinguishing agents; these are prohibited.
4. Maintain extinguishers in a fully charged and operable condition and keep in their designated places at all times except during use.
5. Extinguishers will be inspected on a monthly basis by a trained employee. The tag on the extinguisher will be initialed and dated by the employee who performs the monthly inspection
6. Permanently remove all soldered or riveted shell inverting type extinguishers from service.
7. Perform annual maintenance inspection and attach a tag with date of last inspection.

## SELECTION AND DISTRIBUTION

Extinguishers shall be provided for employee use and selected and distributed based on the classes of anticipated jobsite fires and on the size and degree of hazard that would affect their use.

