

Fire Safety

Fire Protection Equipment



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1910.157 Regulation

11-2017

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- Fed-OSHA 29 CFR (Code of Federal Regulations) General Industry Section 1910.157 Portable Fire Extinguishers regulates the placement, use, maintenance, and testing of portable fire extinguishers provided for the use of employees.
- Where extinguishers are provided but are not intended for employee use and the employer has an emergency action plan and a fire prevention plan that state so, employer exempt of all requirements except inspection and hydro testing.



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- The employer shall provide portable fire extinguishers and shall mount, locate and identify them so that they are readily accessible to employees without subjecting the employees to possible injury.
- The employer shall assure that portable fire extinguishers are maintained in a fully charged and operable condition and kept in their designated places at all times except during use.
- Portable fire extinguishers shall be provided for employee use and selected and distributed based on the classes of anticipated workplace fires and on the size and degree of hazard which would affect their use.
- The employer shall distribute portable fire extinguishers for use by employees on Class A fires so that the travel distance for employees to any extinguisher is 75 feet or less.



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- The employer shall distribute portable fire extinguishers for use by employees on Class B fires so that the travel distance from the Class B hazard area to any extinguisher is 50 feet or less.
- The employer shall distribute portable fire extinguishers used for Class C hazards on the basis of the appropriate pattern for the existing Class A or Class B hazards.
- The employer shall distribute portable fire extinguishers or other containers of Class D extinguishing agent for use by employees so that the travel distance from the combustible metal working area to any extinguishing agent is 75 feet or less.
 - Portable fire extinguishers for Class D hazards are required in those combustible metal working areas where combustible metal powders, flakes, shavings, or similarly sized products are generated at least once every two weeks.



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- The employer shall be responsible for the inspection, maintenance and testing of all portable fire extinguishers in the workplace.
- Portable extinguishers shall be visually inspected monthly.
- The employer shall assure that portable fire extinguishers are subjected to an annual maintenance check.
 - Stored pressure extinguishers do not require an internal examination.
- The employer shall record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less.
- The employer shall assure that alternate equivalent protection is provided when portable fire extinguishers are removed from service for maintenance and recharging.



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- 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 fire fighting.
- The employer shall provide the education upon initial employment and at least annually thereafter.
- The employer shall provide employees who have been designated to use fire fighting equipment as part of an emergency action plan with training in the use of the appropriate equipment.



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1910.159 Regulation

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- 29CFR1910.159 automatic sprinkler systems regulation requires that automatic sprinkler designs used to comply with this standard shall provide the necessary discharge patterns, densities, and water flow characteristics for complete coverage in the workplace.
 - For automatic sprinkler systems installed prior to the effective date of this standard, compliance with the National Fire Protection Association (NFPA) or the National Board of Fire Underwriters (NBFU) standard in effect at the time of the system's installation will be acceptable as compliance with this section.



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- The employer shall assure that only approved equipment and devices are used in the design and installation of automatic sprinkler systems used to comply with this standard.
- The employer shall properly maintain an automatic sprinkler system installed to comply with this section.
- The employer shall assure that a main drain flow test is performed on each system annually.
- The inspector's test valve shall be opened at least every two years to assure that the sprinkler system operates properly.



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- The employer shall conduct proper acceptance tests on sprinkler systems installed for employee protection after January 1, 1981, and record the dates of such tests. Proper acceptance tests include the following:
 - Flushing of underground connections;
 - Hydrostatic tests of piping in system;
 - Air tests in dry-pipe systems;
 - Dry-pipe valve operation; and
 - Test of drainage facilities.
- The employer shall assure that sprinklers are protected from mechanical damage.



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- The employer shall assure that every automatic sprinkler system is provided with at least one automatic water supply capable of providing design water flow for at least 30 minutes.
 - An auxiliary water supply or equivalent protection shall be provided when the automatic water supply is out of service, except for systems of 20 or fewer sprinklers.
- The employer shall assure that automatic sprinkler system piping is protected against freezing and exterior surface corrosion.
- The employer shall assure that all dry sprinkler pipes and fittings are installed so that the system may be totally drained.



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- On all sprinkler systems having more than twenty (20) sprinklers, the employer shall assure that a local waterflow alarm is provided which sounds an audible signal on the premises upon water flow through the system equal to the flow from a single sprinkler.
- The employer shall assure that sprinklers are spaced to provide a maximum protection area per sprinkler, a minimum of interference to the discharge pattern by building or structural members or building contents and suitable sensitivity to possible fire hazards.
- The minimum vertical clearance between sprinklers and material below shall be 18 inches.



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- 29CFR1910.165 employee alarm systems requires that the system provide warning for necessary emergency action as called for in the emergency action plan, or for reaction time for safe escape of employees from the workplace or the immediate work area, or both.
- The employee alarm shall be capable of being perceived above ambient noise or light levels by all employees in the affected portions of the workplace.
 - Tactile devices may be used to alert those employees who would not otherwise be able to recognize the audible or visual alarm.



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- The employee alarm shall be distinctive and recognizable as a signal to evacuate the work area or to perform actions designated under the emergency action plan.
- The employer shall explain to each employee the preferred means of reporting emergencies, such as manual pull box alarms, public address systems, radio or telephones.
- The employer shall post emergency telephone numbers near telephones, or employee notice boards, and other conspicuous locations when telephones serve as a means of reporting emergencies.
- Where a communication system also serves as the employee alarm system, all emergency messages shall have priority over all non-emergency messages.



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- The employer shall establish procedures for sounding emergency alarms in the workplace.
 - For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm provided all employees can hear the alarm.
 - Such workplaces need not have a back-up system.
- The employer shall assure that all employee alarm systems are restored to normal operating condition as promptly as possible after each test or alarm.



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- The employer shall assure that a test of the reliability and adequacy of non-supervised employee alarm systems is made every two months.
 - A different actuation device shall be used in each test of a multi-actuation device system so that no individual device is used for two consecutive tests.
- Back-up means of alarm, such as employee runners or telephones, shall be provided when systems are out of service.



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- The employer shall assure that employee alarm circuitry installed after January 1, 1981, which is capable of being supervised is supervised and that it will provide positive notification to assigned personnel whenever a deficiency exists in the system.
 - The employer shall assure that all supervised employee alarm systems are tested at least annually for reliability and adequacy.
- The employer shall assure that the servicing, maintenance and testing of employee alarms are done by persons trained in the designed operation and functions necessary for reliable and safe operation of the system.
- The employer shall assure that manually operated actuation devices for use in conjunction with employee alarms are unobstructed, conspicuous and readily accessible.



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