(c) *Lifeline* means a rope, suitable for supporting one person, to which a lanyard or safety belt (or harness) is attached.

(d) *O.D.* means optical density and refers to the light refractive characteristics of a lens.

(e) *Radiant energy* means energy that travels outward in all directions from its sources.

(f) *Safety belt* means a device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.

[44 FR 8577, Feb. 9, 1979]

Subpart F—Fire Protection and Prevention

AUTHORITY: Sec. 107, Contract Work Hours and Safety Standards Act (40 U.S.C. 333); secs. 4, 6, and 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 6–96 (62 FR 111) as applicable; and 29 CFR part 1911.

§ 1926.150 Fire protection.

(a) *General requirements.* (1) The employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction and demolition work, and he shall provide for the firefighting equipment as specified in this subpart. As fire hazards occur, there shall be no delay in providing the necessary equipment.

(2) Access to all available firefighting equipment shall be maintained at all times.

(3) All firefighting equipment, provided by the employer, shall be conspicuously located.

(4) All firefighting equipment shall be periodically inspected and maintained in operating condition. Defective equipment shall be immediately replaced.

(5) As warranted by the project, the employer shall provide a trained and equipped firefighting organization (Fire Brigade) to assure adequate protection to life.

(b) *Water supply.* (1) A temporary or permanent water supply, of sufficient volume, duration, and pressure, required to properly operate the firefighting equipment shall be made available as soon as combustible materials accumulate.

(2) Where underground water mains are to be provided, they shall be installed, completed, and made available for use as soon as practicable.

(c) *Portable firefighting equipment*—(1) *Fire extinguishers and small hose lines.* (i) A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the protected building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.

(ii) One 55-gallon open drum of water with two fire pails may be substituted for a fire extinguisher having a 2A rating.

(iii) A ½-inch diameter garden-type hose line, not to exceed 100 feet in length and equipped with a nozzle, may be substituted for a 2A-rated fire extinguisher, providing it is capable of discharging a minimum of 5 gallons per minute with a minimum hose stream range of 30 feet horizontally. The garden-type hose lines shall be mounted on conventional racks or reels. The number and location of hose racks or reels shall be such that at least one hose stream can be applied to all points in the area.

(iv) One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least one fire extinguisher shall be located adjacent to stairway.

(v) Extinguishers and water drums, subject to freezing, shall be protected from freezing.

(vi) A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite. This requirement does not apply to the integral fuel tanks of motor vehicles.

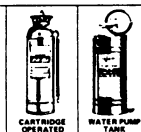
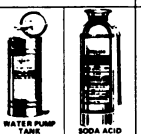
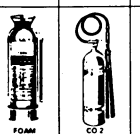
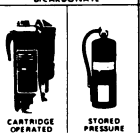
(vii) Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.

(viii) Portable fire extinguishers shall be inspected periodically and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, NFPA No. 10A–1970.

(ix) Fire extinguishers which have been listed or approved by a nationally recognized testing laboratory, shall be used to meet the requirements of this subpart.

(x) Table F–1 may be used as a guide for selecting the appropriate portable fire extinguishers.

Table F-1 FIRE EXTINGUISHERS DATA

	WATER TYPE				FOAM	CARBON DIOXIDE	DRY CHEMICAL			
							SODIUM OR POTASSIUM BICARBONATE		MULTI-PURPOSE ABC	
	 STORED PRESSURE	 CARTRIDGE OPERATED	 WATER PUMP TANK	SODA ACID	 FOAM	CO 2	 CARTRIDGE OPERATED	STORED PRESSURE	STORED PRESSURE	CARTRIDGE OPERATED
CLASS A FIRES — WOOD, PAPER, TRASH HAVING GLOWING EMBERS	YES	YES	YES	YES	YES	NO (BUT WILL CONTROL SMALL SURFACE FIRES)	NO (BUT WILL CONTROL SMALL SURFACE FIRES)	NO (BUT WILL CONTROL SMALL SURFACE FIRES)	YES	YES
CLASS B FIRES — FLAMMABLE LIQUIDS, GASOLINE, OIL, PAINTS, GREASE, ETC.	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES
CLASS C FIRES — ELECTRICAL EQUIPMENT	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES
CLASS D FIRES — COMBUSTIBLE METALS	SPECIAL EXTINGUISHING AGENTS APPROVED BY RECOGNIZED TESTING LABORATORIES									
METHOD OF OPERATION	PULL PIN—SQUEEZE HANDLE	TURN UPSIDE DOWN AND BUMP	PUMP HANDLE	TURN UPSIDE DOWN	TURN UPSIDE DOWN	PULL PIN—SQUEEZE LEVER	RUPTURE CARTRIDGE—SQUEEZE LEVER	PULL PIN—SQUEEZE HANDLE	PULL PIN—SQUEEZE HANDLE	RUPTURE CARTRIDGE—SQUEEZE LEVER
RANGE	30'- 40'	30'- 40'	30'- 40'	30'- 40'	30'- 40'	3'- 8'	5'- 20'	5'- 20'	5'- 20'	5'- 20'
MAINTENANCE	CHECK AIR PRESSURE GAUGE MONTHLY	WEIGH GAS CARTRIDGE—ADD WATER IF REQUIRED ANNUALLY	DISCHARGE AND FILL WITH WATER ANNUALLY	DISCHARGE ANNUALLY—RECHARGE	DISCHARGE ANNUALLY—RECHARGE	WEIGH SEMI-ANNUALLY	WEIGH GAS CARTRIDGE—CHECK CONDITION OF DRY CHEMICAL ANNUALLY	CHECK PRESSURE GAUGE AND CONDITION OF DRY CHEMICAL ANNUALLY	CHECK PRESSURE GAUGE AND CONDITION OF DRY CHEMICAL ANNUALLY	WEIGH GAS CARTRIDGE—CHECK CONDITION OF DRY CHEMICAL ANNUALLY

(2) *Fire hose and connections.* (i) One hundred feet, or less, of 1½-inch hose, with a nozzle capable of discharging water at 25 gallons or more per minute, may be substituted for a fire extinguisher rated not more than 2A in the designated area provided that the hose line can reach all points in the area.

(ii) If fire hose connections are not compatible with local firefighting equipment, the contractor shall provide adapters, or equivalent, to permit connections.

(iii) During demolition involving combustible materials, charged hose lines, supplied by hydrants, water tank trucks with pumps, or equivalent, shall be made available.

(d) *Fixed firefighting equipment*—(1) *Sprinkler protection.* (i) If the facility being constructed includes the installation of automatic sprinkler protection, the installation shall closely follow the construction and be placed in service as soon as applicable laws permit following completion of each story.

(ii) During demolition or alterations, existing automatic sprinkler installations shall be retained in service as long as reasonable. The operation of sprinkler control valves shall be permitted only by properly authorized persons. Modification of sprinkler systems to permit alterations or additional demolition should be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at close of work to ascertain that the protection is in service.

(2) *Standpipes.* In all structures in which standpipes are required, or where standpipes exist in structures being altered, they shall be brought up as soon as applicable laws permit, and shall be maintained as construction progresses in such a manner that they are always ready for fire protection

use. The standpipes shall be provided with Siamese fire department connections on the outside of the structure, at the street level, which shall be conspicuously marked. There shall be at least one standard hose outlet at each floor.

(e) *Fire alarm devices.* (1) An alarm system, e.g., telephone system, siren, etc., shall be established by the employer whereby employees on the site and the local fire department can be alerted for an emergency.

(2) The alarm code and reporting instructions shall be conspicuously posted at phones and at employee entrances.

(f) *Fire cutoffs.* (1) Fire walls and exit stairways, required for the completed buildings, shall be given construction priority. Fire doors, with automatic closing devices, shall be hung on openings as soon as practicable.

(2) Fire cutoffs shall be retained in buildings undergoing alterations or demolition until operations necessitate their removal.

[44 FR 8577, Feb. 9, 1979; 44 FR 20940, Apr. 6, 1979, as amended at 58 FR 35162, June 30, 1993; 61 FR 31432, June 20, 1996]

§ 1926.151 Fire prevention.

(a) *Ignition hazards.* (1) Electrical wiring and equipment for light, heat, or power purposes shall be installed in compliance with the requirements of subpart K of this part.

(2) Internal combustion engine powered equipment shall be so located that the exhausts are well away from combustible materials. When the exhausts are piped to outside the building under construction, a clearance of at least 6 inches shall be maintained between such piping and combustible material.

(3) Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard, and shall be conspicuously posted: ''No Smoking or Open Flame.''

(4) Portable battery powered lighting equipment, used in connection with the storage, handling, or use of flammable gases or liquids, shall be of the type approved for the hazardous locations.

(5) The nozzle of air, inert gas, and steam lines or hoses, when used in the cleaning or ventilation of tanks and vessels that contain hazardous concentrations of flammable gases or vapors, shall be bonded to the tank or vessel shell. Bonding devices shall not be attached or detached in hazardous concentrations of flammable gases or vapors.

(b) *Temporary buildings.* (1) No temporary building shall be erected where it will adversely affect any means of exit.

(2) Temporary buildings, when located within another building or structure, shall be of either noncombustible construction or of combustible construction having a fire resistance of not less than 1 hour.

(3) Temporary buildings, located other than inside another building and not used for the storage, handling, or use of flammable or combustible liquids, flammable gases, explosives, or blasting agents, or similar hazardous occupancies, shall be located at a distance of not less than 10 feet from another building or structure. Groups of temporary buildings, not exceeding 2,000 square feet in aggregate, shall, for the purposes of this part, be considered a single temporary building.

(c) *Open yard storage.* (1) Combustible materials shall be piled with due regard to the stability of piles and in no case higher than 20 feet.

(2) Driveways between and around combustible storage piles shall be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other articles or materials. Driveways shall be so spaced that a maximum grid system unit of 50 feet by 150 feet is produced.

(3) The entire storage site shall be kept free from accumulation of unnecessary combustible materials. Weeds and grass shall be kept down and a regular procedure provided for the periodic cleanup of the entire area.

(4) When there is a danger of an underground fire, that land shall not be used for combustible or flammable storage.

(5) Method of piling shall be solid wherever possible and in orderly and regular piles. No combustible material shall be stored outdoors within 10 feet of a building or structure.

(6) Portable fire extinguishing equipment, suitable for the fire hazard involved, shall be provided at convenient,