

CHAPTER 14

FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION

SECTION 1401 GENERAL

1401.1 Scope. This chapter shall apply to structures in the course of construction, alteration, or demolition, including those in underground locations. Compliance with NFPA 241 is required for items not specifically addressed herein.

1401.2 Purpose. This chapter prescribes minimum safeguards for construction, alteration, and demolition operations to provide reasonable safety to life and property from fire during such operations.

SECTION 1402 DEFINITIONS

1402.1 Terms defined in Chapter 2. Words and terms used in this chapter and defined in Chapter 2 shall have the meanings ascribed to them as defined therein.

SECTION 1403 TEMPORARY HEATING EQUIPMENT

1403.1 Listed. Temporary heating devices shall be listed and labeled in accordance with the *International Mechanical Code* or the *International Fuel Gas Code*. Installation, maintenance and use of temporary heating devices shall be in accordance with the terms of the listing.

1403.2 Oil-fired heaters. Oil-fired heaters shall comply with Section 603.

1403.3 LP-gas heaters. Fuel supplies for liquefied-petroleum gas-fired heaters shall comply with Chapter 38 and the *International Fuel Gas Code*.

1403.4 Refueling. Refueling operations for liquid-fueled equipment or appliances shall be conducted in accordance with Section 3405. The equipment or appliance shall be allowed to cool prior to refueling.

1403.5 Installation. Clearance to combustibles from temporary heating devices shall be maintained in accordance with the labeled equipment. When in operation, temporary heating devices shall be fixed in place and protected from damage, dislodgement or overturning in accordance with the manufacturer's instructions.

1403.6 Supervision. The use of temporary heating devices shall be supervised and maintained only by competent personnel.

SECTION 1404 PRECAUTIONS AGAINST FIRE

1404.1 Smoking. Smoking shall be prohibited except in approved areas. Signs shall be posted in accordance with Section 310. In approved areas where smoking is permitted,

approved ashtrays shall be provided in accordance with Section 310.

1404.2 Waste disposal. Combustible debris shall not be accumulated within buildings. Combustible debris, rubbish and waste material shall be removed from buildings at the end of each shift of work. Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless approved.

1404.3 Open burning. Open burning shall comply with Section 307.

1404.4 Spontaneous ignition. Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container.

1404.5 Fire watch. When required by the fire code official for building demolition that is hazardous in nature, qualified personnel shall be provided to serve as an on-site fire watch. Fire watch personnel shall be provided with at least one approved means for notification of the fire department and their sole duty shall be to perform constant patrols and watch for the occurrence of fire.

1404.6 Cutting and welding. Operations involving the use of cutting and welding shall be done in accordance with Chapter 26.

1404.7 Electrical. Temporary wiring for electrical power and lighting installations used in connection with the construction, alteration or demolition of buildings, structures, equipment or similar activities shall comply with the *International Code Council Electrical Code Administrative Provisions*.

SECTION 1405 FLAMMABLE AND COMBUSTIBLE LIQUIDS

1405.1 Storage of flammable and combustible liquids. Storage of flammable and combustible liquids shall be in accordance with Section 3404.

1405.2 Class I and Class II liquids. The storage, use and handling of flammable and combustible liquids at construction sites shall be in accordance with Section 3406.2. Ventilation shall be provided for operations involving the application of materials containing flammable solvents.

1405.3 Housekeeping. Flammable and combustible liquid storage areas shall be maintained clear of combustible vegetation and waste materials. Such storage areas shall not be used for the storage of combustible materials.

1405.4 Precautions against fire. Sources of ignition and smoking shall be prohibited in flammable and combustible liquid storage areas. Signs shall be posted in accordance with Section 310.

1405.5 Handling at point of final use. Class I and II liquids shall be kept in approved safety containers.

1405.6 Leakage and spills. Leaking vessels shall be immediately repaired or taken out of service and spills shall be cleaned up and disposed of properly.

SECTION 1406 FLAMMABLE GASES

1406.1 Storage and handling. The storage, use and handling of flammable gases shall comply with Chapter 35.

SECTION 1407 EXPLOSIVE MATERIALS

1407.1 Storage and handling. Explosive materials shall be stored, used and handled in accordance with Chapter 33.

1407.2 Supervision. Blasting operations shall be conducted in accordance with Chapter 33.

1407.3 Demolition using explosives. Approved fire hoses for use by demolition personnel shall be maintained at the demolition site whenever explosives are used for demolition. Such fire hoses shall be connected to an approved water supply and shall be capable of being brought to bear on post-detonation fires anywhere on the site of the demolition operation.

SECTION 1408 OWNER'S RESPONSIBILITY FOR FIRE PROTECTION

1408.1 Program superintendent. The owner shall designate a person to be the Fire Prevention Program Superintendent who shall be responsible for the fire prevention program and ensure that it is carried out through completion of the project. The fire prevention program superintendent shall have the authority to enforce the provisions of this chapter and other provisions as necessary to secure the intent of this chapter. Where guard service is provided, the superintendent shall be responsible for the guard service.

1408.2 Prefire plans. The fire prevention program superintendent shall develop and maintain an approved prefire plan in cooperation with the fire chief. The fire chief and the fire code official shall be notified of changes affecting the utilization of information contained in such prefire plans.

1408.3 Training. Training of responsible personnel in the use of fire protection equipment shall be the responsibility of the fire prevention program superintendent.

1408.4 Fire protection devices. The fire prevention program superintendent shall determine that all fire protection equipment is maintained and serviced in accordance with this code. The quantity and type of fire protection equipment shall be approved.

1408.5 Hot work operations. The fire prevention program superintendent shall be responsible for supervising the permit system for hot work operations in accordance with Chapter 26.

1408.6 Impairment of fire protection systems. Impairments to any fire protection system shall be in accordance with Section 901.

1408.7 Temporary covering of fire protection devices. Coverings placed on or over fire protection devices to protect them from damage during construction processes shall be immediately removed upon the completion of the construction processes in the room or area in which the devices are installed.

SECTION 1409 FIRE REPORTING

1409.1 Emergency telephone. Readily accessible emergency telephone facilities shall be provided in an approved location at the construction site. The street address of the construction site and the emergency notification number (9-1-1) shall be posted adjacent to the telephone.

SECTION 1410 ACCESS FOR FIRE FIGHTING

1410.1 Required access. Approved vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30 480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available.

1410.2 Key boxes. Key boxes shall be provided as required by Chapter 5.

SECTION 1411 MEANS OF EGRESS

[B] 1411.1 Stairways required. Where a building has been constructed to a height greater than 50 feet (15 240 mm) or four stories, or where an existing building exceeding 50 feet (15 240 mm) in height is altered, at least one temporary lighted stairway shall be provided unless one or more of the permanent stairways are erected as the construction progresses.

1411.2 Maintenance. Required means of egress shall be maintained during construction and demolition, remodeling or alterations and additions to any building.

Exception: Approved temporary means of egress systems and facilities.

[B] 1411.3 Stairway floor number signs. Temporary stairway floor number signs shall be provided in accordance with the requirements of Section 1020.1.6.

SECTION 1412 WATER SUPPLY FOR FIRE PROTECTION

1412.1 When required. An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on the site.

SECTION 1413 STANDPIPES

1413.1 Where required. Buildings four or more stories in height shall be provided with not less than one standpipe for use during construction. Such standpipes shall be installed when the progress of construction is not more than 40 feet (12 192 mm) in height above the lowest level of fire department access. Such standpipe shall be provided with fire department hose connections at accessible locations adjacent to usable stairs. Such standpipes shall be extended as construction progresses to within one floor of the highest point of construction having secured decking or flooring.

1413.2 Buildings being demolished. Where a building is being demolished and a standpipe is existing within such a building, such standpipe shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe shall be demolished with the building but shall not be demolished more than one floor below the floor being demolished.

1413.3 Detailed requirements. Standpipes shall be installed in accordance with the provisions of Section 905.

Exception: Standpipes shall be either temporary or permanent in nature, and with or without a water supply, provided that such standpipes comply with the requirements of Section 905 as to capacity, outlets and materials.

SECTION 1414 AUTOMATIC SPRINKLER SYSTEM

1414.1 Completion before occupancy. In buildings where an automatic sprinkler system is required by this code or the *International Building Code*, it shall be unlawful to occupy any portion of a building or structure until the automatic sprinkler system installation has been tested and approved, except as provided in Section 105.3.3.

1414.2 Operation of valves. Operation of sprinkler control valves shall be allowed only by properly authorized personnel and shall be accompanied by notification of duly designated parties. When the sprinkler protection is being regularly turned off and on to facilitate connection of newly completed segments, the sprinkler control valves shall be checked at the end of each work period to ascertain that protection is in service.

SECTION 1415 PORTABLE FIRE EXTINGUISHERS

1415.1 Where required. Structures under construction, alteration or demolition shall be provided with not less than one approved portable fire extinguisher in accordance with Section 906 and sized for not less than ordinary hazard as follows:

1. At each stairway on all floor levels where combustible materials have accumulated.
2. In every storage and construction shed.
3. Additional portable fire extinguishers shall be provided where special hazards exist including, but not limited to,

the storage and use of flammable and combustible liquids.

SECTION 1416 MOTORIZED EQUIPMENT

1416.1 Conditions of use. Internal-combustion-powered construction equipment shall be used in accordance with all of the following conditions:

1. Equipment shall be located so that exhausts do not discharge against combustible material.
2. Exhausts shall be piped to the outside of the building.
3. Equipment shall not be refueled while in operation.
4. Fuel for equipment shall be stored in an approved area outside of the building.

SECTION 1417 SAFEGUARDING ROOFING OPERATIONS

1417.1 General. Roofing operations utilizing heat-producing systems or other ignition sources shall be performed by a contractor licensed and bonded for the type of roofing process to be performed.

1417.2 Asphalt and tar kettles. Asphalt and tar kettles shall be operated in accordance with Section 303.

1417.3 Fire extinguishers for roofing operations. Fire extinguishers shall comply with Section 906. There shall be not less than one multipurpose portable fire extinguisher with a minimum 3-A 40-B:C rating on the roof being covered or repaired.

SECTION 1418 COMBUSTIBLE TRASH CHUTES

1418.1 General. Combustible trash chutes shall not be used in nonsprinkled buildings.

Exception: Combustible trash chutes are allowed in nonsprinkled Type I or Type II structures prior to the installation of any combustible interior finish or in preexisting noncombustible exterior buildings not exceeding four stories in height [48 feet (14 630 mm)] with an approved safety plan.

1418.2 Safety plans. An approved safety plan, as applicable to this section, shall address the following:

1. A continuous fire watch (during working hours) stationed at all drop boxes with a continuous means of water application and a means of communication (radio or cell phone).
2. Water application shall be provided at each chute access opening or an approved barrier shall be provided at each opening. The approved barrier shall extend 3 feet (914 mm) to each side of the chute.
3. Where water application is provided at the chute access opening, a trained person shall be continuously assigned

(during working hours) with an approved means of communication.

4. Signage shall be posted at each chute access to read as follows:

NO SMOKING, OPEN FLAME, WELDING OR CUTTING WITHIN 20 FEET (6096 mm) OF CHUTE ACCESS.