

CHAPTER

3

GENERAL REQUIREMENTS

User notes:**About this chapter:**

Chapter 3 provides general requirements for asphalt kettles, combustible waste material, ignition sources, motion picture projection rooms and film, open burning, recreational fires, portable outdoor fireplaces, open flames, fueled industrial trucks and equipment, smoking, vacant premises, vehicle impact protection, fueled equipment, indoor displays, general storage, outdoor pallet storage, hazards to firefighters, landscaped roofs, laundry carts, additive manufacturing (3D printing) and artificial combustible vegetation. These are intended to improve premises safety for everyone, including construction workers, tenants, operations and maintenance personnel, and emergency response personnel.

Relocations:

Material in this chapter, or that was in this chapter in the last code cycle, has been relocated. For complete information regarding the relocation of sections, tables and figures, see "Content Relocations" in the Preface of this code.

SECTION 301—GENERAL

301.1 Scope. Occupancy and maintenance of all structures and premises for precautions against fire and the spread of fire and general requirements of fire safety shall comply with this chapter.



SECTION 302—ASPHALT KETTLES

302.1 Transporting. Asphalt (tar) kettles shall not be transported over any highway, road or street when the heat source for the kettle is operating.

Exception: Asphalt (tar) kettles in the process of patching road surfaces.

302.2 Location. Asphalt (tar) kettles shall not be located within 20 feet (6096 mm) of any combustible material, combustible building surface or any building opening and within a controlled area identified by the use of traffic cones, barriers or other *approved* means. Asphalt (tar) kettles and pots shall not be utilized inside or on the roof of a building or structure. Roofing kettles and operating asphalt (tar) kettles shall not block *means of egress*, gates, roadways or entrances.

302.3 Location of fuel containers. Fuel containers shall be located not less than 10 feet (3048 mm) from the burner.

Exception: Containers properly insulated from heat or flame are allowed to be within 2 feet (610 mm) of the burner.

302.4 Attendant. An operating kettle shall be attended by not less than one employee knowledgeable of the operations and hazards. The employee shall be within 100 feet (30 480 mm) of the kettle and have the kettle within sight. Ladders or similar obstacles shall not form a part of the route between the attendant and the kettle.

302.5 Fire extinguishers. There shall be a portable fire extinguisher complying with Section 906 and with a minimum 40-B:C rating within 25 feet (7620 mm) of each asphalt (tar) kettle during the period such kettle is being utilized. Additionally, there shall be one portable fire extinguisher with a minimum 3-A:40-B:C rating on the roof being covered.

302.6 Lids. Asphalt (tar) kettles shall be equipped with tight-fitting lids.

302.7 Hi-boys. Hi-boys shall be constructed of noncombustible materials. Hi-boys shall be limited to a capacity of 55 gallons (208 L). Fuel sources or heating elements shall not be allowed as part of a hi-boy.

302.8 Roofing kettles. Roofing kettles shall be constructed of noncombustible materials.

302.9 Fuel containers under air pressure. Fuel containers that operate under air pressure shall not exceed 20 gallons (76 L) in capacity and shall be *approved*.

SECTION 303—COMBUSTIBLE WASTE MATERIAL



303.1 Waste accumulation prohibited. Combustible waste material creating a fire hazard shall not be allowed to accumulate in buildings or structures or upon premises.

303.1.1 Valet trash. *Valet trash collection* shall be permitted only where *approved*. The *owner* and *valet trash collection* service provider shall comply with the rules and limitations established by the jurisdiction.

303.1.2 Waste material. Accumulations of wastepaper, wood, hay, straw, weeds, litter or combustible or flammable waste or rubbish of any type shall not be permitted to remain on a roof or in any *court*, yard, vacant lot, alley, parking lot, open space, or beneath a grandstand, *bleacher*, pier, wharf, manufactured home, recreational vehicle or other similar structure.

303.1.3 Vegetation. Weeds, grass, vines or other growth that is capable of being ignited and endangering property, shall be cut down and removed by the *owner* or occupant of the premises. Vegetation clearance requirements in wildland-urban interface areas shall be in accordance with the *International Wildland-Urban Interface Code*.

303.1.4 Space underneath seats. Spaces underneath *grandstand* and *bleacher* seats shall be kept free from combustible and flammable materials. Except where enclosed in not less than 1-hour *fire-resistance-rated* construction in accordance with the *International Building Code*.

303.1.4.1 Spaces underneath grandstands and bleachers. Spaces underneath *grandstands* and *bleachers* shall not be occupied or utilized for purposes other than *means of egress* except where equipped with an *automatic sprinkler system* in accordance with Section 903.2.1.5.1, or separated with *fire barriers* and *horizontal assemblies* in accordance with Section 1030.1.1.1.

303.2 Storage. Storage of combustible rubbish shall not produce conditions that will create a nuisance or a hazard to the public health, safety or welfare.

303.3 Containers. Containers for combustible rubbish and waste material located within or near a structure shall comply with Sections 303.3.1 through 303.3.7.

303.3.1 Spontaneous ignition. Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container. Contents of such containers shall be removed and disposed of daily.

303.3.2 Low heat release materials. Where required by this section, low heat release materials shall exhibit a peak rate of heat release not exceeding 300 kW/m² where tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m² in the horizontal orientation.

303.3.3 Capacity exceeding 5.33 cubic feet. Containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m³) shall be provided with lids. Containers and lids shall be constructed of noncombustible materials or low heat release materials in accordance with Section 303.3.2.

303.3.4 Capacity of 1 cubic yard or more. Dumpsters with an individual capacity of 1.0 cubic yard [200 gallons (0.76 m³)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines unless the dumpsters are constructed of noncombustible materials or low heat release materials in accordance with Section 303.3.2.

Exceptions:

1. Dumpsters in areas protected by an *approved automatic sprinkler system* installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.

303.3.5 Capacity exceeding 1.5 cubic yards. Dumpsters and containers with an individual capacity of 1.5 cubic yards [40.5 cubic feet (1.15 m³)] or more shall not be stored in buildings or placed within 5 feet (1524 mm) of combustible walls, openings or combustible roof eave lines.

Exceptions:

1. Dumpsters or containers that are placed inside buildings in areas protected by an *approved automatic sprinkler system* installed throughout in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Storage in a structure shall not be prohibited where the structure is of Type I or IIA construction, located not less than 10 feet (3048 mm) from other buildings and used exclusively for dumpster or container storage.
3. Dumpsters or containers that are located adjacent to buildings where the exterior area is protected by an *approved automatic sprinkler system*.

303.3.6 Waste and linen containers in Group I-1, I-2 and I-3 occupancies and ambulatory care facilities. Waste and linen containers located in Group I-1, I-2 and I-3 occupancies and *ambulatory care facilities* shall be constructed of noncombustible materials or low heat release materials in accordance with Section 303.3.2. Metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable waste and linen containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 509.1 of the *International Building Code*.

Exception: Recycling clean waste containers complying with Section 303.3.6.2 are not required to be stored in waste and linen collection rooms.

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303.3.6.1 Capacity density. The average capacity density of containers located in an individual room or space, other than waste and linen collection rooms, shall not be greater than 0.5 gal/ft (20.4 L/m).

303.3.6.2 Recycling clean waste containers. Recycling clean waste containers, including their lids, shall not exceed an individual capacity of 96 gallons (363 L).

303.3.7 Waste containers with a capacity of 20 gallons or more in Group R-2 college and university dormitories. Waste containers, including their lids, located in Group R-2 college and university dormitories, and with a capacity of 20 gallons (75.7 L) or more, shall be constructed of noncombustible materials or low heat release materials in accordance with Section 303.3.2. Metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be listed in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable waste containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste collection room constructed in accordance with Table 509.1 of the *International Building Code*.

SECTION 304—IGNITION SOURCES

304.1 Clearance from ignition sources. Clearance between ignition sources, such as luminaires, heaters, flame-producing devices and combustible materials, shall be maintained in an *approved* manner.

304.2 Hot ashes and spontaneous ignition sources. Hot ashes, cinders, smoldering coals or greasy or oily materials subject to spontaneous ignition shall not be deposited in a combustible receptacle, within 10 feet (3048 mm) of other combustible material including combustible walls and partitions or within 2 feet (610 mm) of openings to buildings.

Exception: The minimum required separation distance to other combustible materials shall be 2 feet (610 mm) where the material is deposited in a covered, noncombustible receptacle placed on a noncombustible floor, ground surface or stand.

304.3 Open-flame warning devices. Open-flame warning devices shall not be used along an excavation, road, or any place where the dislodgment of such device might permit the device to roll, fall or slide on to any area or land containing combustible material.

304.4 Deliberate or negligent burning. It shall be unlawful to deliberately or through negligence set fire to or cause the burning of combustible material in such a manner as to endanger the safety of persons or property.

304.5 Unwanted fire ignitions. Acts or processes that have caused repeated ignition of unwanted fires shall be modified to prevent future ignition.



SECTION 305—MOTION PICTURE PROJECTION ROOMS AND FILM

305.1 Motion picture projection rooms. Electric arc, xenon or other light source projection equipment that develops hazardous gases, dust or radiation and the projection of ribbon-type cellulose nitrate film, regardless of the light source used in projection, shall be operated within a motion picture projection room complying with Section 409 of the *International Building Code*.

305.2 Cellulose nitrate film storage. Storage of cellulose nitrate film shall be in accordance with NFPA 40.

SECTION 306—OPEN BURNING, RECREATIONAL FIRES AND PORTABLE OUTDOOR FIREPLACES

306.1 General. Open burning, *recreational fires* and portable outdoor fireplaces shall comply with Sections 306.1.1 through 306.5.

306.1.1 Prohibited open burning. *Open burning* shall be prohibited unless *approved* and shall not be conducted when atmospheric conditions or local circumstances make such fires hazardous.

Exception: Prescribed burning for the purpose of reducing the impact of wildland fire when authorized by the *fire code official*.

306.2 Permit required. A permit shall be obtained from the *fire code official* in accordance with Section 105.5 prior to conducting open burning for any purpose, including but not limited to kindling a fire for recognized silvicultural or range or wildlife management practices, prevention or control of disease or pests, or a *bonfire*. Application for a permit shall only be presented by and permits shall only be issued to the *owner* of the land on which *open burning* will be conducted.

306.2.1 Authorization. Where required by state or local law or regulations, *open burning* shall only be permitted with prior approval from the state or local air and water quality management authority, provided that all conditions specified in the authorization are followed.

306.3 Extinguishment authority. Where *open burning* creates or adds to a hazardous situation, or a required permit for *open burning* has not been obtained, the *fire code official* is authorized to order the extinguishment of the *open burning* operation.

306.4 Location. The location for *open burning* shall be not less than 50 feet (15 240 mm) from any structure, and provisions shall be made to prevent the fire from spreading to within 50 feet (15 240 mm) of any structure.

Exceptions:

1. Fires in *approved* containers that are not less than 15 feet (4572 mm) from a structure.
2. The minimum required distance from a structure shall be 25 feet (7620 mm) where the pile size is 3 feet (914 mm) or less in diameter and 2 feet (610 mm) or less in height.



306.4.1 Bonfires. A *bonfire* shall not be conducted within 50 feet (15 240 mm) of a structure or combustible material unless the fire is contained in a barbecue pit. Conditions that could cause a fire to spread within 50 feet (15 240 mm) of a structure shall be eliminated prior to ignition.

306.4.2 Recreational fires. *Recreational fires* shall not be conducted within 25 feet (7620 mm) of a structure or combustible material. Conditions that could cause a fire to spread within 25 feet (7620 mm) of a structure shall be eliminated prior to ignition.

306.4.3 Portable outdoor fireplaces. Portable outdoor fireplaces shall be used in accordance with the manufacturer's instructions and shall not be operated within 15 feet (4572 mm) of a structure or combustible material.

Exception: Portable outdoor fireplaces used at one- and two-family *dwellings*.

306.5 Attendance. *Open burning*, including but not limited to *bonfires*, *recreational fires* and portable outdoor fireplaces that are in use, shall be constantly attended until the fire is extinguished. One or more portable fire extinguishers complying with Section 906 with a minimum 4-A rating or other *approved* on-site fire-extinguishing equipment, such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

SECTION 307—OPEN FLAMES

307.1 General. Open flame, fire and burning on all premises shall be in accordance with Sections 307.1.1 through 307.4.1 and with other applicable sections of this code.

307.1.1 Where prohibited. A person shall not take or utilize an open flame or light in a structure, vessel, boat or other place where highly flammable, combustible or *explosive material* is utilized or stored. Lighting appliances shall be well-secured in a glass globe and wire mesh cage or a similar *approved* device.

307.1.2 Throwing or placing sources of ignition. A person shall not throw or place, or cause to be thrown or placed, a lighted match, cigar, cigarette, matches, or other flaming or glowing substance or object on any surface or article where it can cause an unwanted fire.

307.1.3 Torches for removing paint. A person utilizing a torch or other flame-producing device for removing paint from a structure shall provide not less than one portable fire extinguisher complying with Section 906 and with a minimum 4-A rating, two portable fire extinguishers, each with a minimum 2-A rating, or a water hose connected to the water supply on the premises where such burning is done. The person doing the burning shall remain on the premises 1 hour after the torch or flame-producing device is utilized.

307.1.4 Location near combustibles. Open flames such as from candles and lanterns shall not be located on or near decorative material or similar combustible materials.

307.1.5 Open-flame devices in wildfire risk areas. Torches and other devices, machines or processes liable to start or cause fire shall not be operated or used in or on wildfire risk areas, except by a permit in accordance with Section 105.5 secured from the *fire code official*.

Exception: Use within inhabited premises or designated campsites that are not less than 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

307.1.5.1 Signals and markers. Flame-employing devices, such as lanterns or kerosene road flares, shall not be operated or used as a signal or marker in or on wildfire risk areas.

Exception: The proper use of fusees at the scenes of emergencies or as required by standard railroad operating procedures.

307.1.6 Portable fueled open-flame devices. Portable open-flame devices fueled by flammable or combustible gases or liquids shall be enclosed or installed in such a manner as to prevent the flame from contacting combustible material.

Exceptions:

1. LP-gas-fueled devices used for sweating pipe joints or removing paint in accordance with Chapter 61.
2. Cutting and welding operations in accordance with Chapter 35.
3. Torches or flame-producing devices in accordance with Section 307.4.
4. Candles and open-flame decorative devices in accordance with Section 307.3.

307.1.7 Sky lanterns. A person shall not release or cause to be released an untethered sky lantern.

307.1.8 Religious ceremonies. Where, in the opinion of the *fire code official*, adequate safeguards have been taken, participants in religious ceremonies are allowed to carry hand-held candles. Hand-held candles shall not be passed from one person to another while lighted.

307.1.9 Aisles and exits. Candles shall be prohibited in areas where occupants stand, or in an *aisle* or *exit*.

307.1.10 Flaming food and beverage preparation. The preparation of flaming foods or beverages in places of assembly and drinking or dining establishments shall be in accordance with Sections 307.1.10.1 through 307.1.10.5.

307.1.10.1 Dispensing. *Flammable or combustible liquids* used in the preparation of flaming foods or beverages shall be dispensed from one of the following:

1. A 1-ounce (29.6 ml) container.
2. A container not exceeding 1-quart (946.5 ml) capacity with a controlled pouring device that will limit the flow to a 1-ounce (29.6 ml) serving.



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307.1.10.2 Containers not in use. Containers shall be secured to prevent spillage when not in use.

307.1.10.3 Serving of flaming food. The serving of flaming foods or beverages shall be done in a safe manner and shall not create high flames. The pouring, ladling or spooning of liquids is restricted to a maximum height of 8 inches (203 mm) above the receiving receptacle.

307.1.10.4 Location. Flaming foods or beverages shall be prepared only in the immediate vicinity of the table being serviced. They shall not be transported or carried while burning.

307.1.10.5 Fire protection. The person preparing the flaming foods or beverages shall have a wet cloth towel immediately available for use in smothering the flames in the event of an emergency.

307.2 Permits required. Permits shall be obtained from the *fire code official* in accordance with Section 105.5 prior to engaging in the following activities involving open flame, fire and burning:

1. Use of a torch or flame-producing device to remove paint from a structure.
2. Use of open flame, fire or burning in connection with Group A or E occupancies.
3. Use or operation of torches and other devices, machines or processes liable to start or cause fire in or on wildfire risk areas.

307.3 Group A occupancies. Open-flame devices shall not be used in a Group A occupancy.

Exceptions:

1. Open-flame devices are allowed to be used in the following situations, provided that *approved* precautions are taken to prevent ignition of a combustible material or injury to occupants:
 - 1.1. Where necessary for ceremonial or religious purposes in accordance with Section 307.1.8.
 - 1.2. On stages and platforms as a necessary part of a performance in accordance with Section 307.3.2.
 - 1.3. Where candles on tables are securely supported on substantial noncombustible bases and the candle flames are protected.
2. Heat-producing equipment complying with Chapter 6 and the *International Mechanical Code*.
3. Gas lights are allowed to be used provided that adequate precautions satisfactory to the *fire code official* are taken to prevent ignition of combustible materials.

307.3.1 Open-flame decorative devices. Open-flame decorative devices shall comply with all of the following restrictions:

1. Class I and Class II liquids shall not be used.
2. Flammable gases shall be used only with permanent appliances installed in accordance with the *International Fuel Gas Code*.
3. Liquid- or solid-fueled lighting devices containing more than 8 ounces (237 ml) of fuel must self-extinguish and not leak fuel at a rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.
4. The device or holder shall be constructed to prevent the spillage of liquid fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) when the device or holder is not in an upright position.
5. The device or holder shall be designed so that it will return to the upright position after being tilted to an angle of 45 degrees (0.79 rad) from vertical.

Exceptions: Devices that self-extinguish if tipped over and do not spill fuel or wax at the rate of more than 0.25 teaspoon per minute (1.26 ml per minute) if tipped over.

6. The flame shall be enclosed except where openings on the side are not more than 0.375-inch (9.5 mm) diameter or where openings are on the top and the distance to the top is such that a piece of tissue paper placed on the top will not ignite in 10 seconds.
7. Chimneys shall be made of noncombustible materials and securely attached to the open-flame device.

Exception: A chimney is not required to be attached to any open-flame device that will self-extinguish if the device is tipped over.

8. Fuel canisters shall be safely sealed for storage.
9. Storage and handling of *combustible liquids* shall be in accordance with Chapter 57.
10. Shades, where used, shall be made of noncombustible materials and securely attached to the open-flame device holder or chimney.
11. Candelabras with flame-lighted candles shall be securely fastened in place to prevent overturning, and shall be located away from occupants using the area and away from possible contact with drapes, curtains or other combustibles.

307.3.2 Theatrical performances. Where *approved*, open-flame devices used in conjunction with theatrical performances are allowed to be used where adequate safety precautions have been taken in accordance with NFPA 160.

307.4 Group R occupancies. Open flame, fire and burning in Group R occupancies shall comply with the requirements of Sections 307.4.1 through 307.1.7 and Section 307.4.1.

307.4.1 Group R-2 dormitories. Candles, incense and similar open-flame-producing items shall not be allowed in *sleeping units* in Group R-2 dormitory occupancies.

SECTION 308—FUEL-POWERED INDUSTRIAL TRUCKS AND EQUIPMENT



308.1 General. Fuel-powered industrial trucks and *fuel-powered industrial equipment* shall be operated and maintained in accordance with this section.

308.2 Use in hazardous (classified) locations. Fuel-powered industrial trucks used in areas designated as hazardous (classified) locations in accordance with NFPA 70 shall be *listed* and *labeled* for use in the environment intended in accordance with NFPA 505.

308.2.1 Fuel-powered industrial equipment. *Fuel-powered industrial equipment* shall be *listed* for their intended uses and shall be operated in accordance with their listings and the manufacturer's instructions.

308.3 Refueling. Fuel-powered industrial trucks shall be refueled outside of buildings or in areas specifically *approved* for that purpose.

308.3.1 Fuel dispensing equipment. Fixed fuel-dispensing equipment and associated fueling operations shall be in accordance with Chapter 23

308.3.2 Fuel dispensing operations. Other fuel-dispensing equipment and operations, including cylinder exchange for LP-gas-fueled vehicles, shall be in accordance with Chapter 57 for *flammable and combustible liquids* or Chapter 61 for LP-gas.

308.3.3 Fire extinguishers. A fire extinguisher complying with Section 906 and having a minimum 4-A:20-B:C rating shall be provided within 20 feet (6096 mm) of an indoor refueling area.

308.4 Hydrogen fueled industrial trucks. Fuel-powered industrial trucks utilizing hydrogen as a fuel shall be operated and maintained in accordance with applicable requirements in Chapter 23 of this code, the *International Mechanical Code* and NFPA 2.

308.5 Automatus fuel-powered industrial trucks. Automatus fuel-powered industrial trucks shall immediately return to an *approved* predetermined location upon activation of the manual *fire alarm system* or automatic fire detection system and shall remain stationary until manually reactivated following the reset of the *fire alarm system*.

308.6 Repairs. Repairs to fuel systems and repairs utilizing open flame or welding shall be done in *approved* locations outside of buildings or in areas specifically *approved* for that purpose in accordance with applicable requirements in Section 2311.

SECTION 309—SMOKING



309.1 General. *Smoking*, vaping or carrying of a lighted pipe, cigar or cigarette or carrying any other type of lighted smoking or vaping paraphernalia or material is prohibited in the areas indicated in Sections 309.2 through 309.8.

309.2 Prohibited areas. *Smoking* shall be prohibited where conditions are such as to make *smoking* a hazard, and in spaces where flammable or combustible materials are stored or handled.

Exception: In Group I-2 occupancies, patients shall be permitted to smoke in designated patient care areas based on the *clinical needs* of the patient.

309.2.1 Group I-2. In Group I-2 occupancies, *smoking* shall be prohibited in patient care areas or where oxygen is used, stored or handled.

309.3 “No Smoking” signs. The *fire code official* is authorized to order the posting of “No Smoking” signs or the international symbol for no smoking in a conspicuous location in each structure or location in which *smoking* is prohibited. The content, lettering, size, color and location of required “No Smoking” signs shall be *approved*.

Exception: “No Smoking” signs are not required in interior locations of the facility where signs are displayed at all major entrances into the facility.

309.4 Removal of signs prohibited. A posted “No Smoking” sign shall not be obscured, removed, defaced, mutilated or destroyed.

309.5 Compliance with “No Smoking” signs. *Smoking* shall not be permitted nor shall a person smoke, throw or deposit any lighted or smoldering substance in any place where “No Smoking” signs are posted.

309.6 Ash trays. Where *smoking* is permitted, suitable noncombustible ash trays or match receivers shall be provided on each table and at other appropriate locations. In Group I-2 occupancies, noncombustible metal containers with self-closing covers shall be provided in areas where *smoking* is permitted.

309.7 Burning objects. Lighted matches, cigarettes, cigars or other burning object shall not be discarded in such a manner that could cause ignition of other combustible material.

309.8 Hazardous environmental conditions. Where the *fire code official* determines that hazardous environmental conditions necessitate controlled use of *smoking* materials, the ignition or use of such materials in mountainous, brush-covered or forest-covered areas or other designated areas is prohibited except in approved designated *smoking* areas.