

Fire and Life-Safety Group (FLS)

Open Flame Requirements for Assembly Occupancies, Conferences, and Exhibits

Introduction

This document was prepared to list some but not all of the requirements based on the latest edition of adopted codes in 2011. Please ensure that all the requirements of applicable codes are verified and implemented.

NOTE: Examples include but are not limited to theatrical performance, pyrotechnics, the use of candles and other open flame devices in performance or food preparation/warming areas, general assembly occupancies and the display of decorative combustible items. Please provide a detailed plan of the event to FLS no later than one month prior to the event.

Combustible Decorative Materials

Section 807.1 of the 2009 edition of the *International Fire Code* (IFC) states that combustible decorative materials suspended from walls or ceilings are required to be flame resistant or be noncombustible.

Section 807.4.2.1 of the IFC states that foam plastic materials used for decoration, stage scenery, or exhibit booths are required to have a max heat release rate of 100kW.

Exceptions:

- 1. Individual foam plastic items or items containing foam plastic where the foam plastic does not exceed 1 pound in weight.*
- 2. Cellular or foam plastic is to be allowed for trim not in excess of 10 percent of the wall or ceiling area, provided it is not less than 20 pounds per cubic foot in density; is limited to 0.5 inch in thickness and 8 inches in width; and complies with the requirements for Class B interior wall and ceiling finish, except that the smoke-developed index is no to be limited.*

Section 10.3.5 of the 2009 edition of the Life Safety Code (NFPA-101) states that explosive or highly flammable furnishings or decorations are not to be used.

Section 12.3.3.3 of NFPA-101 states that interior wall and ceiling finish materials complying with section 10.2 must be Class A or Class B in general assembly areas having occupant loads of more than 300 and must be Class A, Class B or Class C in assembly areas having occupant loads of 300 or fewer.

Flame Resistant Treatments

IFC 807.1 states that combustible decorative materials suspended from walls or ceilings are required to be flame resistant or be noncombustible.

Section 807.3 of the IFC states that imitation leather or other materials consisting of or coated with a Pyroxylin or similarly hazardous base, shall not be used in Group A occupancies.

Section 803.4 of the IFC states that required flame spread or smoke-developed index of surfaces is to be permitted to be achieved by application of approved fire-retardant coatings, paints or solutions. The required fire-retardant properties shall be maintained or renewed in accordance with the manufacturers instructions.

Recreational Fires

IFC 307.4.2 states that recreational fires shall not be conducted within 25 feet of a structure or combustible material.

IFC 307.5 states that recreational fires are to be constantly attended until the fire is extinguished. A minimum of one portable fire extinguisher with a minimum 4A rating, or other approved onsite fire-extinguishing equipment such as dirt, sand, water barrel, garden hose or water truck, shall be available for immediate utilization.

Heating Appliances

IFC 603.5 states that the heating element or combustion chamber must be permanently guarded so as to prevent accidental contact by humans or material. Heating appliances must be installed in accordance with the manufacturer's instructions, the International Building Code, the International Mechanical Code, the International Fuel Gas Code and the ICC Electrical code.

Ignition Sources General Precaution

IFC 305.1 states that clearance between ignition sources, such as light fixtures, heaters and flame producing devices and combustible materials shall be maintained in an approved manner.

IFC 308.1.6.2 states that portable open-flame devices fueled by flammable or combustible gases or liquids must be enclosed or installed in such a manner as to prevent the flame from contacting combustible materials.

IFC 305.2 states that 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 of other combustible material including combustible walls and partitions or within 2 feet of openings to buildings.

IFC 310.2 states that smoking is prohibited where conditions are such as to make smoking a hazard, and in spaces where flammable or combustible materials are stored or handled.

IFC 308.3.1 lists the following requirements for open flame decorative devices:

1. Class I and Class II liquids and LP-gas must not be used.
2. Liquid or solid fueled lighting devices containing more than 8 oz. of fuel must self-extinguish and not leak fuel at a rate of more than .25 teaspoon per minute if tipped over.
3. Devices or holders must be constructed to prevent the spillage of liquid fuel or wax.
4. Devices or holders must be designed so that it will return to the upright position after being tilted to an angle of 45 degrees from vertical.
5. The flame must be enclosed (with specific exceptions).
6. Fuel canisters must be safely sealed for storage.
7. Shades must be noncombustible and securely fastened.
8. Candelabras must be securely fastened in place to prevent over-turning, and must be located away from occupants using the area and away from contact with drapes curtains or other combustibles.

IFC 308.3 states that candles are prohibited in places of assembly.

Exception: Where necessary for ceremonial or religious reasons, on stages and platforms as a necessary part of a performance, candles on tables are securely supported.

IFC 313.1 states that fueled equipment, including but not limited to motorcycles, mopeds, lawn-care equipment and portable cooking equipment shall not be stored, operated or repaired within a building.

Electrical/Wiring

IFC 605.5 states that extension cords and flexible cords must not be affixed to structures, extended through walls, ceilings or floors, or under doors or floor coverings, nor can such cords be subject to environmental damage or physical impact. Extension cords must be used only with portable appliances.

IFC 605.5.1 states that extension cords must be plugged directly into a receptacle and must serve only one appliance.

IFC 605.5.3 states that extension cords must be maintained in good condition without splices, deterioration or damage.

Booth Construction

Section 12.7.5.3.4 of NFPA-101 states that booths must be constructed of noncombustible or limited combustible material. For a complete list of materials see section 12.7.5.3.4.