



States are allowing businesses to start opening back up, and with that comes a number of guidelines to minimize the spread of COVID-19. Restaurants specifically are trying to find innovative solutions to welcome diners under the new restrictions. Some of these restrictions may include:

- ✓ Offering outside seating areas
- ✓ Locating tables at least 6 ft (1.8 m) apart
- ✓ Limiting the number of patrons at each table

To create additional areas for outdoor dining, many restaurants have set up outdoor seating under tents. Several fire and life safety issues need to be considered when using them. While this information focuses mostly on the use of tents by restaurants, most of these considerations are applicable to the use of tents for any occupancy type.

How Long Can a Tent Be Used?



Tents are only permitted to be used on a temporary basis. They should not remain in place for more than 180 days.

GETTING STARTED

Multiple safety precautions must be followed to erect a tent or membrane structure, and this information is not an all-inclusive list of requirements. For any restaurant planning to use a tent, start by following these three rules:

1. Make sure to work with the authority having jurisdiction (AHJ).
2. Review all applicable requirements in NFPA 1, *Fire Code*, and NFPA 101, *Life Safety Code*.
3. Have the plans reviewed by a qualified person.

HOW THE CODES HELP ENSURE SAFETY

Requirements that address the use of tents and membrane structures are covered in:

- Section 11.11 of NFPA 101
- Chapter 25 of NFPA 1

These codes provide guidance for building and life safety issues that should be considered when using tents, some of which include:

- Egress and occupancy
- Location and placement
- Fabric flammability

EGRESS AND OCCUPANCY

The means of egress must comply with the requirements for the occupancy of the tent. Typically, restaurants are either an assembly or mercantile occupancy, depending on the occupant load. It is important to determine the number of occupants in the space to ensure that there are an appropriate number of exits providing adequate exit capacity.

Additional egress features to consider include:

- ✓ Are exits clearly marked?
- ✓ Is the tent required to have emergency lighting?
- ✓ Are all the exits accessible and clear of obstructions?

What type of occupancy does a restaurant fall under?

Restaurants with an occupant load of:



50 or more people are typically classified as assembly occupancies.



Fewer than 50 people are typically classified as mercantile occupancies.



BUILDING AND LIFE SAFETY ISSUES FOR TENTS CONTINUED

For example, if a tent is erected in a parking lot, measures should be taken to prevent a vehicle from parking in front of an exit and blocking it. This could be mitigated with the use of barricades and signs and by properly educating staff members.

This education is important. The maintenance of the means of egress for these tents will ensure that nothing (including the tent wires and supports) obstructs the exits, aisles, and other portions of the means of egress.

LOCATION AND PLACEMENT

Tent location must be approved by the AHJ, who could be the local building department or fire department official in charge of inspecting and approving the use of the structure.

Special consideration should be given to ensure that the tent:

- ✓ Does not block fire department access
- ✓ Is not located too close to other buildings or lot lines
- ✓ Does not block the means of egress from other buildings
- ✓ Has at least a 10 ft (3 m) distance around the tent that is free of combustible material
- ✓ Is a distance of at least 10 ft (3 m) between stake lines of multiple tents to provide means of egress from the tents

FABRIC FLAMMABILITY

One of the biggest concerns with a tent, as demonstrated during the 1944 Hartford Circus fire, is the flammability of the tent fabric. Because of this, both NFPA 1 and NFPA 101 require that the tent material meets the flame propagation performance requirements of NFPA 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*. This test is performed on the fabric of the tent by a testing organization that will issue a certificate if the fabric has passed the test.

To verify the fabric of the tent meets the necessary requirements, the AHJ must require one of the following items for review: a certificate or other evidence of acceptance by an organization acceptable to the AHJ or a report of tests made by other inspection authorities or organizations acceptable to the AHJ.

Additionally, to limit the exposure to fire, several safety measures must be put in place:

- ✓ Smoking within the tent is not permitted, and "NO SMOKING" signs need to be posted.
- ✓ All heating equipment used within the tent must be listed for that use, and all containers for LP gas need to be at least 5 ft (1.5 m) from the tent.
- ✓ Fire extinguishers are required within the tent as directed by the AHJ.

Learn More

- ▶ Get free digital access to the codes by visiting:
 - nfpa.org/1
 - nfpa.org/101
 - nfpa.org/701
- ▶ Read a recent NFPA blog for more on this topic.
- ▶ Visit nfpa.org/coronavirus for the most up-to-date information from NFPA regarding fire and life safety in the midst of COVID-19.

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Policy# 09-015 Propane Patio Heaters and Propane Storage; IFC 2404, 3803, NFPA 58

This bulletin presents a summary and explanation of the International Fire Code regarding approved use of propane-fired patio heaters in commercial occupancies as well as the use and storage of propane fuel.

Propane fueled equipment is regulated in the above referenced code sections and elsewhere. ***Equipment may not be used, and propane may not be stored underneath tents, canopies, or other temporary membrane structures (2404.16.2).*** With a few exceptions, propane may not be used or stored inside of buildings.

Patio heaters may be used outside of commercial occupancies under the following conditions:

1. Heaters and BBQ's or other propane-fired equipment must be located at least 10 feet from combustible construction (construction that will burn). See NFPA 58.
2. Heaters and BBQ's or other propane-fired equipment must be located at least 5 feet from exits of assembly occupancies. (NFPA 58)
3. Heaters and BBQ's or other propane-fired equipment may not be stored or used under tents, canopies or other membrane structures – 2404.16.2.
4. Heaters and BBQ's or other propane-fired equipment must be installed and used in accordance with their listing.









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Office of the Fire Marshal



CONTACT INFORMATION: Office Hours: 8 a.m.-4:30 p.m., Monday-Friday, Lobby Hours: 7:30 a.m.-3:30 p.m., Monday-Friday

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Portable Heaters Guidelines

CODE COMPLIANCE GUIDELINE

This page outlines the Virginia Statewide Fire Prevention Code (i.e., Fire Prevention Code or SFPC) fire safety requirements and prohibitions related to the operation and storage of portable heating equipment in Fairfax County and the towns of Clifton, Herndon, and Vienna. It does not address open-flame cooking devices, portable outdoor fireplaces, or the installation and maintenance of non-portable heating appliances.

Questions regarding the content of this publication should be directed to the Fire Inspections Branch at 703-246-4849 during regular office hours, Monday thru Friday, 8:00 a.m. to 4:00 p.m.

OVERVIEW



The intent of this page is to provide information to help prevent unwanted fires resulting from the unlawful or unsafe operation and/or storage of portable heating equipment. In addition to specifying the regulations prohibiting the operation and storage of portable heaters, fire safety, and precautionary information related to the operation of these devices is provided.

PORTABLE HEATING EQUIPMENT. Portable heating equipment (i.e., portable heaters) may be generally defined as portable, purpose-built equipment designed to safely warm the air in an enclosed area or open area in proximity to the heater. Portable heating equipment specifically regulated by the Fire Prevention Code can be separated into three categories:

1. Portable Outdoor Gas-fired Heating Appliances (i.e., Patio Heaters)
2. Portable Unvented Fuel-Fired Heaters
3. Portable Electric Space Heaters

PORTABLE OUTDOOR GAS-FIRED HEATERS (PATIO HEATERS)

Section 603.4.2 of the Fire Prevention Code specifically regulates portable outdoor gas-fired heating appliances, commonly known as patio heaters. These portable heating appliances are typically configured as a free-standing pole, fashioned with a heater and reflector dome/shield at the top, with a broad base arranged for the storage of a 20-pound propane (LPG) cylinder. These appliances may also be designed to appear and function as portable outdoor fireplaces or tall patio tables.

Appliance Location Restrictions. In accordance with Section 603.4.2.1 of the Fire Prevention Code, portable outdoor gas-fired heating appliances shall be located in accordance with the following regulations:

- **Clearance to Combustible Materials.** Portable outdoor gas-fired heating appliances shall not be located beneath, or closer than 5 feet to combustible decorations and combustible overhangs, awnings, sunshades, or similar combustible attachments to buildings.
- **Clearance to Buildings.** Portable outdoor gas-fired heating appliances shall be located at least 5 feet from buildings.



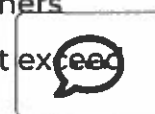
- **Prohibited Storage or Use.** The storage or use of portable outdoor gas-fired heating appliances is prohibited in any of the following locations:
 - Inside of any occupancy when connected to the fuel gas container
 - Inside of tents, canopies and membrane structures
 - On exterior balconies
- **Proximity to Exits.** Portable outdoor gas-fired heating appliances shall not be located within 5 feet of exits or exit discharges.

Installation and Operational Requirements. In accordance with Section 603.4.2.2 of the Fire Prevention Code, portable outdoor gas-fired heating appliances shall be installed and operated in accordance with the following regulations:

- **Listing & Approval.** Only listed and approved portable outdoor gas-fired heating appliances utilizing a fuel gas container that is integral to the appliance shall be used.
- **Installation & Maintenance.** Portable outdoor gas-fired heating appliances shall be installed and maintained in accordance with the manufacturer's instructions.
- **Tip-over Switch Required.** Portable outdoor gas-fired heating appliances shall be equipped with a tilt or tip-over switch that automatically shuts off the flow of gas if the appliance is tilted more than 15 degrees from the vertical.
- **Guard Against Contact Required.** The heating element or combustion chamber of portable outdoor gas-fired heating appliances shall be permanently guarded to prevent accidental contact by persons or material.

Fuel Gas Containers. In accordance with Section 603.4.2.3 of the Fire Prevention Code, fuel gas containers for portable outdoor gas-fired heating appliances shall comply with the following:

- **Approved Containers.** Only approved DOTn or ASME gas containers shall be used.
- **Container Replacement Restriction.** Replacement of fuel gas containers in portable outdoor gas-fired heating appliances shall not be conducted while the public is present.
- **Container Capacity Limitation.** The maximum individual capacity of gas containers used in connection with portable outdoor gas-fired heating appliances shall not exceed 20 pounds.



- **Prohibited Storage of Containers.** Gas containers shall not be stored inside of buildings, or in any location near exit access doors, exits, stairways, or areas normally used, or intended to be used, as a means of egress. Containers not connected for use shall not be stored on roofs.
- **Outside Storage of Containers.** Gas containers approved for outside storage shall be located in a manner that minimizes exposure to excessive temperature rise, physical damage, and/or tampering, which includes a lockable, ventilated metal cabinet or other approved enclosure.
- **Outside Storage/Use Permit.** Where more than 10 gallons (i.e., 42.5 pounds) of liquefied petroleum gas (LPG) is stored and/or used outside, a Fire Prevention Code Permit (FPCP) is required. For more information about this requirement, contact the Fire Inspections Branch at 703-246-4849 during regular office hours, Monday thru Friday, 8:00 a.m. to 4:00 p.m.

PORTABLE ELECTRIC SPACE HEATERS

General Regulations. In accordance with Section 605.10 of the Fire Prevention Code, where not prohibited by other sections of the Fire Prevention Code, portable electric space heaters shall be permitted to be used in all occupancies other than Group I-2 (i.e., hospitals, nursing homes, certain day care centers, etc.) in accordance with the following regulations:

- Shall be listed and labeled in accordance with UL 1278. (605.10.1)
- Shall be installed and maintained in accordance with the listing and instructions. (605.7)
- Shall be operated only in locations for which they are listed. (605.10.4)
- Shall be plugged directly into an approved receptacle. (605.10.2)
- Shall not be plugged into extension cords. (605.10.3)
- Shall not be operated within 3 feet of any combustible materials. (305.1 & 605.10.4)
- Heating elements shall be permanently guarded so as to prevent accidental contact by persons or material. (603.5.1)

Group I-2 Exception. The use of portable, electric space heaters in which the heating element cannot exceed a temperature of 212°F shall be permitted in non-sleeping staff and employee areas in occupancies in Group I-2. (605.10)



PORTABLE UNVENTED FUEL-FIRED HEATERS

Description: Portable unvented heaters include heating appliances fueled by flammable or combustible gases or liquids (e.g., kerosene salamanders, propane patio heaters, etc.), where all of the products of combustion are not conveyed directly from the heating appliance to the outdoor atmosphere through an approved chimney or vent system.

Prohibited Occupancies. In accordance with Section 603.4 of the Fire Prevention Code, portable unvented fuel-fired heating equipment shall be prohibited in the following occupancies:

- Group A Occupancies (*Assembly, Bars, Restaurants, Night Clubs, Theaters, Gymnasiums, etc.*)
- Group E Occupancies (*Public/Private Schools to the 12th Grade, Day Care Centers, etc.*)
- Group I Occupancies (*Hospitals, Nursing Homes, Group Homes, Jails, Pre-release Centers, etc.*)
- Group R-1 Occupancies (*Hotels, Motels, Transient Boarding Houses, etc.*)
- Group R-2 Occupancies (*Apartments, Multi-family Residential Condominiums, Dormitories, etc.*)
- Group R-3 Occupancies (*Home Adult and Child Day Care, Congregate Living Facilities, etc.*)
- Group R-4 Occupancies (*Residential Care/Assisted Living Facilities*)

Definitions of occupancy classifications are found in Chapter 2 of the Fire Prevention Code.

Occupancy Exceptions. Exceptions to the prohibited occupancies listed above include:

- Listed and approved unvented fuel-fired heaters, including portable outdoor gas-fired heating appliances, in one- and two-family dwellings.
- Portable outdoor gas-fired heating appliances shall be allowed in accordance with Section 603.4.2 of the Fire Prevention Code.

Prohibited Rooms or Spaces. In accordance with Section 603.4.1 of the Fire Prevention Code, unvented fuel-fired heating equipment shall not be located in, or obtain combustion air from, any of the following rooms or spaces: sleeping rooms, bathrooms, toilet rooms, storage closets.



ADDITIONAL PROHIBITIONS & REQUIREMENTS

Ignition Source Clearance. In accordance with Section 305.1 of the Fire Prevention Code, clearance between ignition sources, such as luminaires, heaters, flame-producing devices and combustible materials, shall be maintained in an approved manner.

Repair Garages and Motor Fuel-Dispensing Facilities. In accordance with Section 2301.6 of the Fire Prevention Code, heat-producing appliances shall be suitable for the locations in which they are installed and shall comply with NFPA 30A and the *International Fuel Gas Code* or the *International Mechanical Code*. More specifically, Section 7.6.2 of NFPA 30A specifies that solid fuel stoves, improvised furnaces, salamanders, or space heaters shall not be permitted in areas of repair garages used for repairing or servicing of vehicles or in a fuel dispensing area.

Heating Appliances Using Class I Flammable Liquids. In accordance with Section 5705.3.3 of the Fire Prevention Code, heating, lighting and cooking appliances, which utilize Class I liquids, shall not be operated within a building or structure. *Exception:* Operation in single-family dwellings. A Class I liquid is a liquid having a closed cup flash point below 100°F.

Approval, Listing, and Labeling. Portable heating equipment must be listed and/or labeled for its intended use. In some cases, portable heating equipment may be required to be approved. The following Fire Prevention Code definitions are provided to clarify the requirements for approval, listing, and labeling of portable heating appliances:

- **Approved:** Acceptable to the fire code official (i.e., Fire Marshal). More specifically, acceptability of portable heating equipment by the fire code official includes, but is not limited to, equipment that is listed and/or labeled as required by applicable law, used in accordance with manufacturers' instructions and limitations for proper and safe operation, used in a manner that prevents unwanted ignition of combustibles and prevents injury.
- **Listed:** Equipment, materials, products or services included in a list published by an organization acceptable to the fire code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.



- **Labeled:** Equipment, materials or products to which have been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

Supplementary Heating Source. Building occupants and owners must remember that the lawful use of portable heating equipment inside is generally intended to serve only as a supplementary source of heat, and is not a substitute for the building or structure's approved, permanent heating system. Additionally, portable heaters should never be left unattended.



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