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Heater Use Inside Tents and Membrane Structures

This guide outlines the minimum requirements that must be met to utilize a heater inside a tent or membrane structure. Utilizing information in this guide meets the applicable requirements found in the 2019 Oregon Fire Code (OFC).

General Code Requirements:

3107.4 Open or Exposed Flame. Open flame or other devices emitting flame, fire or heat or any flammable or combustible liquids, gas, charcoal or other cooking device or any other unapproved devices shall not be permitted inside or located within 20 feet (6096 mm) of the tent or membrane structures while open to the public unless approved by the fire code official.

3107.12.1 Installation. Heating or cooking equipment, tanks, piping, hoses, fittings, valves, tubing, and other related components shall be installed as specified in the California Mechanical Code and the International Fuel Gas Code and shall be approved by the fire code official.

3107.13.2 Location of Containers. LP-gas containers and tanks shall be located outside in accordance with Table 6104.3. Pressure relief devices shall be pointed away from the tent or membrane structure.

603.4.2.1.1 Prohibited Locations. The storage or use of portable outdoor gas-fired heating appliances is prohibited in any of the following locations:

- Inside of tents, canopies, and membrane structures.

603.4.2.1.3 Clearance to Combustible Materials. Portable outdoor gas-fired heating appliances shall not be located beneath, or closer than 5 feet (1524 mm) to combustible decorations and combustible overhangs, awnings, sunshades, or similar combustible attachments to buildings.

603.4.2.1.4 Proximity to Exits. Portable outdoor gas-fired heating appliances shall not be located within 5 feet (1524 mm) of exits or exit discharges.

3107.12.7 Electrical Heating and Cooking Equipment. Electrical cooking and heating equipment shall comply with the California Electrical Code.

604.10.4 Prohibited Areas. Portable, electric space heaters shall not be operated within 3 feet (914 mm) of any combustible materials. Portable, electric space heaters shall be operated only in locations for which they are listed.

Installation Guidelines:

Based on the above code requirements, the following are guidelines for acceptable methods of heating a tent, canopy, or temporary membrane structure:

1. **Ducted Tent Heaters.** Electric, propane or natural gas direct or indirect ducted tent heaters are allowed where installed in accordance with manufacturer instructions. Heaters must have UL or other NRTL listing.



Ducted Tent Heater Examples

2. **Portable Electric Space Heaters.** Portable electric space heaters are allowed inside of a tent. Portable heaters shall have UL or other NRTL listing, over-temperature protection, ground heaters must have a tip-over switch, suspended heaters must be securely installed, and all heaters shall have clearances as required by manufacturer, but in no case less than 3 feet from any persons or combustible material including the tent or sidewall fabric. The power supply shall utilize a single listed outdoor extension cord rated for the amperage and provided with GFCI protection or be provided with temporary power supply approved by the building official.





Portable or Suspended Electric Heater Examples

3. **Catalytic Heaters.** Propane or natural gas fueled catalytic heaters which heat by chemical reaction and have no combustion are allowed within a tent or canopy. Catalytic heaters must have UL or other NRTL listing, tip-over switch, and maintain clearances as required by the manufacturer, but in no case less than 3 feet from any persons or combustible material including the tent or sidewall fabric. The propane or natural gas source cylinder is not allowed within the tent.



Catalytic Heater Examples