



SANTA CLARA COUNTY FIRE DEPARTMENT

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STANDARD DETAILS & SPECIFICATIONS	Spec No	<u>SI-8</u>
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	Approved By	<u>HRE</u>
	Page	<u>1</u> of <u>4</u>
SUBJECT: Standards for Storage and Use of Portable Liquefied Petroleum Gas & Electrical Outdoor Heaters		

SCOPE

The Fire Code Official is authorized to regulate the use of portable outdoor gas-fired heating appliances, in accordance with the provisions of the Fire Code. The information contained within this document is to serve as a guideline for the use of such equipment.

AUTHORITY

2022 California Fire Code (CFC): 1.11.2, 603, 605, Chap. 31, Chap. 61, NFPA 58

DEFINITIONS

CFC: Shall refer to the 2022 edition of the California Fire Code, as adopted by the applicable jurisdiction.

Outdoor heating appliance: Shall refer to portable outdoor gas-fired heating appliance, as regulated by the California Fire Code.

LPG/LP-Gas: Liquefied Petroleum Gas – A material which is composed predominantly of the following hydrocarbons or mixtures of them: propane, propylene, butane and butylene's.

NFPA 58: Shall refer to the 2020 edition of the National Fire Protection Association Liquefied Petroleum Gas Code.

REQUIREMENTS

Outdoor heating appliances may be permitted in outdoor locations provided that the use complies with the requirements within this document, and the California Fire Code.

I. Outdoor Gas-Fired Heating Appliances – In Use

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



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1. Inside of any occupancy where connected to the fuel gas container
 2. Inside of tents, canopies, and membrane structures.
 3. On exterior balconies unless permitted in Chapter 61 [**CFC 605.5.2.1.1**].
- B. Outdoor heating appliances shall not be located within 5 feet of buildings [**CFC 605.5.2.1.2**].
- C. Outdoor heating appliances shall not be located beneath or within 5 feet of combustible decorations, combustible overhangs, awnings, sunshades, or similar combustible materials [**CFC 605.5.2.1.3**].
- D. Outdoor heating appliances shall not be located within 5 feet of exits or exit discharges [**CFC 605.5.2.1.4**].
- E. Only listed and approved outdoor heating appliances, utilizing a fuel gas container that is integral to the appliance, may be used [**CFC 605.5.2.2.1**].
- F. Outdoor heating appliances shall be installed and maintained in accordance with the manufacturer's instructions and their listing [**CFC 605.5.2.2**].
- G. Outdoor 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 vertical [**CFC 605.5.2.2.3**].
- H. Outdoor heating appliances shall have their heating element or combustion chamber permanently guarded so as to prevent accidental contact by persons or material [**CFC 605.5.2.2.4**].
- I. Replacement of fuel gas containers in portable outdoor gas-fired heating appliances shall not be conducted while the public is present [**CFC 605.5.2.3.2**].
- J. The maximum individual capacity of gas containers used in connection with outdoor heating appliances shall not exceed 20 pounds [**CFC 605.5.2.3.3**].
- K. Facilities using outdoor heating appliances shall have compliant portable fire extinguishers (minimum 2-A:10-B:C) within 75 feet of the space where such appliances are used or stored [**CFC 906**].
- L. Outdoor heating appliances shall not be permitted inside or located within 20 feet of tents or membrane structures while open to the public [**CFC 3107.4**].



SANTA CLARA COUNTY FIRE DEPARTMENT

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- M. Structures such as walls, solid fences, earth, concrete barriers or other similar structures shall not surround outdoor heating appliances or otherwise restrict air circulation around the appliance. **Note:** The base of the heater contains the LPG cylinder; the presence of such structures can create significant hazards such as: pocketing of escaping gas, interference with the application of cooling water by firefighters, and the redirection of flames against the LPG cylinders.

II. LP – Gas Cylinders in Storage

- A. LP-Gas cylinders shall be located in a manner which minimizes exposure to excessive temperature rise, physical damage, or tampering [**CFC 6109.2**].
- B. LP-Gas cylinders shall be stored or used in an upright position. Cylinder outlet valves shall be closed or plugged [**CFC 6109.3 and 6109.8**].
- C. LP-Gas cylinders shall not be stored on roofs [**CFC 6109.6**].
- D. LP-Gas cylinders shall not be located in basements, pits, or similar locations where heavier-than-air gas might collect [**CFC 6109.7**].
- E. LP-Gas cylinders larger than 2.7 pound water capacity (nominal 1 pound of LPG) shall not be stored in buildings [**CFC 6109.9**].
- F. LP-Gas cylinder storage outside of buildings shall be located at least 5 feet away from any doorway or opening to a building/area having two or more exits. Such storage shall be located at least 10 feet away from doorways or openings to buildings/areas having only one exit. The maximum aggregate quantity of LPG allowed in storage is 500 pounds (a 5-gallon cylinder equals 20 lbs. of LPG). Contact Santa Clara County Fire Department for storage requirements of more than 500 pounds of LPG [**CFC table 6109.12**].
- G. When exposed to vehicular traffic, LPG cylinders shall be suitably protected from impact [**CFC 6109.13**].
- H. LPG cylinders shall be protected by either [**CFC 6109.13 and 6109.14**]:
1. An enclosure with at least a 6-foot-high industrial type fence. **NFPA 58 Sec 8.4.2.2 (1)**; or
 2. A lockable, ventilated enclosure made of metal construction **NFPA 58 Sec 8.4.2.2 (2)**.



SANTA CLARA COUNTY FIRE DEPARTMENT

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Note: A chain link fence is the type of fence most commonly used for security. A solid fence is not allowed because it is important to allow air to circulate freely.

III. Electric Heater Appliances

- A. Only listed and labeled portable, electric space heaters shall be used [**CFC Section 603.9.1**].
- B. Portable, electric space heaters shall be plugged directly into an approved receptacle [**CFC Section 603.9.2**].
- C. Portable, electrical space heaters shall not be plugged into extension cords [**CFC Section 603.9.3**].
- D. Portable, electrical space heaters shall not be operated within 3 feet of any combustible material. Portable, electric space heaters shall be operated only in locations for which they are listed [**CFC Section 603.9.4**].

IV. Alternative Heater Appliances

- A. Pursuant to CFC Section 102.9, other alternative types of outdoor heating appliances shall not be permitted.