



PLACING LP GAS CONTAINERS

Container Placement

NFPA 58, *Liquefied Petroleum Gas Code*, contains the requirements pertaining to the placement of liquefied petroleum gas (LP-Gas) containers. All references to NFPA 58 refer to the 2017 edition. The requirements apply to containers installed outside of buildings, whether of the portable type replaced on a cylinder exchange basis or permanently installed and refilled at the installation.

The main focus of the separation distances in NFPA 58 is the placement of containers according to Table 6.4.1.1. This table contains the minimum distances, measured from any portion of the container surface, to several other items including other containers, important buildings, and line of adjoining property that can be built upon.

Table 6.4.1.1 Separation Distances Between Containers, Important Buildings, and Line of Adjoining Property That Can Be Built Upon

Water Capacity per Container		Minimum Distances					
		Mounded or Underground Containers ^a		Aboveground Containers		Between Containers ^b	
gal	m ³	ft	m	ft	m	ft	m
<125 ^c	<0.5 ^c	10	3	0 ^d	0 ^d	0	0
125–250	0.5–1.0	10	3	10	3	0	0
251–500	>1.0–1.9	10	3	10	3	3	1
501–2,000	>1.9–7.6	10	3	25 ^e	7.6	3	1
2,001–30,000	>7.6–114	50	15	50	15	5	1.5
30,001–70,000	>114–265	50	15	75	23		
70,001–90,000	>265–341	50	15	100	30		
90,001–120,000	>341–454	50	15	125	38		
120,001–200,000	>454–757	50	15	200	61		
200,001–1,000,000	>757–3,785	50	15	300	91		
>1,000,000	>3,785	50	15	400	122		

^aSee 6.4.2.1.

^bSee 6.4.4.5.

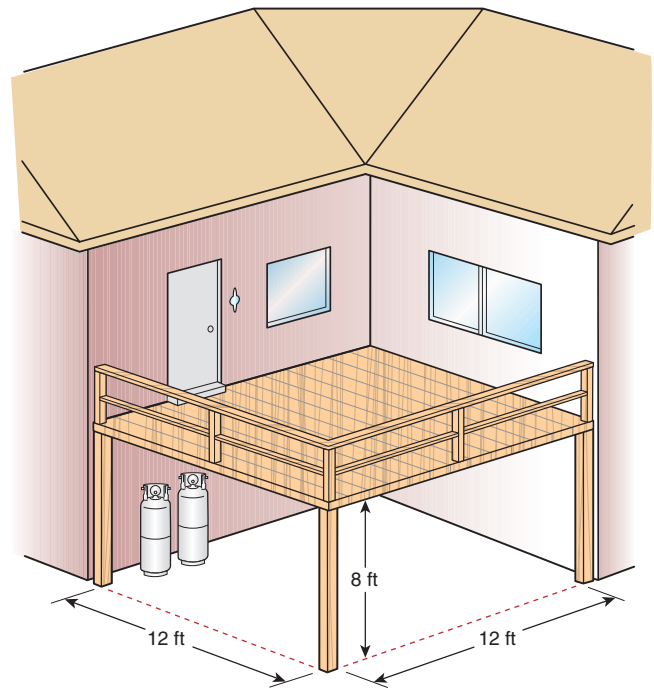
^cSee 6.4.4.4.

^dSee 6.4.4.1, 6.4.4.2, 6.4.4.3, and 6.4.4.4.

^eSee 6.4.1.3.

Decks and Overhangs

Tanks are permitted to be placed under an overhang provided the area is open on at least 50% of the sides. Paragraph 6.4.4.1 provides guidance to NFPA 58 users who install cylinders in outdoor areas that are protected from the weather. It establishes that a minimum of 50% of the perimeter of an enclosed area must be open to the atmosphere.



Total wall enclosure area = (12 ft × 8 ft) × 4 = 384 ft²
 Minimum required open area = 384 ft² × 50% = 192 ft²



PLACING LP GAS CONTAINERS *CONTINUED*

Although NFPA 58 is not a building code, it does provide safety requirements for the installation of propane containers that help achieve the safe occupancy and use of buildings. Note that NFPA 101®, *Life Safety Code*®, prohibits LP-Gas containers from being located under egress paths from upper-level rooms. This would preclude locating containers under a stairway or ramp that is the best practical way to evacuate — for example, a second-floor apartment or elevated beach house.

DID YOU KNOW?

A building can be considered “important” for reasons including replacement value, human occupancy, value of contents, vital role to a business, and effect on fire control activities.

Restaurant Exemption

Paragraph 6.4.1.3, often called the “restaurant exemption,” provides a special case that allows the installation of one LP-Gas container of 1200 gal (4.5 m3) or less to be 10 ft (3 m) from a building, rather than the 25 ft (7.6 m) required in Table 6.4.1.1. The 10 ft (3 m) spacing of one container with 1200 gal (4.5 m3) or less water capacity is allowed only if one such container is installed and there are no other LP-Gas containers of more than 125 gal (0.5 m3) water capacity within 25 ft (7.6 m).

The provision was created because of the limited space often found in commercial areas, and it has continued to be used because fire records do not indicate a problem with the reduced distance. Note that the 25 ft (7.6 m) separation distance to other LP-Gas containers is applicable in all cases, even if two different users would like to install containers less than 25 ft (7.6 m) apart.

Disconnected Containers

In the 2017 edition, the NFPA 58 committee has added requirements for ASME containers disconnected from use. Cylinders awaiting use, resale, or exchange are still covered by Chapter 8, but the new requirements for ASME containers can be found in Section 6.3. These containers can be placed in a bulk plant or approved area in accordance with 6.3.2(1), or they can be placed according to a list of requirements in 6.3.2(2).

Some of these new requirements in 6.3.2(2) are prohibitions on placing these containers on roofs or balconies, separation requirements according to Table 6.4.1.1, and placing the containers to prevent physical damage. This section also requires that the containers’ valve outlets be plugged and that the containers always be oriented so that the pressure relief valve communicates with the vapor space of the container.

Container Appurtenances

In NFPA 58, the term *container appurtenances* refers to devices installed in container openings for safety, control, or operating purposes — for example, a relieve valve. These need to be oriented to ensure that LP-Gas is not accidentally released into buildings. Since LP-Gas is heavier than air, if it were to flow downward into a building it could accumulate and create a hazardous situation in a building. NFPA 58 contains these required separation distances in Table 6.4.4.3.

Table 6.4.4.3 Separation Distance Between Container Pressure Relief Valve and Building Openings

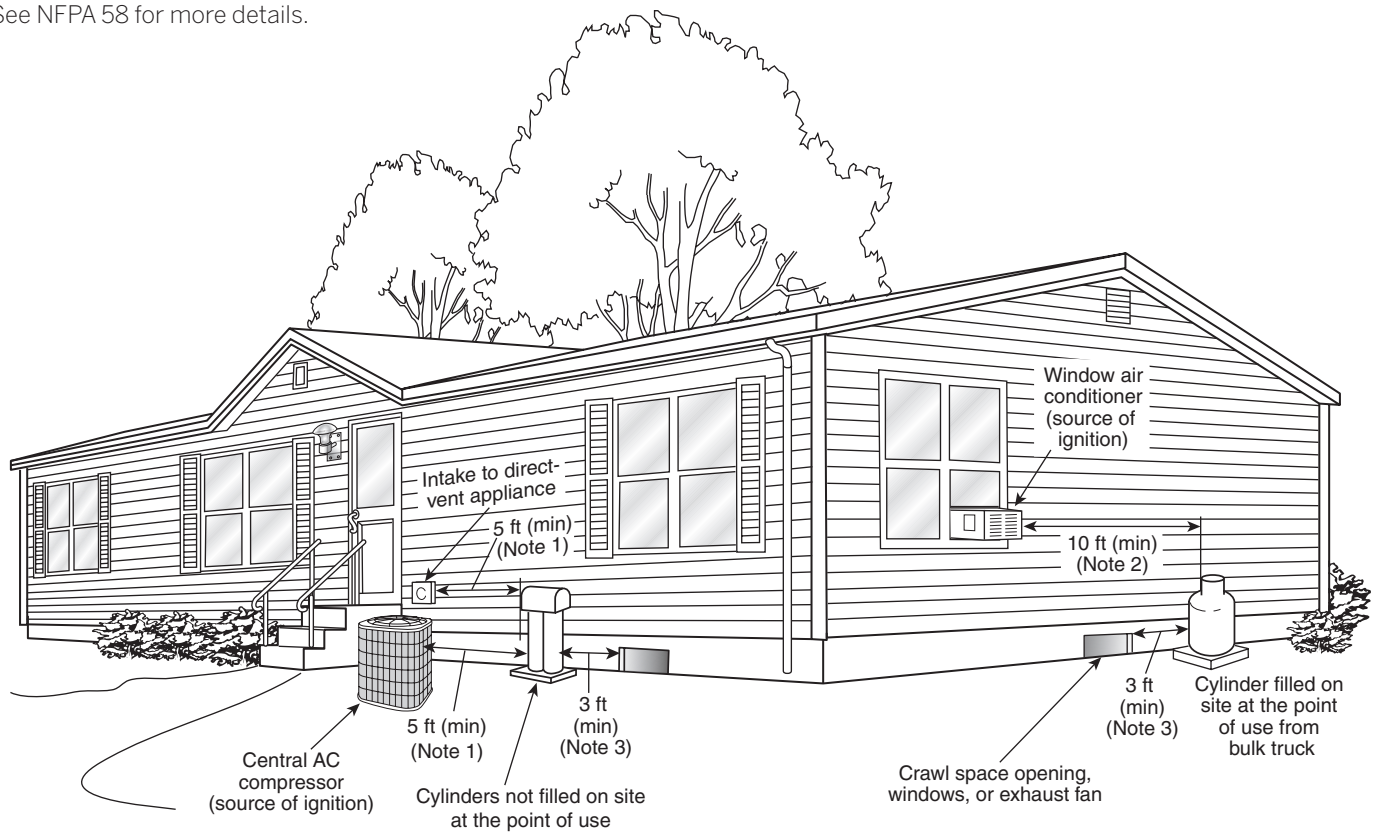
Container Type	Exchange or Filled on Site at Point of Use	Distance Horizontally from Relief Valve Discharge to Opening Below Discharge				Discharge from Relief Valve, Vent Discharge, and Filling Connection to Exterior Source of Ignition, Openings into Direct-Vent Appliances, and Mechanical Ventilation Air Intakes	
		Distance Horizontally from Relief Valve Discharge to Opening Below Discharge		Discharge from Relief Valve, Vent Discharge, and Filling Connection to Exterior Source of Ignition, Openings into Direct-Vent Appliances, and Mechanical Ventilation Air Intakes			
		ft	m	ft	m		
Cylinder	Exchange	3	0.9	5	1.5		
Cylinder	Filled on site at the point of use	3	0.9	10	3.0		
ASME	Filled on site at the point of use	5	1.5	10	3.0		



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Container and Appurtenance Separation Distances from Buildings

Annex I of NFPA 58 contains several examples of how to separate containers and their appurtenances from buildings in accordance with Table 6.4.4.3, such as Figure I.1(a), which shows container placement. See NFPA 58 for more details.



For SI units, 1 ft = 0.3048 m.

Additional NFPA Resources

- *LP-Gas Code Handbook* (NFPA 58)
- *National Fuel Gas Code Handbook* (NFPA 54)
- Customized training classes (classroom, onsite, and online)

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This material contains some basic information about placing LP-Gas containers in accordance with NFPA 58, Liquefied Petroleum Gas Code. It identifies some of the requirements in NFPA 58 as of the date of publication of this Fact Sheet. This material is not the official position of any NFPA Technical Committee on any referenced topic which is represented solely by the NFPA documents on such topic in their entirety. For free access to the complete and most current version of all NFPA documents, please go to www.nfpa.org/docinfo. References to "Related Regulations" is not intended to be a comprehensive list. The NFPA makes no warranty or guaranty of the completeness of the information in this material and disclaims liability for personal injury, property and other damages of any nature whatsoever, from the use of or reliance on this information. In using this information, you should rely on your independent judgment and, when appropriate, consult a competent professional.