

5. Installation:

- a. The Cylinder Exchange Stations shall be installed on a level, firm foundation of concrete or equal material, and secured to the ground or wall to prevent tipping.
- b. Location of storage outside of buildings - Storage outside of buildings of LP-gas containers awaiting use, resale or part of a cylinder exchange program shall be located in accordance with **IFC Table 6109.12**.

TABLE 6109.12 SEPARATION FROM EXPOSURES OF LP-GAS CONTAINERS AWAITING USE, RESALE OR EXCHANGE STORED OUTSIDE OF BUILDINGS

QUANTITY OF LP-GAS STORED (pounds)	MINIMUM SEPARATION DISTANCE FROM STORED LP-GAS CYLINDERS TO (feet):						
	Nearest important building or group of buildings or line of adjoining property that may be built upon	Line of adjoining property occupied by schools, places of religious worship, hospitals, athletic fields or other points of public gathering; busy thoroughfares; or sidewalks	LP-gas dispensing station	Doorway or opening to a building with two or more means of egress	Doorway or opening to a building with one means of egress	Combustible materials	Motor vehicle fuel dispenser
720 or less	0	0	5	5	10	10	20
721 - 2,500	0	10	10	5	10	10	20
2,501 - 6,000	10	10	10	10	10	10	20
6,001 - 10,000	20	20	20	20	20	10	20
Over 10,000	25	25	25	25	25	10	20

6. Fire Protection:

LP-Gas is considered an Extra (High) Hazard. Where the quantity of propane stored is in excess of 720 lbs., at least one 3-A:40-B:C fire extinguisher located within 30-feet, or one 4-A:80-B:C located within 50-feet, from the storage location.

ADDITIONAL REQUIREMENTS

In addition to other applicable requirements of this specification, facilities operating LP-gas cylinder exchange stations that are accessible to the public must comply with the following requirements:

- 1. Cylinders must be accessible only by authorized personnel or by use of an automated exchange system, which must be approved by the Fire Marshal (FM).
 - a. A sign must be posted on the entry door of the business operating the cylinder exchange stating "**DO NOT BRING LP-GAS CYLINDERS INTO THE BUILDING**" or similar approved wording.

- b. An emergency contact information sign must be posted within 10-feet of the cylinder storage cabinet. The content, lettering, size, color, and location of the required sign must be as required by the FM.

Cylinder exchange stations that include an automated vending system for exchanging cylinders, must be approved by the FM.

2. Vehicle Impact Protection:

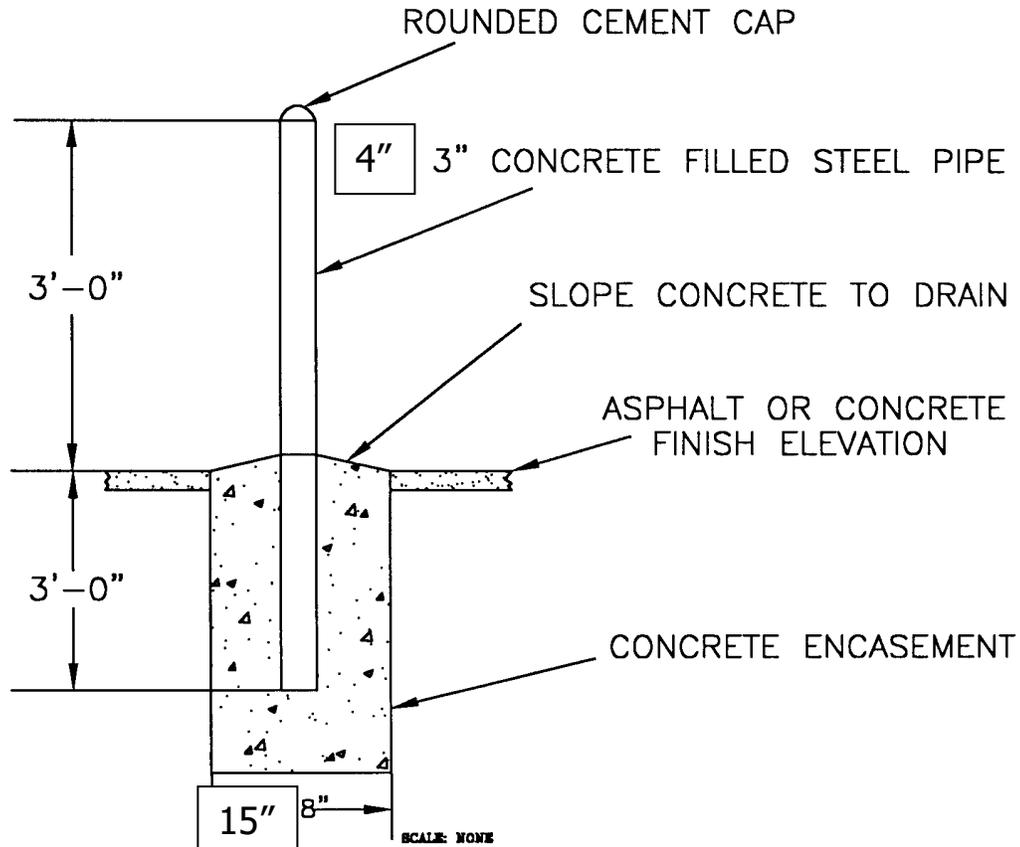
- a. Cylinders in storage shall be located to minimize exposure to excessive temperature rises, physical damage, or tampering per **NFPA 58§8.2.1.1 *General Location of Cylinders***.
- b. Vehicle impact protection must be provided by guard posts (bollards) that comply with **IFC §312.2 *Posts*** or **IFC §312.3 *Other barriers*** as approved. Cylinder Exchange Stations that are subject to vehicular damage must be protected as follows:

Vehicle Impact Protection Guard Posts must comply with all of the following requirements and in accordance with the detail on Pg. 3 of this specification:

1. Constructed of steel not less than 4-inches in diameter and concrete filled.
2. Spaced not more than 4-feet between posts on center.
3. Set not less than 3-feet deep in a concrete footing of not less than a 15-inch diameter.
4. Set with the top of the posts not less than 3 feet above ground.
5. Located not less than 3 feet from the protected object.
6. The steel pipe above ground must be painted with a minimum of two coats of **5200 System Rust-Oleum® Acrylic Primer** and the finish coat must be **Rust-Oleum® Specialty Model #7449502, Caterpillar Yellow Gloss Farm Equipment Paint** or equivalent, as approved by the FM.
7. In lieu of guard posts, other barriers may be used as approved by the FM. Physical barriers must be a minimum of 36-inches in height and must resist a force of 12,000 pounds applied 36-inches above the adjacent ground surface.

Exception: Cylinder Exchange Stations may be installed in areas with a 6-inch curb, not closer than 3-feet to the station, when approved by the FM.

VEHICLE IMPACT PROTECTION GUARD POSTS



REFERENCES

2018 International Fire Code, Ch. 3, §312 *Vehicle Impact Protection*

2018 International Fire Code, Ch. 61, §6109 *Storage of Portable LP-Gas Containers Awaiting Use or Resale*

2017 NFPA 58 *Liquefied Petroleum Gas Code*, Ch. 8 *Storage of Cylinders Awaiting Use, Resale, or Exchange*

Note: This FD Specification is intended to be a guide only. For full installation, fire-flow, location and distribution and maintenance requirements, refer to the references above. Where conflicts exist between this document and the applicable codes and standards, the above references must supersede.

APPROVED: _____

Scott Hartman, Fire Marshal

DATE: September 01, 2021