

**Permit Requirements
LPG Tank Installation (Dispensing)**

Kern County Fire Department

Office of the Fire Marshal ~ Fire Prevention

2820 M St. ~ Bakersfield, CA 93301

Telephone (661) 391-3310 ~ Fax (661) 636-0466/67

Website: kerncountyfire.org

Email: fireprevention@kerncountyfire.org



Please include completed Application for Permit (KCFD 200) with submittal

Fee Amount: \$145.00

Fee Code: 1.5.2

The intent of this document is to aid in the construction permitting process including Change of Use/Occupancy for a LPG tank installation within commercial buildings or tenant spaces regarding what should be submitted for the Fire Marshal's Office review. Because every building differs, this guideline is not intended to identify each code requirement applicable, therefore the applicant must follow all appropriate codes adopted by Kern County for the process or construction under review. Other Fire Department operational permits may be required.

1. Permits for Liquefied Petroleum Gas (LPG) Tank Installation shall be applied for at 2820 M St., Bakersfield, CA 93301.
2. Fee shall be submitted at time of application submittal. Make check payable to Kern County Fire Department. Visa and MasterCard accepted.
3. Tank Permits shall comply with NFPA 58, Liquefied Petroleum Gas Code, 2019 California Fire Code (CFC) Chapter 61, and the California Mechanical and Electrical Code.
4. A permit is required for the installation of any LPG tank except when:
 - a. The tank is to be located at a single-family residence and does not have the capability to dispense liquid LPG, or
 - b. The tank is less than 125 gallon water capacity.
5. The permit shall be obtained prior to the installation of the tank.
6. An "Application for Permit" shall be completed and submitted to Fire Prevention. The applicant must also submit:

Three (3) copies of site plan indicating (mechanical drawings only):

- a. The location of the tank,
 - b. The size of the tank,
 - c. Distance to property lines,
 - d. Distance to structures,
 - e. Distance to roadways,
 - f. Distance to other tanks,
 - g. Location of guard posts.
7. ***LPG distributors shall not fill an LP-Gas container for which a permit is required unless a permit for installation has been issued for that location by the Kern County Fire Department***
 8. Installers shall maintain a record of installations for which a permit is not required and have such record available for inspection by the Kern County Fire Department. Exception: Installation of gas-burning appliances and replacement of portable cylinders.
 9. A permit from the State of California of Industrial Relations for a pressure vessel is required.

10. Hazardous Materials Disclosure Law and Public Right-to-Know mandate that you file or amend your business plan and contact the appropriate department. (Either Environmental Health Department for Business Plans, or Kern County Fire Department for Risk Management Prevention Plans)
11. LPG tanks shall be designed, fabricated, tested, and marked in accordance with the regulations of the U.S. Department of Transportation (DOT) or in accordance with approved, nationally recognized standards. (i.e., ASME, API-ASME specifications).
12. Tanks shall be located with respect to buildings, public ways or lines of adjoining property which may be built upon in accordance with the table below. Also, tanks shall not be located less than 50 feet from a railroad track (CCR Title 8). Note: See also distances between point of transfer and exposures.

Distance Between Point of Transfer and Exposures	
Tank water capacity per Container 125-2000 gal	Minimum Horizontal Distance
Buildings	25 feet
Line of Adjoining Property That can be built upon	25 feet
Outdoor places of public assembly Including schoolyards, athletic fields, And playgrounds	50 feet
Public ways including public streets, highways, thoroughfares, and sidewalks	10 feet
Vehicle fuel dispensers	10 feet

13. Tanks of more than 2,000 gallons and all tanks installed at service stations shall be equipped with a pressure gauge. If the opening into the container for this gauge is larger than a No. 54 drill size, then an excess flow valve is required.
14. All containers filled on a volumetric basis shall have a fixed liquid level gauge. The percentage when full as indicated by this gauge shall be marked on the tank.
15. Affix "Flammable" and LPG, LP-Gas, propane or butane signs to the tank as needed. Affix "No Smoking within 15 Feet" signs.
16. When subject to vehicle impact, install guard posts around tank.
17. Guard posts shall be:
 - a. Constructed of Schedule 40 or 80 steel not less than 4 inches in diameter and concrete filled,
 - b. The steel pipe must be a minimum of 6 feet long.
 - c. Set not less than 3 feet deep in a concrete footing of not less than 15-inch diameter,
 - d. Set with the top of the posts not less than 3 feet above ground,
 - e. Spaced not more than 4 feet between posts on center, and
 - f. Located not less than 5 feet from the tank
18. Steel supports for vertical tanks shall be protected against fire exposure with a material having a fire resistance rating of at least two hours. Continuous steel skirts having only one opening 18 inches or less in diameter need such fire protection applied only to the outside on the skirt.

19. Electrical equipment and wiring, if any, shall be permitted through the Kern County Department of Engineering and Survey Services (BID), 2700 "M" Street, Bakersfield, California.

Piping, Tubing and Fittings, NFPA 58

20. All pipe used for LPG shall be suitable for the pressures it will be subjected to and shall be either black steel, galvanized steel, brass, copper or polyethylene. Polyethylene piping is limited to use underground for LPG vapor service, not exceeding 30 psig.

NFPA 5.9.3.1 Pipe shall be wrought iron or steel (black or galvanized), brass, copper, polyamide, or polyethylene and shall comply with the following:

- Wrought iron: ASME B36.10M, *Welded and Seamless Wrought Steel Pipe*
- Steel pipe: ASTM A 53, *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless*
- Steel pipe: ASTM A 106, *Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service*
- Brass pipe: ASTM B 43, *Standard Specification for Seamless Red Brass Pipe, Standard Sizes*
- Copper pipe: ASTM B 42, *Standard Specification for Seamless Copper Pipe, Standard Sizes*

Polyamide and polyethylene pipe: ASTM D 2513, *Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings*, and shall be recommended by the manufacturer for use with LP-Gas

NFPA 5.9.3.2 Tubing shall be steel, stainless steel, brass, copper, polyamide, or polyethylene and shall comply with the following:

- (1) Steel tubing: ASTM A 539, *Standard Specification for Electric-Resistance-Welded Coiled Steel Tubing for Gas Fuel Oil Lines*
- (2) Brass tubing: ASTM B 135, *Standard Specification for Seamless Brass Tube*
- (3) Copper tubing:
 - (a) Type K or L: ASTM B 88, *Standard Specification for Seamless Copper Water Tube*
 - (b) ASTM B 280, *Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service*
- (4) Polyamide and polyethylene tubing: ASTM D 2513, *Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings*, and shall be recommended by the manufacturer for use with LP-Gas
- (5) Corrugated stainless steel tubing: ANSI/CSA 6.26 (LC1), *Interior Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing*

21. Piping for underground shall be machine plastic wrapped steel pipe or approved P.E. pipe limited to 4 inches maximum diameter.
22. Any soldering or brazing filler material shall have a melting point exceeding 1000°F.
23. Valves and fittings used at pressures higher than container pressure, such as on the discharge of liquid transfer pumps, shall be suitable for a working pressure of at least 350 psig.
24. Hydrostatic relief valves required to relieve the hydrostatic pressure which might develop in sections of liquid piping between closed shut-off valves. The relief valve shall have pressure settings not less than 400 psig or more than 500 psig unless installed in systems designed to operate above 350 psig.

Dispensing Devices, CFC 6106, 6107 and NFPA 58

25. Means shall be provided on the outside of the dispenser to readily shut off the power in the event of fire or accident. This shut-off may be internal with the dispenser or provided externally when the dispenser is installed.
26. Hose connections and flexible connectors used for conveying LP-Gas liquid or vapor in pressure in excess of 5 psig shall comply with the following:
- a. Hose shall be designed for a working pressure of 350 psi with a safety factor of 5 to 1 and be continuously marked "LP-Gas," "Propane," "350 PSI Working Pressure," and the manufacturer's name or trademark.

- b. Hose assemblies, after the application of connections, shall have a design capability of withstanding a pressure of not less than 700 psig. Testing shall be done at not higher than the working pressure (350 psig) of the hose.
- 27. An excess flow valve or an automatic shut-off valve shall be installed in or on the dispenser at the point at which the dispenser hose is connected to the liquid piping. A differential back pressure valve shall be considered as meeting this requirement.
- 28. Wet type (liquid) dispensing hose shall be equipped with a hydrostatic relief.
- 29. Cargo vehicles unloading into the storage containers shall be at least 10 feet from the container. In the case of distributing points such as at LP-Gas service stations, the truck shall not be parked on a public way.
- 30. At dispensing locations, provide a 2A-10BC rated fire extinguisher between 15-75 feet from the tank with a fire extinguisher sign above or next to extinguisher.
- 31. Attendants, Dispensing of LP-gas shall be performed by a qualified attendant.

Containers shall be located with respect to buildings, public ways, and lot lines of adjoining property that can be built upon, in accordance with CFC Table 6104.3.

TABLE 6104.3
LOCATION OF LP-GAS CONTAINERS

CONTAINERS CAPACITY (water gallons)	MINIMUM SEPARATION BETWEEN CONTAINERS AND BUILDINGS, PUBLIC WAYS OR LOT LINES OF ADJOINING PROPERTY THAT CAN BE BUILT UPON		MINIMUM SEPARATION BETWEEN CONTAINERS ^{b,c} (FEET)
	Mounded or underground Containers ^a (feet)	Aboveground Containers ^b (feet)	
Less than 125	10	5	None
125 to 250	10	10	None
2511 to 500	10	10	3
501 to 2,000	10	25	3
2,001 to 30,000	50	50	5
30,001 to 70,000	50	75	
70,001 to 90,000	50	100	(0.25 of sum of diameters of adjacent containers)
90,001 to 120,000	50	125	

For SI: 1 foot = 304,8 mm, 1 gallon = 3,785 L

Additional Requirements:

Mailing Address:
 Kern County Fire Department
 2820 M St.
 Bakersfield, CA 93301
 Attn: Fire Prevention