



# Coffee Break Training - Fire Protection Series

## Hazardous Materials: Qualified LPG Containers

No. FP-2012-15 April 10, 2012

**Learning Objective:** The student shall be able to read a LPG container nameplate to determine its suitability for liquefied petroleum gas storage.

With the advent of dramatically rising energy prices, the likelihood increases that some persons will try to hoard fuel in nonapproved—and potentially dangerous—containers.

Liquefied petroleum gases (LPGs) in the form of butane or propane are common hydrocarbon fuels used for heating, cooking, and industrial applications. They are stored in pressure vessels that meet either U.S. Department of Transportation (DOT) or American Society of Mechanical Engineers (ASME) standards. (See Coffee Break Training 2006-22 for a brief description of the differences.) National Fire Protection Association (NFPA) 58, *Liquefied Petroleum Gas Code*, is the foundational document for the design, installation, and operation of LPG systems and containers.

So how do we know if a particular LPG storage tank is suitable? You cannot tell a container's suitability by looking at the tank, but you can tell by reading the attached nameplate (dataplate). Without the nameplate, the container cannot be qualified for use in LPG and may not be used for storing LPG.

A qualified ASME storage container is readily determined by referencing the nameplate attached to the container. The nameplate is stamped with the required markings specifying the container's compliance with the ASME pressure vessel code and its suitability for LPG service. The dataplate must be marked with the National Board of Boiler and Pressure Vessel Inspectors ([www.nationalboard.org](http://www.nationalboard.org)) symbol and a serial number that can be used to obtain the original manufacturer's data report from the National Board (NB) that will provide all of the vessel's fabrication details. (The NB symbol is in the upper left of the dataplate, adjacent to the container serial number.)

The nameplate illustrated today is from a 500-gal (1,893 L) (water capacity) container that has been manufactured for underground storage. The nameplate includes the following information:

- Container manufacturer and location where it was made (plant number).
- Maximum allowable working pressure at a corresponding temperature.
- Minimum design metal temperature: a value of the metal's brittleness and susceptibility to failure.
- Serial number.
- Year of manufacture.
- Container dimensions: length, outside diameter, head thickness and shape (hemispherical), shell thickness, and surface area.
- Suitability for underground installation: AG for aboveground, UG for underground. (AWT is an abbreviation of the manufacturer's name.)
- Underwriters Laboratories (UL) control number. The control number is assigned by UL and is dependent upon the type of product and type of followup service that UL performs.
- Container water capacity.

Occasionally, the nameplate on an older container is either missing or deteriorated beyond legibility. The container may have been in use with LPG and appears to be suitable for continued use or placement back into service from storage. However, a legible nameplate must be attached to the container for use in LPG service.



This nameplate describes the construction features and testing performance for the underground LPG container to which it is attached.



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