



COMPRESSED GAS ASSOCIATION, INC.

TECHNICAL BULLETIN

TB-22—2006

4221 WALNEY ROAD, 5TH FLOOR
CHANTILLY, VA 20151

703-788-2700

cga@cganet.com

GUIDELINES FOR THE INSPECTION, MAINTENANCE, AND REQUALIFICATION OF LIQUEFIED PETROLEUM GAS CYLINDERS

Purpose

The purpose of this publication is to provide companies and their employees with guidelines for the inspection, maintenance, and requalification of liquefied petroleum gas (LPG) cylinders to ensure compliance with applicable safety and regulatory requirements. For this technical bulletin, the term LPG includes but is not limited to butane, commercial propane, propylene, or mixtures of these products.

General

All cylinders used for the transportation and storage of LPG in the United States shall be periodically requalified in accordance with the U.S. Department of Transportation (DOT) requirements and/or with NFPA 58 by trained personnel [1, 2]. All cylinders used for the transportation and storage of LPG in Canada shall be periodically requalified in accordance with CSA B339, CSA B149.2, and PTI 100-4 by trained personnel [3, 4, 5]. The proper inspection, maintenance, and requalification of LPG cylinders are critical for their safe filling and continued use. Requalification includes the identification of damage and other potential injurious defects that render the cylinder unfit for continued service.

Inspection and maintenance

Inspection and maintenance shall be performed each time a cylinder is filled, or more often as circumstances require. For additional information on the inspection and maintenance of LPG cylinders, see 49 CFR, NFPA 58, NPGA/Propane Education and Research Council (PERC) *Certified Employee Training Program* (CETP), CGA C-6, CGA C-6.3, and CGA S-1.1 [1, 2, 6, 7, 8, 9]. In Canada, also see CSA B339, CSA B149.2, and PTI 100-4 [3, 4, 5].

Periodic requalification

Cylinders in commerce shall be requalified by one of three different methods in accordance with 49 CFR, Part 180, Subpart C, "*Qualification, Maintenance and Use of Cylinders*," and CSA B339 [1, 3]. Table 1 summarizes the methodology of requalification and time periods.

Cylinders installed in stationary applications or not in commerce shall be requalified according to methods prescribed in NFPA 58 and/or CSA B149.2 [2, 4].

In order to perform requalification of LPG cylinders, copies of NFPA 58, CSA B149.2, CGA C-6, CGA C-6.3, and CGA C-1 are required as referenced by the authority having jurisdiction [2, 4, 7, 8, 10]. In addition, all facilities where the requalification of LPG cylinders is performed shall have a Requalification Identification Number (RIN) issued by DOT or certificate of registration issued by Transport Canada (TC).

Table 1—Inspection intervals for testing LPG cylinders [1]

Cylinder type	First test date	Next required test date		
		Water jacket hydrostatic test	Modified hydrostatic test	Visual inspection
3A, 3AM	5 years	5 years	Not applicable	5 years
3AA, 3AAM	5 years	5 years	Not applicable	5 years
3A480X	5 years	5 years	Not applicable	5 years
3B, 3BM	5 years	5 years	Not applicable	5 years
4B, 4BM	12 years (10 years ¹⁾)	12 years (10 years ¹⁾)	7 years	5 years
4BA, 4BAM	12 years (10 years ¹⁾)	12 years (10 years ¹⁾)	7 years	5 years
4BW, 4BWM	12 years (10 years ¹⁾)	12 years (10 years ¹⁾)	7 years	5 years
4E, 4EM	12 years (10 years ¹⁾)	12 years (10 years ¹⁾)	7 years	5 years
NOTE—The requirements for retest dates are calculated on the basis of the most recent test date stamped on the cylinder.				
¹⁾ Canadian LPG cylinder requirement				

Training

Employee training on the following subjects shall be provided and documented:

- identification of cylinder markings;
- inspection intervals;
- methods of requalification;
- general maintenance; and
- personal protective equipment.

Additional information on training can be obtained through NPGA. NPGA in partnership with PERC has developed CETP, which is a comprehensive training program for employees in the propane industry. Specific training modules within CETP focus directly on inspection, maintenance, and requalification of cylinders, and they are available for any individual employed in this capacity [6].

For more information on CETP, including a schedule of courses and course descriptions, see NPGA's website at www.npga.org and click on Safety/Training Programs.

References

Unless otherwise specified, the latest edition shall apply.

[1] *Code of Federal Regulations*, Title 49 (Transportation) Parts 100-180, Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. www.gpoaccess.gov

[2] NFPA 58, *Liquefied Petroleum Gas Code*, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269. www.nfpa.org

[3] CSA B339, *Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods*, Canadian Standards Association, 5060 Spectrum Way, Mississauga, ON L4W 5N6, Canada. www.csa.ca

[4] CSA B149.2, *Propane Storage and Handling*, Canadian Standards Association, 5060 Spectrum Way, Mississauga, ON L4W 5N6, Canada. www.csa.ca