Proof Pressure Method

The Proof Pressure Test involves pressurizing a cylinder to the appropriated test pressure and then thoroughly inspecting the cylinder, while under pressure, for indications of leaks, deformations, or other indication of possible failure.

Ultrasonic Testing (UT) Method

This method of cylinder testing was introduced in the U.S on exemption basis in 1994. UT differs from other test methods in that the cylinder valve and contents remain intact as no water is used to pressurize the cylinder in this testing procedure. The UT test involves positioning the cylinder on a rack of rollers that rotate the cylinder, or full immersion of the cylinder in water. Each cylinder is rotated where the entire cylinder sidewall is examined by the inspection probe sensor. This transmits Ultrasonic energy into the cylinder in the form of 'ping-like- sonar soundings from multiple transducers.A longitudinal beam transducer sends a pulse that echoes straight off the back wall of the cylinder, measuring the time it takes the echo to return, thus measuring the thickness of the cylinder wall.Shear wave or angle beam transducers send sound waves diagonally through the cylinder wall detecting any cracks, pits, or flaws. These 'soundings' are recorded electronically and reviewed to ensure that each cylinder is safe for continued use. Certain new UT technology methods are being employed and recently have been granted exemptions for both steel and aluminum cylinders.

Testing Regulations and Guides

DOT – In accordance with regulations specified in the United States by the U.S Department of Transportation (DOT) and in Canada by Transport Canada (TC), certain cylinders must be periodically re-qualified and certified safe for use. The re-qualification procedures and regulations are discussed in detail in the U.S Code of Federal Regulations (CFR), Title 49 Section 180, and Transport Canada (TC) in B339 and B340. You will find a link to the U.S Code of Federal Regulations, available on-line for your review, by visiting Galiso's (DOT) link page at our web site. Hard copies of the CFR may be obtained directly from Galiso. Telephone us with your request at 1 800 854-3789 or (970) 249-0233 and ask fro Customer Service, or you can mail a written request to:

Superintendent of Documents
U.S Government Printing Office
Washington D.C. 20402

CGA Pamphlets - The specifications and procedures for the hydrostatic testing methods are outlined in Compressed Gas Association Pamphlet C-1, "Methods for Hydrostatic Testing of Compressed Gas Cylinders". A series of pamphlets pertaining to certain cylinder types and uses have been compiled for compliance with DOT standards and regulations. Copies of these pamphlets are available from Galiso or www.cganet.com :

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