



SPECIAL PERMIT 1116 REVISION NO 8

This Special Permit is issued pursuant to the terms of Section 71.6(a) of the "Regulations for the Transportation of Dangerous Commodities by Rail" to authorize the shipment by railway in Canada of Non flammable gas 2.2 in seamless aluminum cylinders with hoop reinforcement provided by Filament-Wound Reinforced Plastic (FRP), under conditions prescribed herein, and does not relieve any shipper or carrier from compliance with any requirement of the said Regulations, except as specifically stated.

1. BASIS

Letter dated January 5, 1988 from LUXFER, U.S.A., 1995 Third Street, Riverside, California, 92507

2. COMMODITY CLASSIFICATION

Non flammable gas 2.2.

3. COMMODITY NAME

a) Air, compressed; b) Oxygen, compressed; c) Argon, compressed;
d) Nitrogen, compressed; e) Helium, compressed; f) Compressed or liquefied gases, n.o.s.

4. IDENTIFICATION NUMBER

a) 1002; b) 1072; c) 1006; d) 1066; e) 1046; f) 1956.

5. REGULATION AFFECTED

73.302.

6. AUTHORIZED SHIPPER

LUXFER U.S.A. LIMITED, 1995 Third Street, P.O. Box 5300, Riverside, California, 92507, U.S.A., its agents or distributors or customers.

7. PACKAGING DESCRIPTION

(a) Non C.T.C. specification hoop wound filament reinforced seamless, aluminum lined cylinders made of definitely prescribed materials.

(1) Design and Construction must be in compliance with Luxfer USA Limited application dated January 1979, drawing C-L43.5W-65 Rev. G dated June 15, 1976 and additional design and performance data on file with the Director of Operation.

(b) In addition, the cylinders shall be in full compliance with D.O.T. FRP-2 Standard dated January 15, 1982 (178.BB) except as follows:

(i) 178.BB-4 Duties of Inspector

(a) ***

(b) ***

(c) ***

(d) ***

(e) ***

(f) ***

(g) Furnish complete inspector's report (178.BB-16) to the maker of the cylinder, to the Director of Operation and upon request, to the purchaser (See 178.BB-17).

(ii) 178.BB-6 Manufacture

(a) Liner. Aluminum liner without overwrap must be suitable for a marked service pressure of at least 50 percent of the service pressure marked on the composite cylinder and must be in full compliance with CTC 3AL specification except:

(1) ***

(2) ***

(b) ***

(c) ***

(d) ***

(e) ***

(iii) 178.BB-15 Marking

(a) ***

(b) Required markings are as follows:

(1) CTC SP 1116 or CTC/DOT E-7235 followed by the service pressure.

(2) A serial number and an identifying symbol (letters); location of number to be just below or immediately following the CTC mark; location of symbol to be just below or immediately following the number. The symbol and numbers must be those of the maker.

(3) The Inspector's official mark must be placed near the serial number.

(4) Date of test (month and year).

(c) ***

(d) ***

(e) ***

(f) Each cylinder may be marked in the metal of the base with the material cast code number, provided such marking is in an area outside a 1-1/4 inch radius from the cylinder centerline.

(iv) Design qualification tests

(a) General - Except as authorized in 178.BB-10(a), qualification tests as prescribed in this paragraph shall have been performed on representative cylinders of each specific design prior to the initial shipment. All cylinders used for design qualification tests must be fabricated on the same equipment and subjected to the same processes as is used to produce cylinders intended for charging and shipment. All tests must be witnessed by an independent inspector. Test reports must be kept on file by the cylinder maker and made available to the independent inspector and the Director of Operation upon request.

(b) revoked

(c) revoked

(d) ***

(e) ***

(f) ***

(g) ***

(h) Qualification test results - A report of all tests for each design describing test setup, procedure and results must be submitted to the Director of Operation. This report must include at least the following basic information on each cylinder tested: ***

8. SPECIAL REQUIREMENTS

- (a) Shippers may use the packaging covered by this exemption pursuant to Section 73.22A of the regulations.
- (b) For cylinders charged with oxygen, the following applies:
 - (i) Pressure in the container must not exceed 3,000 psig at 70°F.
 - (ii) Cylinder threads must be straight threads. Tapered threads are not authorized.
 - (iii) Brass valves only are authorized.
 - (iv) Each cylinder must be cleaned in compliance with requirements of Federal Specification R.R.-c-901b dated August 1, 1967, Paragraph 3.7.2, 3.8.2, and 4.4.2.3 one cylinder selected at random from each lot of 200 or less must be tested as prescribed in R.R.-c-901b, Paragraph 4.4.2.3 and meet the standard of cleanliness specified.
- (c) Cylinder service life is not to exceed 15 years.
- (d) Use of these cylinders for underwater breathing is not authorized.
- (e) Cylinder must be packaged in accordance with Section 73.301(k) of the CTC regulations.
- (f) Every cylinder must be reinspected and hydrostatically retested every three years in accordance with Section 73.34(e) of the CTC regulations as prescribed for CTC 3HT cylinders, except that permanent volumetric expansion for cylinders made after July 1, 1979 must not exceed 5 percent of total volumetric expansion at test pressure. Retest dates must be stamped into the metal of the cylinder shoulder near the original test date.
- (g) A cylinder which has been subjected to the action of fire shall not be returned to service.
- (h) The Director of Operation shall be advised of any change in design of the cylinder.
- (i) Previously made cylinders bearing serial numbers WF20321 to WF21548 and WA43160 to WA50178 are not covered by this special permit.
- (k) Effective immediately and notwithstanding Item 7 the maximum filling (charging) pressure is 4,000 psi for all cylinders manufactured, marked and sold under this Special Permit (CTC/DOT E-7235), except that such cylinders may be filled to the marked service pressure (4,500 T psi) following visual inspection and installation of a steel neck ring, supplied by Luxfer, in accordance with Luxfer instructions and specifications contained in "Retrofit and Shop

Procedures R2050" dated October 10, 1984. The visual inspection and neck ring installation must be performed by a facility identified to the CTC and qualified to perform all operation in R2050 as determined by an approved independent inspection agency. Each inspection and retrofit facility must be reinspected by the independent inspector at least once every 3 months.

- (1) Effective immediately no new construction of cylinders having marked service pressures higher than 3,000 psi is authorized under this Special Permit, except as follows: Cylinders designed, constructed, tested, inspected and marked in accordance with the Special Permit provisions applicable to a 4,500 psi service pressure may be filled to 4,500 psi following a visual inspection and installation of a steel neck ring in accordance with R2050. The quantity of cylinders released for use under this authorization must not exceed 100 per month.
- (m) Prior to renewal of this exemption a progress report similar to the same report submitted to the U.S.-D.O.T. must be submitted on the long range controlled pressure test program commenced in January 1977.

9. REPORTING REQUIREMENTS

The Director of Operation shall be advised of any incidents involving loss of contents and shall be provided with a summary of experience before the expiration date of the Special Permit.

10. EXPIRY DATE

May 3, 1989.



Director of Operation
Rail Safety Branch

Issued at Hull, Quebec
this 3rd day of May 1988

Address all inquiries to:

Director of Operation
Rail Safety Branch
National Transportation Agency
25 Eddy Street, 14th Floor
Hull, Quebec
K1A 0N9