

January 17, 2007



U.S. Department
of Transportation

400 Seventh Street, S.W.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 7235
(TWENTIETH REVISION)

EXPIRATION DATE: December 31, 2010

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Luxfer Gas Cylinders
(formerly Luxfer USA Limited)
Riverside, CA
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale and use of a non-DOT specification fiber reinforced plastic (FRP) hoop wrapped (HW) cylinders for use in transporting certain Division 2.2 materials authorized under this special permit. This special permit provides no relief from any Hazardous Materials Regulation (HMR) other than as specifically stated herein.
 - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302a(a)(1), 173.304a(a)(2) and 175.3 in that non-DOT specification cylinders are not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Luxfer Gas Cylinders dated January 25, 2005, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Air, compressed	2.2	UN1002	N/A
Argon, compressed	2.2	UN1006	N/A
Carbon dioxide	2.2	UN1013	N/A
Helium, compressed	2.2	UN1046	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Oxygen, compressed	2.2	UN1072	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification fiber reinforced plastic (FRP) hoop wrapped (HW) cylinder made in accordance with Luxfer USA Limited's technical data submitted with their application, on file with the Office of Hazardous Materials Transportation Special Permits and Approvals (OHMSPA), and conforming with DOT FRP-2 Standard Revision 1 (§ 178.BB) dated January 4, 1987, except as follows:

§ 178.BB-5 Authorized material and identification of material.

(a) Aluminum liner must be 6351 or 6061 alloy and T6 temper, except that after June 1989, liner material must be 6061 alloy.

(b) * * *

(c) Resin system must be epoxy or modified epoxy type. Resin system must be tested on sample coupons representative of the composite over-wrap in accordance with ASTM D-2344-67 for water boil shear test, and have a minimum shear strength of 3,000 PSI.

§ 178.BB-15 Marking.

(a) Each cylinder must be permanently marked (other than stamping the composite) in the composite wrap on the side near the end of the cylinder containing the valve outlet, except that cylinders manufactured prior to October 1, 1982, may be marked as follows:

"DOT-SP 7235" followed by the service pressure and the inspector's mark and must be located in the composite wrap. Other required markings must be in the composite wrap or on the metal shoulder, top head or neck of the cylinder.

b. TESTING - Each cylinder must be reinspected and hydrostatically retested every three years in accordance with § 180.209 as prescribed for DOT 3HT cylinders, except that the rejection elastic expansion does not apply and 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.

c. OPERATIONAL CONTROLS -

(1) Cylinders must not be used for underwater breathing purposes.

(2) Cylinders used in oxygen service must conform with §§ 173.302(b)(5)(1) through (b)(5)(4).

(3) A cylinder is not authorized 15 years from the date of manufacture as marked on the cylinder.

(4) A cylinder that has been subjected to fire may not be returned to service.

(5) Cylinders must be packaged in accordance with § 173.301(a)(9).

(6) All cylinders marked with a 4500 psi service pressure must be fitted with a steel neckring, 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 neckring installation must be performed by a facility identified to OHMSPA and qualified to perform all operations in R2050, as

January 17, 2007

determined by an independent inspection agency approved under § 107.803. Each inspection and retrofit facility must be reinspected by the independent inspector at least once every 3 months.

(7) Cylinders marked with 4500 psi service pressure which are not equipped with neckrings must be removed from service.

(8) No new construction of cylinders having marked service pressures higher than 3000 psi is authorized under this special permit.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not a holder of this special permit, but receives a package covered by this special permit, may reoffer it for transportation provided no modifications or changes are made to the package and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

d. Each packaging manufactured under the authority of this special permit must be marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

e. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.

f. Transportation of oxygen is only authorized when in accordance with § 172.102(c)(2) Special Provision A52 and §§ 175.85(h) and (i).

g. Packages permanently marked 'DOT-E 7235', prior to October 1, 2007 may continue to be used under this special

January 17, 2007

permit for the remaining service life of the packaging or until the special permit is no longer valid. Packages marked on or after October 1, 2007 must be marked 'DOT-SP 7235'.

h. Shipping papers displaying 'DOT-E 7235' may continue to be used until October 1, 2007, provided the special permit remains valid.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft (see paragraph 8(f) for restrictions).
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel or aircraft used to transport packages covered by this special permit. The shipper must furnish a current copy of this special permit to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
 - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

