

November 25, 2011



U.S. Department
of Transportation

East Building, PHH - 30
1200 New Jersey Avenue, Southeast
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 15260
(FIRST REVISION)

EXPIRATION DATE: July 31, 2013

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Structural Composites Industries (SCI)
Pomona, CA
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale and use, in underwater applications, of non-DOT specification composite cylinders, conforming to all requirements of the DOT-CFFC (fully wrapped carbon-fiber reinforced aluminum liner) cylinder, for the transportation in commerce of the materials authorized by this special permit. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
 - 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 and 173.304a in that non-DOT specification cylinders are not authorized, except as provided herein.

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5. BASIS: This special permit is based on the application of Structural Composites Industries (SCI) dated January 1, 2011 and additional information dated January 12, 2009, submitted in accordance with § 107.105 and the public proceeding thereon, and additional information dated .
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identi- fication Number	Packing Group
Air, compressed	2.2	UN1002	N/A
Argon, compressed	2.2	UN1006	N/A
Compressed gas, n.o.s.	2.2	UN1956	N/A
Helium, compressed	2.2	UN1046	N/A
Hydrogen, compressed	2.1	UN1049	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Nitrous oxide	2.2	UN1070	N/A
Oxygen, compressed	2.2	UN1072	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification composite cylinder that meets as described in the SCI application on file with the Office of General Approvals and Permits (OGAP). The cylinder meets all of the requirements for fully wrapped carbon fiber reinforced aluminum lined cylinders (DOT-CFFC).

b. MARKING -

- (1) Each cylinder must be permanently marked (other than by stamping) in the composite on the sidewall. The marking must be easily visible and must be protected

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from external damage due to the environment and handling.

- (2) The marking must contain the following:
- (i) DOT special permit number (DOT-SP 15260) followed by service pressure expressed in bar (psi).
 - (ii) A serial number and the manufacturer's identification number or a symbol obtained from the Associate Administrator for Hazardous Materials Safety, located just below or immediately following the DOT marking above. The serial number and the manufacturer's identification number may be placed on the boss provided the marking is accessible for inspection.
 - (iii) The DOT inspector's official mark must be placed near the serial number. The marking must contain the date (month and year) of the initial hydraulic proof pressure test for that cylinder.
 - (iv) The size of the letter and numbers used must be at least 0.64 cm (1/4 inch) high if space permits.
 - (v) The following are examples of an authorized format for marking:

DOT-SP 15260-xxx (xxxxxx psi)
1234-MMI (or symbol)
II-MM/YY
 - (vi) Additional markings are permitted in the composite, provided the additional markings do not obscure the required marking and are not detrimental to the integrity of the cylinder.
 - (vii) Provisions for marking of the required requalification dates and RIN information must be made near the cylinder markings.
- c. REQUALIFICATION - Each cylinder must be requalified once every 5 years by a qualified person holding a valid DOT RIN using a hydraulic proof pressure test equal to 1.5 times the marked service pressure and holding the

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pressure for a minimum of 3 minutes without a loss of pressure. Additionally, each cylinder must be visually inspected in accordance with CGA Pamphlet C-6.2 Guidelines for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders, except as specifically noted herein:

(1) Cylinders with fiber damage (cuts, abrasions, etc.) that exceeds Level 1 type damage as defined in CGA Pamphlet C-6.2 and meet the following depth and length criteria are considered to have Level 2 damage:

(a) Depth - Damage that upon visual inspection is seen to penetrate the outer fiberglass layer but does not expose the carbon layer beneath, or that has a measured depth of greater than 0.005 inch and less than 0.045 inch for cylinders with an outside diameter greater than 7.5 inches or less than 0.035 inch for cylinders 7.5 inches or less in outside diameter;

(b) Length - Damage that has a maximum allowable length of:

Region	Direction of Fiber Damage	Maximum length of damage
Cylinder sidewall and domes	Transverse to fiber direction (longitudinal direction)	20% of the straight sidewall section length
Cylinder sidewall and domes	In fiber direction (circumferential direction)	20% of the straight sidewall section length

(2) Cylinders with damage that meets the Level 2 criteria must be rejected. Requalifiers must contact the cylinder manufacturer in the event that the damage cannot be clearly interpreted based on these criteria. Repair of rejected cylinders is authorized for Level 2 type damage. Repairs must be made in accordance with CGA Pamphlet C-6.2, prior to the hydrostatic pressure test. Repairs must be evaluated after the hydrostatic test.

(3) Cylinders that have direct fiber damaged that penetrates through the outer fiberglass layer and into the carbon layer, or that have a measured damage depth of greater than the Level 2 maximum are considered to have Level 3 type damage. Cylinders that have damage

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with depth meeting Level 2 but length exceeding the Level 2 maximum, are considered to have Level 3 type damage. Cylinders with Level 3 type damage are not authorized to be repaired, and must be condemned.

(4) Cylinders that are designed and manufactured with protective boot must be rejected or returned to manufacturers for repair under the following condition:

- (i) Boot is missing;
- (ii) Boot has damaged damage that allows the composite surface to be visible (exposed) through damage (e.g. crack, gaps, holes).

(5) A hydrostatic requalification may be repeated as provided in § 180.205(g); only two such tests are permitted. Pressurization prior to the official hydrostatic test for the purpose of a systems check may not exceed 85% of the minimum required test pressure.

(6) Persons who perform inspection and testing of cylinders subject to this special permit must comply with § 180.205(b) and with all the terms and conditions of this special permit.

(7) Requalification date (month/year) must be permanently marked on the cylinder as specified in paragraph § 180.213. The marking of the RIN symbol on the cylinder certifies compliance with all of the terms and conditions of this special permit.

d. OPERATIONAL CONTROLS -

- (1) In addition to meeting all of the DOT-CFFC design qualification requirements, the cylinder must also successfully pass the Saltwater Immersion Test that is detailed in ISO 11119-2.
- (2) During the use of these cylinders care must be taken that the cylinder is not subjected to impact which causes damage to the glass coating on the cylinder. If the glass coating has been damaged during service the cylinders must be removed from service and the coating must be repaired in accordance with the manufacturer's recommendation.

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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 modification or change is 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 either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) 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 packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor Vehicle, Cargo aircraft, Cargo Vessel, Passenger-carrying aircraft, Rail Freight.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a 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:

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- 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.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 Immediate notice of certain hazardous materials incidents, and 171.16 Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety -- OHMSPA, in writing, of any

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incident involving a package, shipment or operation
conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous
Materials Safety, Pipeline and Hazardous Material Safety
Administration, U.S. Department of Transportation, East Building
PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C.
20590.

Copies of this special permit may be obtained by accessing the
Hazardous Materials Safety Homepage at
http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm
Photo reproductions and legible reductions of this special permit
are permitted. Any alteration of this special permit is
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PO: BMOORE