

April 24, 2019



U.S. Department
of Transportation

East Building, PHH-30

1200 New Jersey Avenue
S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 13250
(FIFTH REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the transportation in commerce of non-DOT specification fully wrapped carbon-fiber reinforced brass lined cylinders containing compressed oxygen as authorized by this special permit. Transportation of cylinders is only authorized in support of U.S. military operations. This special permit provides no relief from the Hazardous Materials Regulations (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.
 - c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.302a(a)(1) and 173.304a(a)(1), in that non-DOT specification cylinders are not authorized, except as prescribed herein.
5. BASIS: This special permit is based on the application of Pacific Consolidated Industries dated March 19, 2018, additional information dated March 1, 2016 and May8, 2018, submitted in accordance with § 107.109

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identi- fication number	Packing Group
Oxygen, compressed	2.2	UN1072	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Prescribed packaging is a fully wrapped carbon-fiber reinforced brass or copper lined cylinder made in conformance with the Basic Requirements for Fully Wrapped Carbon-Fiber Reinforced Aluminum Lined Cylinders (DOT-CFFC Fifth Revision, dated March 2007), drawings and specification submitted by Pacific Consolidated Industries (PCI) on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD) and the following exception:

- (1) CFFC-1 Scope. Throughout the document replace all references to aluminum alloy liner to a brass liner.
- (2) CFFC-2 Type, Size, and Service Pressure
- (3) The maximum volume must be 1.1 cubic feet.
- (4) Galvanic corrosion will be prevented by coating the brass liner with a thin layer (approximately 0.010 inch) of epoxy resin reinforced glass veil matt.
- (5) The marked service pressure must not exceed 3,000 psig at a reference temperature of 21.1°C (70°F).
- (6) CFFC-6 Authorized Material and Identification of Material:
 - (i) Liner: The liner must be a seamless cylinder made of SAE CA-260 brass.

(A) * * *

(B) The material composition of the brass used must be within the limits prescribed herein:

<u>Element</u>	<u>Min %</u>	<u>Max %</u>
Copper	68	72
Zinc	28	32
Other	-	0.5

(C) The brass liner must not be heat treated.

(D) The limits for the mechanical properties of the brass liner shall be as follows:

Yield Strength:	17,000 - 29,000 psi
Tensile Strength:	47,000 - 70,000 psi
Elongation:	(2" gauge) 25% min

(ii) Filament materials: Only type E glass fibers are authorized.

b. Requalification: Each cylinder must be requalified once every 5 years as described in this special permit. The Facility that performs requalification of these composite cylinders must be a RIN holder for requalification of this type of composite cylinder as described in § 180.205(b) and has a valid special permit for requalification of DOT-CFFC cylinders by using Modal Acoustic Emission (MAE) method.

(1) Requalification Procedure: The requalification procedure must be in accordance with the Modal acoustic emission (MAE) examination Specification for Requalification of Composite Overwrapped Pressure Vessels (Cylinders and tubes) posted on the PHMSA website, <https://www.phmsa.dot.gov/technical-resources/hazmat-technical-resources/technical-reports> and the additional procedure provided by the MAE special permit holder on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

April 24, 2019

(2) Marking: Retest markings must be permanently applied on a label securely affixed to the COPV and over coated with epoxy, near the original test date. The retest markings must include the retest date, requalifier RIN, and "MAE" as the requalification test procedure. The marking of the RIN number on the COPV certifies compliance with all terms and conditions of the MAE Requalification special permit.

c. OPERATIONAL CONTROLS:

(1) Cylinders manufactured under this special permit are not authorized for use fifteen (15) years after the date of manufacture except those cylinders that are qualified for the additional service life extension as described in clause 8.a. of this special permit.

(2) No new manufacture of cylinders is authorized.

(3) Cylinders may not be used for underwater breathing purposes.

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

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

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

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

8. SPECIAL PROVISIONS:

a. Service Life Extension Program: Cylinders manufactured under this special permit may be authorized for additional maximum service life of 15 years from the date of manufacture in accordance with the following requirements:

(1) Each cylinder must be requalified by Modal Acoustic Emission (MAE) Testing, Internal and External

April 24, 2019

Visual Inspection as described in clause 7.b of this special permit.

(2) Each cylinder that qualified for an additional service life must be requalified once every 5 years by MAE method as described in 7.b of this special permit.

(3) Revalidation Plan: PCI must formulate a plan for all the cylinders that are qualified for the additional service life extension. The plan must be submitted to the OHMSAPD within 12 months of the issuance of this special permit and must include:

i. A detailed procedure for obtaining the DOT-CFFC cylinders from the field and design qualification testing of each design type;

(ii) A procedure for the random selection of a minimum of 5 cylinders which have been in service for 18, 21, 24 and 27 years;

(iii) All randomly selected cylinders from the field must be tested in accordance with design qualification testing of DOT-CFFC, Rev 5, section CFFC-10;

(iv) The complete MAE test report, including the original test data, must be submitted to the Associate Administrator for Hazardous Materials Safety for assessment within 30 days of completion of the test. Failure to meet the acceptance criteria specified in this special permit may result in the design being restricted to a maximum life of 15 years.

b. 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.

c. A person who is not a holder of this special permit, but receives a packaging covered by this special permit, may reoffer it for transportation provided no modification or change is made to the packaging and it is offered for

April 24, 2019

transportation in conformance with this special permit and the HMR.

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

e. 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 Safety Approvals and Permits Division for a specific manufacturing facility.

f. 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.

g. The cylinders described in this special permit are authorized only for normal transportation as an article of commerce (i.e., the movement of hazardous materials packages from consignor to consignee).

h. Packages permanently marked "DOT-E 13250", prior to October 1, 2007 may continue to be used under this special 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 13250".

i. Transportation of cylinders is only authorized in support of U.S. military operations.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, cargo aircraft only, and passenger-carrying aircraft (see paragraph 7.c.(6) 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 copy of this special permit to the air carrier before or at the time the shipment is tendered.

April 24, 2019

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, 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. 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

April 24, 2019

materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for William Schoonover
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

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 prohibited.

PO: MT/TG