

April 17, 2009



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 10905  
(TWELFTH REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the use of a FRP-1 type, non-DOT specification cylinder for the transportation in commerce of certain hazardous materials described in paragraph 6 subject to the limitations and special requirements specified herein. This special permit provides no relief from any 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.
  - 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); § 173.304a(a) and (d); § 175.3 in that a non-DOT specification cylinder is not authorized except as prescribed herein.
5. BASIS. This special permit is based on the Pipeline and Hazardous Materials Safety Administration's (PHMSA) editorial review under § 107.121 initiated on December 4, 2008.

April 17, 2009

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Air compressed (containing up to 23.5% by volume oxygen)	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
Hydrogen, compressed	2.1	UN1049	N/A
Methane, compressed or Natural gas, compressed ( <i>with high methane content</i> )	2.1	UN1971	N/A
Neon, compressed	2.2	UN1065	N/A
Nitrogen, compressed	2.2	UN1066	N/A
Nitrous oxide	2.2	UN1070	N/A
Oxygen, compressed	2.1	UN1072	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING. Packaging prescribed is a non-DOT specification fiber reinforced plastic (FRP) full composite (FC) aluminum cylinder made in conformance with the following:

1. Comdyne I's design drawings # 28510012.AF dated 9/25/92, and # 28510002.1F dated 9/24/92, and the report of Design Qualification Tests P/N 28510012.AF and P/N 52310012.AF on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA), or,

2. Comdyne I's design drawings #55010012.AF dated 9/25/92, and 55010012.1F dated 7/21/92 and the report

**April 17, 2009**

of Design Qualification Tests P/N 55010012.AF and P/N 52310012.AF, on file with OHMSPA, or,

3. Comdyne I's design drawings #41210003.1F(B) dated 4/26/94 and # 41210010.AF dated 10/21/93 and the report of Design Qualification Tests P/N 41210010.AF and P/N 52310012.AF, on file with the OHMSPA; and

4. DOT FRP-1 Standard, Revision 2, dated February 15, 1987, (§ 178.AA) contained in Appendix A of this special permit, except as follows:

§ 178.AA-2 Type, size and service pressure.

Type 3FC cylinder consisting of resin impregnated continuous filament windings in helical and circumferential directions over a seamless aluminum liner made in compliance with 178.AA-6; not over 100 pounds water capacity; and a service pressure of at least 900 psi but not greater than 4500 psi.

§ 178.AA-4 Duties of the Inspector.

(a) Verify conformance to the requirements in this special permit and to DOT FRP-1 Standard Revision 2, dated February 15, 1987.

(b) Verify conformance of aluminum liner with § 178.AA-6. Verify conformance of the filament and resin system components with the requirements specified in 178.AA-5 of this special permit.

(c) thru (g) \* \* \*.

§ 178.AA-5 Authorized Materials and Identification of materials.

(a) Aluminum liner must be 6061 alloy of T6 temper made from seamless drawn tubing.

(b) Filament material must be Kevlar 49<sup>TM</sup>-8520 Denier, conforming to Aerospace Materials Specification AMS 3901. The filaments must be tested in accordance with ASTM-D2342-67 for strand strength and must have strand strength of 450,000 psi minimum.

**April 17, 2009**

For roving denier determination, the filament material must be tested in accordance with ASTM D3317-74 and must be of at least 90% of the specified nominal value for the rovings. A manufacturer's certified test results for the rovings used in production may be used in lieu of testing.

(c) thru (e) \* \* \*

b. Cylinders may not be used for underwater breathing purposes.

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

d. Cylinder service life may not exceed 15 years from the date of manufacture as marked on the cylinder.

e. Each cylinder must be reinspected and hydrostatically retested every three years in accordance with § 180.205(g), as prescribed for DOT 3HT specification cylinders, except that the rejection elastic expansion does not apply and the permanent volumetric expansion may not exceed 5 percent of the total volumetric expansion at test pressure. Retest dates must be stamped on the exposed metallic surface of the cylinder neck or marked on a label securely affixed to the cylinder and overcoated with epoxy near the original test date. Reheat treatment or repair of rejected cylinders is not authorized. When a hydrostatic retest is repeated as provided for in § 180.205(g), only two such retests are permitted.

f. No person may perform inspection and testing of cylinders subject to this special permit unless that person (1) holds a current copy of this special permit at the location of such inspection and testing, and (2) complies with all the terms and conditions of this special permit. The marking of the retester's symbol on the cylinders certifies compliance with all of the terms and conditions of this special permit.

g. A cylinder that has been subjected to fire may not be returned to service.

h. Transportation of flammable gases is not authorized aboard passenger or cargo vessel, rail car or passenger-carrying aircraft.

**April 17, 2009**

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

j. Filling requirements are subject to all terms contained in § 173.302a for 3AL specification cylinders.

8. SPECIAL PROVISIONS.

a. A person who is not a holder of this special permit who 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 reoffered for transportation in conformance with this special permit and the HMR.

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

c. 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 from consignor to consignee.

d. New construction of cylinders after November 30, 2000, is not authorized.

e. 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.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, passenger-carrying aircraft, and cargo-aircraft only. (See paragraph 7.h. of this special permit.)

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, motor vehicle, and 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.

**April 17, 2009**

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.

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 17, 2009**

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 Theodore L. Willke  
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](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: kah