



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**March 14, 2024**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 8221  
(THIRTEENTH REVISION)

**EXPIRATION DATE: 2028-03-31**

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Applied Pressure Vessels, Inc  
Valencia, CA
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of certain materials in non-DOT specification, high-pressure cylinders of welded construction for military missile systems use only. 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 for use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
  - c. No party status will be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.302a(a), in that non-DOT Specification cylinders are not authorized except as prescribed herein.
5. BASIS: This special permit is based on the application of Applied Pressure Vessels, Inc dated January 4, 2024, and submitted in accordance with § 107.109.

Tracking Number: 2024014375

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
Nitrogen, compressed	2.2	UN1066	n/a

7. SAFETY CONTROL MEASURES: Packaging prescribed is a non-DOT specification girth welded steel cylinder having a maximum water capacity of 130 cubic inches and a maximum service pressure of 6,000 psi. Cylinders must be in accordance with AEC design specifications including drawing 54080-181-36 Rev. A, dated March 3, 1979, on file in the Office of Hazardous Materials Safety, and in full compliance with DOT Specification 3HT (§ 178.35 and § 178.44) except as follows:

§ 178.44 (a) Type, size, and service pressure.

Cylinders may be girth welded and have one end fitting welded as shown on AEC drawing 54080-181-36. Nominal volume to be 120 cubic inches water capacity with a service pressure of 6000 psi.

§ 178.44 (e) Welding or Brazing.

Welding as prescribed in § 178.44(a) of this special permit, is authorized. All pressure welds on 10 percent of the cylinders of each lot must be 100 percent radiographed after hydrostatic test. If any cylinder is rejected, the entire lot must be 100% radiographed.

§ 178.44 (f) Wall thickness.

(1) Minimum wall thickness for any cylinder must be 0.050 inch. The minimum wall thickness must be such that the wall stress at the minimum specified test pressure must not exceed 75 percent of the minimum tensile strength of the steel as determined from the physical tests required in § 178.44(m) and must not be over 95,000 psig.

§ 178.44 (n) Magnetic Particle Inspection.

(Added) Liquid penetrant inspection in accordance with ASTM-E 165-65 is authorized. Inspection must be performed externally on the finished container after hydrostatic test. Evidence of discontinuities, which in the opinion of the independent inspector may appreciably weaken or decrease the durability of the cylinder, must be cause for rejection.

§ 178.44 (p) Acceptable results of tests.

(1) Flattening required without cracking to six times the wall thickness of the cylinder.

§ 178.44 (r) Marking.

Applies except that instead of DOT 3HT, cylinders must be marked “DOT-SP 8221” followed by the service pressure.

8. SPECIAL PROVISIONS:

- a. Cylinders are for military missile systems use only.
- b. Cylinders must be shipped in strong outside packagings in conformance with § 173.301(a)(9).
- c. Cylinder service life is not authorized to exceed 15 years from the date of manufacture.
- d. Each cylinder must be reinspected and hydrostatically retested every 3 years in accordance with § 180.205 as prescribed for DOT 3HT cylinders.
- e. 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 modifications or changes are made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.
- f. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and rail freight

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

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 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 Material Safety Administration, U.S. Department of Transportation, East Building PHH-13, 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 <https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: KH