



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

February 28, 2022

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 12516
(SIXTEENTH REVISION)

EXPIRATION DATE: 2026-01-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: POLY-COAT SYSTEMS, INC.
LIVERPOOL, TX
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, mark, sale and use of a non-DOT specification glass fiber reinforced plastic (GFRP) cargo tank conforming with all regulations applicable to a DOT Specification 412/407, except as specified herein, 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.
 - c. In accordance with 49 CFR 107.107(a) party status may not be granted to a manufacturing permit. These packaging may be used in accordance with 49 CFR 173.22a.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171- 180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 107.503(b) and (c) in that the manufacturer is not required to hold an ASME U stamp or National Board R stamp; § 172.203(a) in that the special permit need not be shown on the shipping paper; and §§ 173.241, 173.242 and 173.243 in that a non-DOT specification cargo tank constructed of glass fiber reinforced plastic is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Poly-Coat Systems, Inc. dated January 28, 2022, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identi-fication Number	Packing Group
Class 8 material authorized to be transported in a lined DOT 412 cargo tank, Class 8 liquid and solid waste materials/specific chemical name or generic description as appropriate	8	As Appropriate	I, II or III
Class 3 liquid or solid waste materials/specific chemical name or generic description as appropriate	3	As Appropriate	I, II or III
Division 6.1 liquid or solid waste materials/specific chemical name or generic description as appropriate	6.1	As Appropriate	I, II or III
Class 9 liquid or solid waste materials/specific chemical name or generic description as appropriate	9	As Appropriate	III

7. SAFETY CONTROL MEASURES:

a. PACKAGING: The authorized packaging is a non-DOT specification glass fiber reinforced plastic (GFRP) cargo tank conforming with all regulations applicable to a DOT Specification 412/407, except as specified herein. Each tank must have a design pressure of 35 psig and a design margin of 4.0:1. Maximum tank capacity may not exceed 7200 US water gallons, with tank diameters ranging from 42 inches to 66 inches. Each tank must be designed and constructed in accordance with Poly-Coat Systems drawings dated 3/15/00 entitled FRP TANKER - 5500 GALLONS, sheets 1, 2 and 3 of 3 or those dated August 22, 2008 sheets 1, 2 and 3 of 3, and with calculations and specifications on file with the Approvals and Permits Division. Each tank must be in compliance with §§ 173.241, 173.242 or 173.243, as prescribed in the Hazardous Materials Table (§ 172.101), except that Special Provisions, B15 and B23 are waived. In addition, it must meet all requirements for a DOT-407 and DOT 412 specification cargo tank motor vehicle (§§ 178.347 and 178.348), except as follows:

- (1) §§ 178.345-1, 178.347-1 and 178.348-1: Any references to ASME Code requirements do not apply

- (2) §§ 178.345-2 and 3; 178.347-2; and 178.348-2: Type of material, wall thickness and corrosion allowance requirements do not apply. Tank shell, heads and fittings must be constructed of GFRP in accordance with the data on file with the Approvals and Permits Division. Shell design must be based on extreme dynamic loadings in described in § 178.345-3(c)(2).
- (3) § 178.345-4: Joint weld requirements do not apply.
- (4) § 178.345-7: Circumferential reinforcement requirements do not apply.
- (5) § 178.345-10(c): Pressure relief provisions for location do not apply.
- (6) § 178.345-14: Specification plate and name plate requirements must be appropriately modified to reflect compliance with terms of this special permit. For example:

DOT NAME PLATE
CARGO TANK MANUFACTURED BY
POLY-COAT SYSTEMS, INC.
HOUSTON, TX USA
DOT Reg. # CT-1670

CARGO TANK MFR. SERIAL #: _____
SPECIFICATION: DOT 407/412 SP-12516
ORIGINAL TEST DATE: _____
CARGO TANK MAWP: 35 (psig)
CARGO TANK TEST PRESSURE: 52.5 (psig)
CARGO TANK DESIGN TEMP. RANGE: -20°F to 180°F
NOMINAL WATER CAPACITY: _____
MAXIMUM LADING DENSITY: _____
SHELL MATERIAL: FRP/CORE/FRP
MINIMUM SHELL THICKNESS: _____
HEAD MATERIAL: FRP
MINIMUM HEAD THICKNESS: _____
EXPOSED SURFACE AREA: _____

CARGO TANK PRESSURE VESSEL CONSTRUCTED IN ACCORDANCE WITH DOT SP-12516

DOT SPECIFICATION PLATE
CARGO TANK MOTOR VEHICLE MANUFACTURED BY
XXX Co.
XXX, XX USA
DOT Reg. # CT-XXXX

SPECIFICATION: DOT 407/412 SP-12516
CARGO TANK MOTOR VEHICLE CERTIFICATION DATE: _____
CARGO TANK MFR.: _____
CARGO TANK DATE OF MFG: _____
CARGO TANK MFR. SERIAL #: _____
CARGO TANK MOTOR VEHICLE MFR. VIN: _____
MAXIMUM PAYLOAD: _____
MAXIMUM LOADING RATE: _____
MAXIMUM UNLOADING RATE: _____

- (7) Each cargo tank motor vehicle must be plainly and durably marked on both sides near the middle in letters at least two inches in height on a contrasting background “DOT-SP 12516” as specified in § 172.302(b) and (c).
- (8) § 178.345-15 Certification: The manufacturer’s certificate retained by the motor carrier shall reflect the cargo tank manufacturer and final assembly and/or CTMV and reflect compliance of the terms contained in the special permit.
- (9) § 180.413: Any modification, stretching or rebarrelling must be authorized in writing by the Approvals and Permits Division. The manufacturer must be notified and authorize any repairs to the pressure vessel including the corrosion barrier, rubber lining or other lining if so installed. Repairs that affect the structural integrity of the design that involve replacement of structural layers beyond the corrosion barrier shall be considered “structural” and must be performed by the manufacturer. If total “structural” repair area is less than 2 sq. ft. in total area, the repair may be performed by an authorized service center approved by the manufacturer following written procedures provided by the cargo tank manufacturer.
- (10) Complete cargo tank barrel replacement is permitted if the replacement cargo tank barrel is new and of identical design, matching data on file with the Approvals and Permits Division as described in paragraph 7.a. of this special permit (DOT-SP 12516).
- (11) Barrel replacement must be completed by a CT registered facility approved by the manufacturer, performed under the supervision of a Registered Inspector as specified in 49 CFR § 180.413(e)(2), and must be in accordance with Poly-Coat Barrel Replacement Form Procedures on file with the Approvals and Permits Division and detailed below:
- (i) Remove piping and unbolt handrail.
 - (ii) Remove straps.
 - (iii) Inspect rubber for wear and adhesion to the saddle. Worn rubber must be replaced and adhesive must be used to hold it in place on the saddles.
 - (iv) Replacement barrel must be of identical design and installed at the same position as the old barrel.
 - (v) Make sure the bottom flange is level and not interfering with any cross members, making sure there is at least one inch of clearance from the bottom flange to the cross member.

- (vi) Attach straps (the center of the chassis may need to be supported or lifted with a fork lift or crane to pull it tight to the barrel).
- (vii) Tighten the straps to 50-60 ft lbs torque.
- (viii) Fill the barrel with water until it is full and retighten the straps to 60-70 ft lbs torque.
- (ix) Reinstall the piping.
- (x) Initial qualification testing must be performed in accordance with § 180.405, except that any references to ASME Code requirements do not apply.
- (xi) After 2-3 loads the straps must be checked for proper torque, and again after 30 days (adjust if needed). Torque must also be checked, and adjusted if needed, annually during annual inspections.

b. OPERATIONAL CONTROLS:

- (1) Tanks that are to be used in transporting Class 3 waste materials must be equipped with a spring loaded relief valve.
- (2) The compatibility of commodities and the GFRP cargo tank must be based on ASTM C 581 "Standard Test Method for Chemical Resistance of Thermosetting Resins Used in Glass Fiber Reinforced Structures". Test reports must be maintained by the owner or manufacturer for as long as the cargo tank remains in active operation. Cargo tanks with rubber or other linings must be compatible with the parent materials used in the manufacture of the GFRP cargo tank. Compatibility shall be determined according to the lining/cargo tank manufacture recommendations. All hazardous materials transported must be compatible with both the materials of construction of the GFRP cargo tank and the lining material used. Hazardous materials with dissimilar compatibility between the materials of construction of the GFRP cargo tank and the lining material are prohibited.
- (3) Poly-Coat shall submit an annual report to the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD) detailing the following information for each cargo tank barrel replacement:
 - (i) Original Manufacture Date of damaged cargo tank
 - (ii) Original Manufacture Date of replacement cargo tank
 - (iii) Date of cargo tank replacement

- (iv) VIN of motor vehicle
- (v) Cargo Tank Serial Number of damaged cargo tank
- (vi) Cargo Tank Serial Number of replacement cargo tank
- (vii) Defect and/or damage leading to replacement
- (viii) Cause of defect and/or damage leading to replacement
- (ix) Owner/Operator of damaged cargo tank

c. TESTING:

(1) The GFRP cargo tank motor vehicle shall meet all requirements for DOT 407/412 CTMV's except that references to the ASME Code do not apply. Qualification and maintenance shall meet all requirements for DOT 407/412 CTMV's in Subpart E of Part 180.

(2) Initial qualification testing must be in accordance with § 180.405, except that any references to ASME Code requirements do not apply. Periodic requalification must include a hydrostatic test and an annual inspection of corrosion barrier, which must be performed as described in the manufacturer's application. In addition to those items required to be examined by the visual inspections specified in §§ 180.407(d) and (e), the visual inspections must include detection of cracks, gouges, debonding or delamination of any layers, and corrosion barrier deterioration. Any cracks or contamination that are beyond the corrosion barrier and extend into the structural layers will be considered structural repairs. Corrosion barrier deterioration that includes significant "fiber bloom" or exposed glass fibers subject to chemical attack below the surface veil layers will be cause for repair. Corrosion barriers on any tankers that are manufactured with conductivity should be spark tested according to the manufacturer's requirements.

(3) Cargo tanks with rubber linings shall be inspected in accordance with 180.407(f), testing procedures must be performed according to the procedures specified under section 180.407 (f)(1) for "Lining inspections" and marked per CFR 180.415.

d. The grantee of the special permit shall inform the Office of Hazardous Materials Safety, Approvals and Permits Division (OHMSAPD) of the person who is manufacturing the GFRP shells under the terms of the special permit. The grantee may not utilize a new person to manufacture the GFRP shells unless acknowledged in writing by OHMSAPD. Persons manufacturing the GFRP shells may be inspected by PHMSA or other government agencies to verify their capability to perform their manufacturing functions authorized under the terms of the 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 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. Each offeror must review the current copy of this special permit prior to loading hazardous materials into the cargo tank.

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 Approvals and Permits Division 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. The Manufacturer's Data Report for the first cargo tank fabricated must be submitted to the Approvals and Permits Division prior to the initial shipment of hazardous materials.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each 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 Materials 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 <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: VC/SG/kah