

September 10, 2014



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 15552
(FIRST REVISION)

EXPIRATION DATE: July 31, 2018

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Poly-Coat Systems, Inc.
Houston, Texas

2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the manufacture, marking, sale and use of a non-DOT specification glass fiber reinforced plastic (GFRP) cargo tank conforming with all regulations applicable to a DOT Specification 407/412, 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. 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 § 107.503(b) and (c) in that the manufacturer is not required to hold an ASME U stamp or National Board R stamp; §§ 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 August 18, 2014, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Class 8 material authorized to be transported in a lined DOT 407/412 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 407/412, except as specified herein. Each tank must have a design pressure of -14.7 psig to 35 psig and a design margin of at least 4.0:1. Maximum tank capacity may not exceed 7200 US water gallons, with tank diameters ranging from 42 to 66 inches nominal. A layer of

carbon fiber shall be incorporated between the liner and the structural layers, functioning as a conductive membrane. In this special permit, the liner is an interior surface that is not part of the structural design elements and is sacrificial in nature. Each tank must be designed and constructed in accordance with the Poly-Coat Systems drawings FRP Tanker, Rev. 1 and with the Application for Special Permit 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, each tank must meet all requirements for a DOT-407 and DOT 412 specification cargo tank motor vehicle (§§ 178.345, 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 Approval and Permits Division. Shell design must be based on extreme dynamic loadings as 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 requirements for location do not apply except that, if there are multiple cargo tanks, the pressure relief device must be mid-plane of each tank.
- (6) § 178.345-14: Specification plate and name plate requirements must be appropriately modified to reflect compliance with the 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-15552
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: _____
CORROSION BARRIER MATERIAL (if applicable): _____
CORROSION BARRIER THICKNESS (if applicable): _____
CARGO TANK PRESSURE VESSEL CONSTRUCTED IN ACCORDANCE WITH DOT SP-15552

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

SPECIFICATION: DOT 407/412 SP-15552
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 15552" 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, or stretching must be authorized in writing by OHMSPA. The manufacturer must be notified and authorize any repairs or modifications to the pressure vessel including the FRP lining, 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 lining 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.

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 each commodity offered for transportation 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" or compatibility information provided by the composite material manufacturer. Test reports must be maintained by the owner and the 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 manufacturer recommendations. Prior

to loading a cargo tank, the cargo tank owner must determine that the product being loaded is compatible with both the materials of construction of the GFRP cargo tank and the lining material or corrosion barrier material used. Hazardous materials with dissimilar compatibility between the materials of construction of the GFRP cargo tank and the lining material are prohibited. Shippers using cargo tanks authorized under this special permit must comply with compatibility requirements of § 173.24(e).

c. TESTING -

(1) Initial qualification testing must be in accordance with § 180.405 for DOT 407/412 CTMV's, except that any references to ASME Code requirements do not apply.

(2) 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.

(3) Periodic requalification must include at least a five year hydrostatic pressure test, and annual internal and external visual inspections. 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 delamination or deterioration of any layers. Any cracks or contamination that are beyond the liner will be considered structural repairs that must be performed by the cargo tank manufacturer or by an authorized service center approved by the cargo tank manufacturer.

(4) In addition to the periodic hydrostatic test and visual inspections, the rubber lining must be inspected at least annually in order to verify its integrity. A conductive membrane must be conductivity tested in accordance with the application for special permit. Cargo tanks with rubber linings shall be inspected at

least annually in accordance with § 180.407(f).
Testing procedures must be performed in accordance with
§ 180.407 (f) (1). Rubber lined tanks must be marked
in accordance with § 180.415.

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 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 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 Dr. Magdy El-Sibaie
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.

PTO: SS/kah