



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

September 01, 2021

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 14467
(ELEVENTH REVISION)

EXPIRATION DATE: 2025-05-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Brenner Tank LLC
Fond du Lac, WI
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the manufacture, mark, sale, and use of DOT 400 series cargo tank motor vehicles fabricated using certain duplex stainless steels and other materials not authorized in § 178.345-2 as materials of construction. 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 special permit. These packagings 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 § 172.203(a) in that the shipping paper must bear the special permit number, except as specified herein; § 178.345-2 in that the use of a material not listed in Section II of the ASME Code is not authorized, except as specified herein; and the use of cargo tanks with thicknesses less than those specified in §§ 178.346-2, 178.347-2, and 178.348-2 is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Brenner Tank LLC dated May 28, 2021, submitted in accordance with § 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Hazardous materials authorized in DOT Specification 400 series cargo tank motor vehicles	Various	Various	I, II, & III

7. SAFETY CONTROL MEASURES:

a. PACKAGING: Packagings prescribed are DOT specification cargo tank motor vehicles conforming in all respects to either DOT Specification 406, 407, or 412, except that the materials of construction are duplex stainless steels as shown in the attached table and table notes to this special permit. Materials must conform to the 2017 Edition of the ASME Code and applicable ASME Code Case for the respective material, except that the allowable design stresses shall be such that the design margin for all cargo tanks will be 4:1. The minimum thicknesses shall be as determined by the notes shown in the attached table to this special permit.

b. TESTING: All cargo tank motor vehicles fabricated under the terms of this special permit must be reinspected and retested in accordance with the requirements in 49 CFR Part 180, Subpart E for the applicable DOT 400 series cargo tank.

c. MARKING: Each cargo tank motor vehicle must be plainly marked on both sides near the middle in letters at least two inches in height on a contrasting background "DOT-SP-14467". Each vehicle identification number must be marked on both sides of the vehicle as specified in §§ 172.302(b) and (c).

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 manufactured under this special permit. It must be made available to a DOT representative upon request.
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. Shippers need not provide any unique hazmat training associated with this special permit. However, during General Awareness training, all hazmat employees must learn about special permits in general.

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-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: SStaniszewski/MAJORS

Attached Table:

DOT-SP 14467 MATERIALS & MINIMUM THICKNESS CORRECTION FACTORS					
49 CFR 178.274(a)(3)					Correction Factor (Cf)
Term		Tensile Strength (MPa)	Elongation at Fracture (%)		
Reference Steel		370	27		1.00
Common Name or Type	UNS Designation	2017 ASME Section II Part A			Correction Factor (Cf)
		Specification	Min Tensile Strength (MPa)	Elongation in 2" Min. (%)	
AL6XN	N08367	SA-240	690	30	0.78
201LN	S20153	SA-240	655	45	0.70
LDX 1200	S31200	SA-240	690	25	0.83
LDX 1260	S31260	SA-240	690	20	0.90
LDX 1803	S31803	SA-240	620	25	0.86
LDX 2001	S32001	SA-240	620	25	0.86
LDX 2003	S32003	SA-240	690	25	0.83
LDX 2101	S32101	SA-240	700	30	0.78
LDX 2205	S32205	SA-240	655	25	0.85
LDX 2304	S32304	SA-240	600	25	0.87
LDX 2520	S32520	SA-240	770	25	0.80
AL5X	S32615	SA-240	550	25	0.90
LDX 2760	S32760	SA-240	750	25	0.81
LDX 2906	S32906	SA-240	800	25	0.79
Alloy 20	N08020	SA-240	550	30	0.85
Common Name or Type	UNS Designation	2017 ASME Section II Part B		Certified MTR	Correction Factor (Cf)
		Specification	Min Tensile Strength (MPa)	Elongation in 2" Min. (%)	
Titanium Gr 2	R50400	SB-265	345	29	1.00
Titanium Gr 2H	R50400	SB-265	400	25	1.00
Titanium Gr 3	R50550	SB-265	450	22	1.00

Table Notes:

A) Minimum Correction Factor determined through application of 49 CFR 178.274(d)(5) calculation for reference steel.

B) Certified Material Test Report (MTR) values may be used in the calculation of the Correction Factor. Compliance with the limits of 49 CFR 178.274(c)(10) and 178.345-3(a)(2) shall be maintained.

C) The materials in this table are not exhaustive. All ASME SA-240 Pressure Vessel materials are subject to the application of this special permit.

D) In no case shall the minimum thickness be less than 0.090”.

Application Examples:

Example 1:

A mild steel DOT 407 cargo tank with a volume capacity of 20 gallons per inch has a 49 CFR 178.347-2 Table I & II minimum head thickness of 0.129” and minimum shell thickness of 0.129”.

The minimum thickness for the same tank design constructed from LDX 2205 in lieu of mild steel would be found per the following:

Table I minimum thickness = 0.129”	Table LDX 2205, (Cf) = 0.85	Head minimum thickness = 0.129” (.85) = 0.1097”
Table II minimum thickness = 0.129”	Table LDX 2205, (Cf) = 0.85	Shell minimum thickness = 0.129” (.85) = 0.1097”

Example 2:

A mild steel DOT 412 cargo tank with a volume capacity of 12 gallons per inch, a lading density of 15 pounds per gallon and ring spacing of 50” has a 49 CFR 178.348-2 Table I & II minimum head thickness of 0.187” and minimum shell thickness of 0.157”.

The minimum thickness for the same tank design constructed from SA-240 UNS S31803 (with Certified MTR confirming equivalence to LDX 2205) in lieu of mild steel would be found per the following:

Table I minimum thickness = 0.187”	49 CFR 178.274(d)(5), (Cf) = 0.85	Head minimum thickness = 0.187” (.85) = 0.1590”
Table II minimum thickness = 0.157”	49 CFR 178.274(d)(5), (Cf) = 0.85	Shell minimum thickness = 0.157” (.85) = 0.1335”

Example 3:

A mild steel DOT 407 cargo tank with a volume capacity of 12 gallons per inch has a 49 CFR 178.347-2 Table I & II minimum head thickness of 0.100" and minimum shell thickness of 0.100".

The minimum thickness for the same tank design constructed from LDX 2101 in lieu of mild steel would be found per the following:

Table I minimum thickness = 0.100"	Table LDX 2101, $(C_f) = 0.78$	Head minimum thickness = 0.100" $(.78) = 0.0780$ "
Table II minimum thickness = 0.100"	Table LDX 2101, $(C_f) = 0.78$	Shell minimum thickness = 0.100" $(.78) = 0.0780$ "

Calculated 0.0780" is less than the lowest value established by Note D, 0.090" shall be used.