

§ 179.102

49 CFR Ch. I (10–1–06 Edition)

DOT specification	Insulation	Bursting pressure (psig)	Minimum plate thickness (inches)	Test pressure (psig)	Manway cover thickness	Bottom outlet	Bottom washout	Reference (179.***)
105A100ALW	Yes	500	5/8	100	² 2 1/2	No	No.	
105A200ALW	Yes	500	5/8	200	² 2 1/2	No	No.	
105A300ALW	Yes	750	5/8	300	² 2 5/8	No	No.	
105A100W	Yes	500	³ 9/16	100	2 1/4	No	No.	
105A200W	Yes	500	³ 9/16	200	2 1/4	No	No.	
105A300W	Yes	750	¹ 11/16	300	⁷ 2 1/4	No	No.	
105A400W	Yes	1,000	¹ 11/16	400	⁷ 2 1/4	No	No.	
105A500W	Yes	1,250	¹ 11/16	500	2 1/4	No	No	102–1, 102–2
105A600W	Yes	1,500	¹ 11/16	600	2 1/4	No	No	102–4, 102–17
109A100ALW	Optional	500	5/8	100	² 2 1/2	No	Optional.	
109A200ALW	Optional	500	5/8	200	² 2 1/2	No	Optional.	
109A300ALW	Optional	750	5/8	300	² 2 5/8	No	Optional.	
109A300W	Optional	500	¹ 11/16	300	2 1/4	No	Optional.	
112A200W	Optional ⁴	500	^{3,5,9} 9/16	200	2 1/4	No	No.	
112A340W	Optional ⁴	850	¹ 11/16	340	2 1/4	No	No.	
112A400W	Optional ⁴	1,000	¹ 11/16	400	2 1/4	No	No.	
112A500W	Optional ⁴	1,250	¹ 11/16	500	2 1/4	No	No.	
114A340W	Optional ⁴	850	¹ 11/16	340	⁶	Optional	Optional	103
114A400W	Optional ⁴	1,000	¹ 11/16	400	⁶	Optional	Optional	103
120A200ALW	Yes	500	5/8	200	² 2 1/2	Optional	Optional	103
120A100W	Yes	500	³ 9/16	100	2 1/4	Optional	Optional	103
120A200W	Yes	500	³ 9/16	200	2 1/4	Optional	Optional	103
120A300W	Yes	750	¹ 11/16	300	2 1/4	Optional	Optional	103
120A400W	Yes	1,000	¹ 11/16	400	2 1/4	Optional	Optional	103
120A500W	Yes	1,250	¹ 11/16	500	2 1/4	Optional	Optional	103

¹ When steel of 65,000 to 81,000 p.s.i. minimum tensile strength is used, the thickness of plates shall be not less than 5/8 inch, and when steel of 81,000 p.s.i. minimum tensile strength is used, the minimum thickness of plate shall be not less than 9/16 inch.

² When approved material other than aluminum alloys are used, the thickness shall be not less than 2 1/4 inches.

³ When steel of 65,000 p.s.i. minimum tensile strength is used, minimum thickness of plates shall be not less than 1/2 inch.

⁴ Tank cars not equipped with a thermal protection or an insulation system used for the transportation of a Class 2 (compressed gas) material must have at least the upper two-thirds of the exterior of the tank, including manway nozzle and all appendages in contact with this area, finished with a reflective coat of white paint.

⁵ For inside diameter of 87 inches or less, the thickness of plates shall be not less than 1/2 inch.

⁶ See AAR Specifications for Tank Cars, appendix E, E4.01 (IBR, see § 171.7 of this subchapter), and § 179.103–2.

⁷ When the use of nickel is required by the lading, the thickness shall not be less than two inches.

[Amdt. 179–52, 61 FR 28679, June 5, 1996 as amended at 66 FR 45390, Aug. 28, 2001; 68 FR 75760, Dec. 31, 2003]

§ 179.102 Special commodity requirements for pressure tank car tanks.

(a) In addition to §§ 179.100 and 179.101 the following requirements are applicable:

(b) [Reserved]

§ 179.102–1 Carbon dioxide, refrigerated liquid.

(a) Tank cars used to transport carbon dioxide, refrigerated liquid must comply with the following special requirements:

(1) All plates for tank, manway nozzle and anchorage of tanks must be made of carbon steel conforming to ASTM A 516/A 516M (IBR, see § 171.7 of this subchapter), Grades 55, 60, 65, or 70, or AAR Specification TC 128–78, Grade B. The ASTM A 516/A 516M plate must also meet the Charpy V-Notch test requirements of ASTM A 20/A 20M (see table 16) (IBR, see § 171.7 of this sub-

chapter) in the longitudinal direction of rolling. The TC 128 plate must also meet the Charpy V-Notch energy absorption requirements of 15 ft.-lb. minimum average for 3 specimens, and 10 ft.-lb. minimum for one specimen, at minus 50 °F in the longitudinal direction of rolling in accord with ASTM A 370 (IBR, see § 171.7 of this subchapter). Production-welded test plates prepared as required by W4.00 of AAR Specifications for Tank Cars, appendix W (IBR, see § 171.7 of this subchapter), must include impact test specimens of weld metal and heat-affected zone. As an alternate, anchor legs may be fabricated of stainless steel, ASTM A 240/A 240M Types 304, 304L, 316 or 316L, for which impact tests are not required.

(2)–(6) [Reserved]