§ 179.101 Individual specification requirements applicable to pressure tank car tanks.

EDITORIAL NOTE: At 66 FR 45186, Aug. 28, 2001, an amendment published amending a table in § 179.101. No text or table appears in § 179.101.

§ 179.101–1 Individual specification requirements.

In addition to § 179.100, the individual specification requirements are as follows:

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] 9/16	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 2¼ inches.
[3] When steel of 65,000 p.s.i. minimum tensile strength is used, minimum thickness of plates shall be not less than ½ 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 appurtenances 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 ½ 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 subchapter) 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]

(b) [Reserved]

[29 FR 18995, Dec. 29, 1964]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §179.102–1, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.fdsys.gov*.

§ 179.102–2 Chlorine.

(a) Each tank car used to transport chlorine must comply with all of the following:

(1) Tanks must be fabricated from carbon steel complying with ASTM Specification A 516 (IBR, see §171.7 of this subchapter), Grade 70, or AAR Specification TC 128, Grade A or B.

(2)–(3) [Reserved]

(b) [Reserved]

[Amdt. 179–7, 36 FR 14697, Aug. 10, 1971; Amdt. 179–10, 36 FR 21346, Nov. 6, 1971, as amended by Amdt. 179–25, 44 FR 20433, Apr. 5, 1979; Amdt. 179–40, 52 FR 13046, Apr. 20, 1987; Amdt. 179–45, 55 FR 52728, Dec. 21, 1990; Amdt. 179–52, 61 FR 28680, June 5, 1996; 68 FR 75760, Dec. 31, 2003]

§ 179.102–3 Materials poisonous by inhalation.

(a) Each tank car built after March 16, 2009 for the transportation of a material poisonous by inhalation must, in addition to the requirements prescribed in §179.100–12(c), enclose the service equipment within a protective housing and cover.

(1) Tank cars must be equipped with a top fitting protection system and nozzle capable of sustaining, without failure, a rollover accident at a speed of 9 miles per hour, in which the rolling protective housing strikes a stationary surface assumed to be flat, level and rigid and the speed is determined as a linear velocity, measured at the geometric center of the loaded tank car as a transverse vector. Failure is deemed to occur when the deformed protective housing contacts any of the service equipment or when the tank retention capability is compromised.

(2) As an alternative to the tank car top fitting protection system requirements in paragraph (a)(1) of this section, the tank car may be equipped with a system that prevents the release of product from any top fitting in the case of an accident where any top fitting would be sheared off. The tank nozzle must meet the performance standard in paragraph (a)(1) of this section and only mechanically operated excess flow devices are authorized.

(b) An application for approval of a tank car built in accordance with §173.244(a)(3) or §173.314(d) must include a demonstration, through engineering analysis, that the tank jacket and support structure system, including any anchors and support devices, is capable of withstanding a 6 mile per hour coupling without jacket shift such that results in damage to the nozzle.

[74 FR 1802, Jan. 13, 2009]

§ 179.102–4 Vinyl fluoride, stabilized.

Each tank used to transport vinyl fluoride, stabilized, must comply with the following special requirements:

(a) All plates for the tank must be fabricated of material listed in paragraph (a)(2) of this section, and appurtenances must be fabricated of material listed in paragraph (a)(1) or (a)(2) of this section.

(1) Stainless steel, ASTM A 240/A 240M (IBR, *see* §171.7 of this subchapter), Type 304, 304L, 316 or 316L, in which case impact tests are not required; or

(2) Steel complying with ASTM Specification A 516 (IBR, see §171.7 of this subchapter); Grade 70; ASTM Specification A 537 (IBR, see §171.7 of this subchapter), Class 1; or AAR Specification TC 128, Grade B, in which case impact tests must be performed as follows:

(i) ASTM A 516/A 516M and A 537/A 537M material must meet the Charpy