

Research and Special Programs Admin., DOT

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joints shall be made as prescribed in AAR Specifications for Tank Cars, appendix W (see §171.7 of this subchapter).

(d) Testing of exterior heaters is not a specification requirement.

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967; 66 FR 45186, Aug. 28, 2001]

**§ 179.100-19 Tests of safety relief valves.**

(a) Each valve shall be tested by air or gas for compliance with §179.15 before being put into service.

(b) [Reserved]

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended at 62 FR 51561, Oct. 1, 1997]

**§ 179.100-20 Stamping.**

(a) To certify that the tank complies with all specification requirements, each tank shall be plainly and permanently stamped in letters and figures at least 3/8 inch high into the metal near the center of both outside heads as follows:

	Example of required stamping
Specification .....	DOT-105A100W
Material .....	ASTM A 516
Cladding material (if any) .....	ASTM A240-304
Tank builder's initials .....	Clad
Date of original test .....	ABC
Car assembler (if other than tank-builder).	00-0000 DEF

(b) [Reserved]

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amtd. 179-10, 36 FR 21346, Nov. 6, 1971; Amtd. 179-52, 61 FR 28679, June 5, 1996; 65 FR 50463, Aug. 18, 2000]

**§ 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	<sup>2</sup> 2 1/2	No .....	No.	
105A200ALW	Yes .....	500	5/8	200	<sup>2</sup> 2 1/2	No .....	No.	
105A300ALW	Yes .....	750	5/8	300	<sup>2</sup> 2 5/8	No .....	No.	
105A100W	Yes .....	500	<sup>3</sup> 9/16	100	2 1/4	No .....	No.	
105A200W	Yes .....	500	<sup>3</sup> 9/16	200	2 1/4	No .....	No.	
105A300W	Yes .....	750	<sup>1</sup> 11/16	300	<sup>7</sup> 2 1/4	No .....	No.	
105A400W	Yes .....	1,000	<sup>1</sup> 11/16	400	<sup>7</sup> 2 1/4	No .....	No.	
105A500W	Yes .....	1,250	<sup>1</sup> 11/16	500	2 1/4	No .....	No .....	102-1, 102-2
105A600W	Yes .....	1,500	<sup>1</sup> 11/16	600	2 1/4	No .....	No .....	102-4, 102-17
109A100ALW	Optional .....	500	5/8	100	<sup>2</sup> 2 1/2	No .....	Optional.	
109A200ALW	Optional .....	500	5/8	200	<sup>2</sup> 2 1/2	No .....	Optional.	
109A300ALW	Optional .....	750	5/8	300	<sup>2</sup> 2 5/8	No .....	Optional.	
109A300W	Optional .....	500	<sup>1</sup> 11/16	300	2 1/4	No .....	Optional.	
112A200W	Optional <sup>4</sup> .....	500	<sup>3</sup> 5/16	200	2 1/4	No .....	No.	
112A340W	Optional <sup>4</sup> .....	850	<sup>1</sup> 11/16	340	2 1/4	No .....	No.	
112A400W	Optional <sup>4</sup> .....	1,000	<sup>1</sup> 11/16	400	2 1/4	No .....	No.	
112A500W	Optional <sup>4</sup> .....	1,250	<sup>1</sup> 11/16	500	2 1/4	No .....	No.	
114A340W	Optional <sup>4</sup> .....	850	<sup>1</sup> 11/16	340	<sup>6</sup>	Optional .....	Optional ...	103
114A400W	Optional <sup>4</sup> .....	1,000	<sup>1</sup> 11/16	400	<sup>6</sup>	Optional .....	Optional ...	103
120A200ALW	Yes .....	500	5/8	200	<sup>2</sup> 2 1/2	Optional .....	Optional ...	103
120A100W	Yes .....	500	<sup>3</sup> 9/16	100	2 1/4	Optional .....	Optional ...	103
120A200W	Yes .....	500	<sup>3</sup> 9/16	200	2 1/4	Optional .....	Optional ...	103
120A300W	Yes .....	750	<sup>1</sup> 11/16	300	2 1/4	Optional .....	Optional ...	103
120A400W	Yes .....	1,000	<sup>1</sup> 11/16	400	2 1/4	Optional .....	Optional ...	103
120A500W	Yes .....	1,250	<sup>1</sup> 11/16	500	2 1/4	Optional .....	Optional ...	103

<sup>1</sup> 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.

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

<sup>3</sup> 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.

<sup>4</sup> 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.

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

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<sup>6</sup> See AAR specifications for tank cars, Appendix E, E4.01 and § 179.103–2.

<sup>7</sup> 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<sup>7</sup> as amended by 66 FR 45390, Aug. 28, 2001]

### § 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 complying with ASTM Specification A 516, Grades 55, 60, 65, or 70, or AAR Specification TC128–78, Grade B. The ASTM A516 plate must also meet the Charpy V–Notch test requirements of ASTM A20–79b (see table 16) in the longitudinal direction of rolling. The TC128 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 Specification A 370. Production-welded test plates prepared as required by W4.00 of AAR Specifications for Tank Cars, appendix W, must include impact test specimens of weld metal and heat-affected zone. As an alternate, anchor legs may be fabricated of stainless steel, ASTM Specification A 240 Types 304, 304L, 316 or 316L for which impact tests are not required.

(2)–(6) [Reserved]

(b) [Reserved]

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179–10, 36 FR 21347, Nov. 6, 1971; Amdt. 179–28, 46 FR 49906, Oct. 8, 1981; 46 FR 55266, Nov. 9, 1981; Amdt. 179–32, 48 FR 50440, 50441, Nov. 1, 1983; 49 FR 42736, Oct. 24, 1984; Amdt. 179–45, 55 FR 52728, Dec. 21, 1990; Amdt. 179–52, 61 FR 28680, June 5, 1996]

### § 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, 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]

### § 179.102–4 Vinyl fluoride, inhibited.

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 Specification A240, Type 304, 304L, 316 or 316L, in which case impact tests are not required; or

(2) Steel complying with ASTM Specification A516; Grade 70; ASTM Specification A537, Class 1; or AAR Specification TC128, Grade B, in which case impact tests must be performed as follows:

(i) ASTM Specification A516 and A537 material must meet the Charpy V-notch test requirements, in longitudinal direction of rolling, of ASTM Specification A20.

(ii) AAR Specification TC128 material must meet the Charpy V-notch test requirements, in longitudinal direction of rolling, of 15 ft.–lb. minimum average for 3 specimens, with a 10 ft.–lb. minimum for any one specimen, at minus 50 °F. or colder, in accordance with ASTM Specification A 370.

(iii) Production welded test plates must—

(A) Be prepared in accordance with AAR Specifications for Tank Cars, appendix W, W4.00;

(B) Include impact specimens of weld metal and heat affected zone prepared and tested in accordance with AAR