

case less than that specified in § 179.101-1.

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179-10, 36 FR 21345, Nov. 6, 1971; Amdt. 179-40, 52 FR 13046, Apr. 20, 1987; Amdt. 179-42, 54 FR 38798, Sept. 20, 1989; 65 FR 58632, Sept. 29, 2000; 68 FR 48571, Aug. 14, 2003]

#### § 179.100-14 Bottom outlets.

(a) Bottom outlets for discharge of lading is prohibited, except as provided in § 179.103-3. If indicated in § 179.101, tank may be equipped with a bottom washout of approved construction. If applied, bottom washout shall be in accordance with the following requirements:

(1) The extreme projection of the bottom washout equipment may not be more than that allowed by appendix E of the AAR Specifications for Tank Cars.

(2) Bottom washout shall be of cast, forged or fabricated metal and shall be fusion-welded to the tank. It shall be of good weldable quality in conjunction with metal of tank.

(3) If the bottom washout nozzle extends 6 inches or more from shell of tank, a V-shaped breakage groove shall be cut (not cast) in the upper part of the outlet nozzle at a point immediately below the lowest part of the inside closure seat or plug. In no case may the nozzle wall thickness at the root of the "V" be more than 1/4-inch. Where the nozzle is not a single piece, provision shall be made for the equivalent of the breakage groove. The nozzle must be of a thickness to insure that accidental breakage will occur at or below the "V" groove or its equivalent. On cars without continuous center sills, the breakage groove or its equivalent may not be more than 15 inches below the tank shell. On cars with continuous center sills, the breakage groove or its equivalent must be above the bottom of the center sill construction.

(4) The closure plug and seat shall be readily accessible or removable for repairs.

(5) The closure of the washout nozzle must be equipped with a 3/4-inch solid screw plug. Plug must be attached by at least a 1/4-inch chain.

(6) Joints between closures and their seats may be gasketed with suitable material.

(b) [Reserved]

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179-10, 36 FR 21345, Nov. 6, 1971; Amdt. 179-40, 52 FR 13046, Apr. 20, 1987; 66 FR 45186, Aug. 28, 2001]

#### § 179.100-16 Attachments.

(a) Reinforcing pads must be used between external brackets and shells if the attachment welds exceed 6 linear inches of 1/4-inch fillet or equivalent weld per bracket or bracket leg. When reinforcing pads are used, they must not be less than one-fourth inch in thickness, have each corner rounded to a 1-inch minimum radius, and be attached to the tank by continuous fillet welds except for venting provisions. The ultimate shear strength of the bracket-to-reinforcing pad weld must not exceed 85 percent of the ultimate shear strength of the reinforcing pad-to-tank weld.

(b) Attachments not otherwise specified shall be applied by approved means.

[29 FR 18995, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 179-10, 36 FR 21346, Nov. 6, 1971]

#### § 179.100-17 Closures for openings.

(a) Closures shall be of approved design and made of metal not subject to rapid deterioration by the lading. Plugs, if used, shall be solid, with NPT threads, and shall be of a length which will screw at least six threads inside the face of fitting or tank.

(b) [Reserved]

#### § 179.100-18 Tests of tanks.

(a) Each tank shall be tested by completely filling tank and manway nozzle with water or other liquid having similar viscosity, at a temperature which shall not exceed 100 °F during the test; and applying the pressure prescribed in § 179.101. The tank shall hold the prescribed pressure for at least 10 minutes without leakage or evidence of distress.

(b) Insulated tanks shall be tested before insulation is applied.

(c) Caulking of welded joints to stop leaks developed during the foregoing test is prohibited. Repairs in welded

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> 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> 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.