

§ 178.347-2

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UG-32 do not apply for cargo tank motor vehicles with a MAWP of 35 psig or less.

(4) Marking, certification, data reports and nameplates must be as prescribed in §§ 178.345-14 and 178.345-15.

(5) Manhole closure assemblies must conform to §§ 178.345-5 and 178.347-5.

(6) Pressure relief devices must be as prescribed in § 178.345-10.

(7) The hydrostatic or pneumatic test must be as prescribed in § 178.345-13.

(8) The following paragraphs in parts UG and UW of the ASME Code, Section VIII, Division I do not apply: UG-11, UG-12, UG-22(g), UG-32(e), UG-34, UG-35, UG-44, UG-76, UG-77, UG-80, UG-81,

UG-96, UG-97, UW-13(b)(2), UW-13.1(f), and the dimensional requirements found in Figure UW-13.1.

[Amdt. 178-89, 54 FR 25029, June 12, 1989, as amended at 55 FR 37064, Sept. 7, 1990; Amdt. 178-89, 56 FR 27877, June 17, 1991; 65 FR 58632, Sept. 29, 2000; 66 FR 45387, Aug. 28, 2001]

§ 178.347-2 Material and thickness of material.

(a) The type and thickness of material for DOT 407 specification cargo tanks must conform to § 178.345-2 and this section. In no case may the thickness be less than that indicated in tables I and II below.

TABLE I—MINIMUM THICKNESS OF HEADS (OR BULKHEADS AND BAFFLES WHEN USED AS TANK REINFORCEMENT) USING MILD STEEL (MS), HIGH STRENGTH LOW ALLOY STEEL (HSLA), AUSTENITIC STAINLESS STEEL (SS) OR ALUMINUM (AL)—EXPRESSED IN DECIMALS OF AN INCH AFTER FORMING

Volume capacity in gallons per inch	10 or less	Over 10 to 14	Over 14 to 18	Over 18 to 22	Over 22 to 26	Over 26 to 30	Over 30
Thickness (MS)	0.100	0.100	0.115	0.129	0.129	0.143	0.156
Thickness (HSLA)	0.100	0.100	0.115	0.129	0.129	0.143	0.156
Thickness (SS)	0.100	0.100	0.115	0.129	0.129	0.143	0.156
Thickness (AL)	0.160	0.160	0.173	0.187	0.194	0.216	0.237

TABLE II—MINIMUM THICKNESS OF SHELL USING MILD STEEL (MS), HIGH STRENGTH LOW ALLOY STEEL (HSLA), AUSTENITIC STAINLESS STEEL (SS) OR ALUMINUM (AL)—EXPRESSED IN DECIMALS OF AN INCH AFTER FORMING

Volume capacity in gallons per inch	10 or less	Over 10 to 14	Over 14 to 18	Over 18 to 22	Over 22 to 26	Over 26 to 30	Over 30
Thickness (MS)	0.100	0.100	0.115	0.129	0.129	0.143	0.156
Thickness (HSLA)	0.100	0.100	0.115	0.129	0.129	0.143	0.156
Thickness (SS)	0.100	0.100	0.115	0.129	0.129	0.143	0.156
Thickness (AL)	0.151	0.151	0.160	0.173	0.194	0.216	0.237

(b) [Reserved]

[Amdt. 178-89, 54 FR 25030, June 12, 1989, as amended at 55 FR 37064, Sept. 7, 1990; Amdt. 178-104, 59 FR 49135, Sept. 26, 1994]

§ 178.347-3 Manhole assemblies.

Each manhole assembly must conform to § 178.345-5, except that each manhole assembly must be capable of withstanding internal fluid pressures of 40 psig or test pressure of the tank, whichever is greater.

[Amdt. 178-89, 54 FR 25030, June 12, 1989. Re-designated by Amdt. 178-112, 61 FR 18934, Apr. 29, 1996]

§ 178.347-4 Pressure relief.

(a) Each cargo tank must be equipped with a pressure and vacuum relief sys-

tem in accordance with § 178.345-10 and this section.

(b) *Type and Construction.* Vacuum relief devices are not required for cargo tanks designed to be loaded by vacuum or built to withstand full vacuum.

(c) *Pressure settings of relief valves.* The setting of pressure relief valves must be in accordance with § 178.345-10(d).

(d) *Venting capacities.* (1) The vacuum relief system must limit the vacuum to less than 80 percent of the design vacuum capability of the cargo tank.