

§ 179.102-2

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

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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 V-Notch test requirements, in longitudinal direction of rolling, of ASTM A 20/A 20M (IBR, see §171.7 of this subchapter).

(ii) AAR Specification TC 128 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 A 370 (IBR, see §171.7 of this subchapter).

(iii) Production welded test plates must—

(A) Be prepared in accordance with AAR Specifications for Tank Cars, appendix W, W4.00 (IBR, see §171.7 of this subchapter);

(B) Include impact specimens of weld metal and heat affected zone prepared and tested in accordance with AAR Specifications for Tank Cars, appendix W, W9.00; and

(C) Meet the same impact requirements as the plate material.

(b) Insulation must be of approved material.

(c) Excess flow valves must be installed under all liquid and vapor valves, except safety relief valves.

(d) A thermometer well may be installed.

(e) Only an approved gaging device may be installed.

(f) A pressure gage may be installed.

(g) Aluminum, copper, silver, zinc, or an alloy containing any of these metals may not be used in the tank construction, or in fittings in contact with the lading.

(h) The jacket must be stenciled, adjacent to the water capacity stencil,

MINIMUM OPERATING TEMPERATURE _ °F.

(i) The tank car and insulation must be designed to prevent the vapor pressure of the lading from increasing from the pressure at the maximum allowable filling density to the start-to-discharge pressure of the reclosing pressure relief valve within 30 days, at an ambient temperature of 90 °F.

[Amdt. 179-32, 48 FR 27707, June 16, 1983, as amended at 49 FR 24317, June 12, 1984; 49 FR 42736, Oct. 24, 1984; Amdt. 179-45, 55 FR 52728, Dec. 21, 1990; Amdt. 179-52, 61 FR 28680, June 5, 1996; 65 FR 58632, Sept. 29, 2000; 66 FR 33452, June 21, 2001; 66 FR 45186, 45390, Aug. 28, 2001; 67 FR 51660, Aug. 8, 2002; 68 FR 75758, 75760 Dec. 31, 2003]

§ 179.102-17 Hydrogen chloride, refrigerated liquid.

Each tank car used to transport hydrogen chloride, refrigerated liquid must comply with the following special requirements:

(a) The tank car must comply with Specification DOT-105J600W and be designed for loading at minus 50 °F. or colder.

(b) All plates for the tank must be fabricated of material listed in para-

graph (b)(2) of this section, and appurtenances must be fabricated of material listed in paragraph (b)(1) or (b)(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 conforming to ASTM A 516/A 516M (IBR, see §171.7 of this subchapter), Grade 70; ASTM A 537/A 537M, (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 V-notch test requirements, in longitudinal direction of rolling, of ASTM A 20/A 20M (IBR, see §171.7 of this subchapter).

(ii) AAR Specification TC 128 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 A 370 (IBR, see §171.7 of this subchapter).

(iii) Production welded test plates must—

(A) Be prepared in accordance with AAR Specifications for Tank Cars, appendix W, W4.00 (IBR, see §171.7 of this subchapter);

(B) include impact test specimens of weld metal and heat affected zone prepared and tested in accordance with AAR Specifications for Tank Cars, appendix W, W9.00; and

(C) meet the same impact requirements as the plate material.

(c) Insulation must be of approved material.

(d) Pressure relief valves must be trimmed with monel or other approved material and equipped with a rupture disc of silver, polytetrafluoroethylene coated monel, or tantalum. Each pressure relief device shall have the space between the rupture disc and the valve vented with a suitable auxiliary valve. The discharge from each pressure relief valve must be directed outside the protective housing.

(e) Loading and unloading valves must be trimmed with Hastelloy B or