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. (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.

§ 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.

(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.

§ 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
§ 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 paragraph (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 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.


§ 179.102–17 Hydrogen chloride, refrigerated liquid.