and directly behind or within 3 feet of the right or left side of the ladder, or ladders, if there is a ladder on each side of the tank, in letters and figures at least 1½ inches high as follows:

WATER CAPACITY

000000 Pounds

(b) [Reserved]

§ 179.201–11 Insulation.

(a) Insulation shall be of sufficient thickness so that the thermal conductance at 60 °F. is not more than 0.075 Btu per hour, per square foot, per degree F. temperature differential.

(b) [Reserved]

§§ 179.202—179.202–22 [Reserved]

§ 179.220 General specifications applicable to nonpressure tank car tanks consisting of an inner container supported within an outer shell (class DOT-115).

§ 179.220–1 Tanks built under these specifications must meet the requirements of §§ 179.220 and 179.221.

§ 179.220–3 Type.

(a) Tanks built under these specifications must consist of an inner container, a support system for the inner container, and an outer shell.

(b) The inner container must be a fusion welded tank of circular cross section with formed heads designed convex outward and must have a manway on top of the tank as prescribed herein. When the inner container is divided into compartments, each compartment must be considered a separate container.

(c) The outer shell must be a fusion welded tank with formed heads designed convex outward.

[Amdt. 179–9, 36 FR 21340, Nov. 6, 1971]

§ 179.220–4 Insulation.

The annular space between the inner container and the outer shell must contain an approved insulation material.

[Amdt. 179–9, 36 FR 21340, Nov. 6, 1971]

§ 179.220–6 Thickness of plates.

(a) The wall thickness, after forming of the inner container shell and 2:1 ellipsoidal heads must be not less than specified in § 179.221–1, or not less than that calculated by the following formula:

$$t = \frac{Pd}{2SE}$$

Where:

d = Inside diameter in inches;
E = 0.9 welded joint efficiency; except E=1.0 for seamless heads;
P = Minimum required bursting pressure in psig;
S = Minimum tensile strength of plate material in p.s.i. as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1;
t = Minimum thickness of plate in inches after forming.

(b) The wall thickness after forming of the inner container heads, if flanged and dished, must be not less than specified in § 179.221–1, or not less than that calculated by the following formula:

$$t = \frac{5PL}{6SE}$$

Where:

E = 0.9 welded joint efficiency; except E=1.0 for seamless heads;
L = Main inside radius to which head is dished, measured on concave side in inches;
P = Minimum required bursting pressure in psig;
S = Minimum tensile strength of plate material in psi as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1 (IBR, see § 171.7 of this subchapter);
t = Minimum thickness of plate in inches after forming.

(c) The wall thickness after forming of the cylindrical section and heads of the outer shell must be not less than seven-sixteenths of an inch.

(d) See § 179.220–9 for plate thickness requirements for inner container when divided into compartments.

[Amdt. 179–9, 36 FR 21340, Nov. 6, 1971, as amended at 66 FR 45390, Aug. 28, 2001; 68 FR 75762, Dec. 31, 2003]

§ 179.220–7 Materials.

(a) The plate material used to fabricate the inner container and nozzles