§ 179.201–11  Insulation.  
(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]

§ 179.220–5  Thickness of plates.  

(a) The wall thickness, after forming of the inner container shell and 2:1 elliptical 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:
\[
d = \text{inside diameter in inches;}
\]
\[
E = 0.9 \text{ welded joint efficiency; except } E=1.0 \text{ for seamless heads;}
\]
\[
P = \text{Minimum required bursting pressure in psig;}
\]
\[
S = \text{Minimum tensile strength of plate material in psi as prescribed in AAR Specifications for Tank Cars, appendix M, Table M1 (IBR, see §171.7 of this subchapter);}
\]
\[
t = \text{Minimum thickness of plate in inches after forming.}
\]

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

(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.  


§ 179.220–7  Materials.  

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