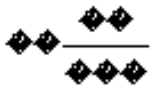
§ 179.200-6 Thickness of plates.

(a) The wall thickness after forming of the tank shell, dome shell, and of 2:1 ellipsoidal heads must be not less than specified in §179.201–1, nor that calculated by the following formula:



Where:

d = Inside diameter in inches;

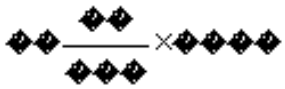
E = 0.9 Welded joint efficiency; except *E* =1.0 for seamless heads;

P = Minimum required bursting pressure in psig;

S = Minimum tensile strength of plate material in p.s.i. as prescribed in §179.200–7;

t = Minimum thickness of plate in inches after forming.

(b) The wall thickness after forming of 3:1 ellipsoidal heads must be not less than specified in §179.201–1, nor that calculated by the following formula:



Where:

d = Inside diameter in inches;

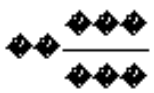
E = 0.9 Welded joint efficiency; except *E* =1.0 for seamless heads;

P = Minimum required bursting pressure in psig;

S = Minimum tensile strength of plate material in p.s.i. as prescribed in §179.200–7;

t = Minimum thickness of plate in inches after forming.

(c) The wall thickness after forming of a flanged and dished head must be not less than specified in §179.201–1, nor that calculated by the following formula:



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 p.s.i. as prescribed in §179.200–7;

t = Minimum thickness of plate in inches after forming.

(d) If plates are clad with material having tensile strength properties at least equal to the base plate, the cladding may be considered a part of the base plate when determining thickness. If cladding material does not have tensile strength at least equal to the base plate, the base plate alone must meet the thickness requirements.

(e) For a tank constructed of longitudinal sections, the minimum width of bottom sheet of the tank must be 60 inches measured on the arc, but in all cases the width must be sufficient to bring the entire width of the longitudinal welded joint, including welds, above the bolster.

(f) For a tank built of one piece cylindrical sections, the thickness specified for bottom sheet must apply to the entire cylindrical section.

(g) See §179.200–9 for thickness requirements for a compartmented tank.

[Amdt. 179–10, 36 FR 21349, Nov. 6, 1971, as amended at 66 FR 45390, Aug. 28, 2001