Pipeline and Hazardous Materials Safety Admin., DOT

§ 179.400–11

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§ 179.400–11 Welding.

(a) Except for closure of openings and a maximum of two circumferential closing joints in the cylindrical portion of the outer jacket, each joint of an inner tank and the outer jacket must be a fusion double welded butt joint.

(b) The closure for openings and the circumferential closing joints in the cylindrical portion of the outer jacket, including head to shell joints, may be a

width of jacket plate about the centroidal axis parallel to the vessel axis, in inches to the fourth power;

D = outside diameter of the outer jacket, in inches;

L = one-half of the distance from the centerline of the stiffening ring to the next line of support on one side, plus one-half of the distance from the centerline to the next line of support on the other side of stiffening ring. Both distances are measured parallel to the axis of the vessel, in inches.

(A line of support is:

(1) A stiffening ring which meets the requirements of this paragraph, or

(2) A circumferential line of a head at one-third the depth of the head from the tangent line);

Pc = critical collapsing pressure (37.5 psig minimum) in psig;

E = modulus of elasticity of stiffening ring material, in psi.

(e) Where loads are applied to the outer jacket or to stiffening rings from the system used to support the inner tank within the outer jacket, additional stiffening rings, or an increased moment of inertia of the stiffening rings designed for the external pressure, must be provided to carry the support loads.


§ 179.400–10 Sump or siphon bowl.

A sump or siphon bowl may be in the bottom of the inner tank shell if—

(a) It is formed directly into the inner tank shell, or is formed and welded to the inner tank shell and is of weldable quality metal that is compatible with the inner tank shell;

(b) The stress in any orientation under any condition does not exceed the circumferential stress in the inner tank shell; and

(c) The wall thickness is not less than that specified in §179.401–1.