(b) Be of an aluminum alloy that is specially approved by the Commandant (CG–522).

§ 154.625 Design temperature below 0 °C (32 °F) and down to −165 °C (−265 °F).

Pipes, tubes, forgings, castings, bolting, and nuts for cargo and process piping for a design temperature below 0 °C (32 °F) and down to −165 °C (−265 °F) must meet § 56.50–105 of this chapter.

§ 154.630 Cargo tank material.

(a) If a material of a cargo tank is not listed in §§ 154.610, 154.615 or § 154.620, the allowable stress of that material must be specially approved by the Commandant (CG–522).

(b) For cargo tanks of aluminum alloys with welded connections, the minimum tensile strength (σb) for the calculations under § 154.440, § 154.447 and § 154.450 must be the minimum tensile strength of the alloy in the annealed condition.

(c) Increased yield strength and tensile strength of a material at low temperature for independent tanks type A, B, and C must be specially approved by the Commandant (CG–522).

§ 154.635 Stress relief for independent tanks type C.

For a design temperature colder than −10 °C (14 °F), an independent tank type C of:

(a) Carbon and carbon-manganese steel must be stress relieved by post-weld heat treatment under § 54.25–7 of this chapter or by mechanical stress relief under Subpart 54.30 of this chapter; or

(b) Materials other than carbon and carbon manganese steel must be stress relieved as required under Part 54 of this chapter. The procedure for stress relieving must be specially approved by the Commandant (CG–522).

§ 154.660 Pipe welding.

(a) Pipe welding must meet Part 57 of this chapter.

(b) Longitudinal butt welds, in piping that does not meet a standard or specification under § 56.60–1 of this chapter, and girth butt welds must meet the following:

1. Butt welds of pipes made from carbon, carbon manganese, or low alloy steels must meet § 56.50–105 of this chapter, including the requirements for post-weld heat treatment.

2. Except for piping inside an independent cargo tank type A, B, or C, butt welds must be 100% radiographically tested if the design temperature is lower than −10 °C (14 °F), and:

   (i) The wall thickness is greater than 10 mm (0.394 in.); or