

**§ 154.526**

(3) An inert gas back-up on the first weld pass.

(b) A slip-on welded joint with sleeves and attachment welds is allowed for an open ended pipe with an external diameter of 50 mm (2 in.) or less and a design temperature of  $-55\text{ }^{\circ}\text{C}$  ( $-67\text{ }^{\circ}\text{F}$ ), or warmer.

(c) A socket weld fitting with attachment welds is allowed for pipe with an external diameter of 50 mm (2 in.) or less and a design temperature of  $-55\text{ }^{\circ}\text{C}$  ( $-67\text{ }^{\circ}\text{F}$ ) or warmer.

(d) Screwed couplings are allowed for instrumentation and control piping that meets §56.30-20 and §56.50-105 (a)(4) and (b)(4) of this chapter.

(e) A method or fitting specially approved by the Commandant (G-MSO).

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 82-063b, 48 FR 4782, Feb. 3, 1983]

**§ 154.526 Piping joints: Flange connection.**

Flange connections for pipe joints must meet §56.30-10 and §56.50-105 (a)(4) and (b)(4) of this chapter.

**§ 154.528 Piping joints: Flange type.**

(a) A flange must be one of the following types:

- (1) Welding neck.
- (2) Slip-on.
- (3) Socket weld.

(b) If the piping is designed for a temperature between  $-10\text{ }^{\circ}\text{C}$  ( $14\text{ }^{\circ}\text{F}$ ) and  $-55\text{ }^{\circ}\text{C}$  ( $-67\text{ }^{\circ}\text{F}$ ), the pipe flange may be a:

- (1) Slip-on type, if the nominal pipe size is 100 mm (4 in.) or less;
- (2) Socket weld, if the nominal pipe size is 50 mm (2 in.) or less; or
- (3) Welding neck.

(c) If the piping is designed for a temperature lower than  $-55\text{ }^{\circ}\text{C}$  ( $-67\text{ }^{\circ}\text{F}$ ), the pipe flange must be a welding neck type.

**§ 154.530 Valves: Cargo tank MARVS 69 kPa gauge (10 psig) or lower.**

(a) Except those connections for tank safety relief valves and for liquid level gauging devices other than those under §§154.536 and 154.1310, liquid and vapor connections on a cargo tank with a MARVS of 69 kPa gauge (10 psig) or lower must have shut-off valves that—

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(1) Are located as close to the tank as practical;

(2) Are capable of local manual operation; and

(3) May be remotely controlled.

(b) The cargo piping system for a cargo tank with a MARVS of 69 kPa gauge (10 psig) or lower must have at least one remotely controlled quick-closing shut-off valve for closing liquid and vapor piping between vessel and shore that meets §§154.540 and 154.544.

[CGD 74-289, 44 FR 26009, May 3, 1979, as amended by CGD 77-069, 52 FR 31630, Aug. 21, 1987]

**§ 154.532 Valves: Cargo tank MARVS greater than 69 kPa gauge (10 psig).**

(a) Except connections for tank safety relief valves and except for liquid level gauging devices other than those under §§154.536 and 154.1310, liquid and vapor connections on a cargo tank with a MARVS greater than 69 kPa gauge (10 psig) must have, as close to the tank as practical, a:

(1) Stop valve capable of local manual operation; and

(2) A remotely controlled quick-closing shut-off valve.

(b) If the nominal pipe size of a liquid or vapor connection is less than 50 mm (2 in.), an excess flow valve may be substituted for the quick-closing valve under paragraph (a) of this section.

(c) One valve may be substituted for the manual controlled stop valve and the remotely controlled quick-closing shut-off valve required under paragraph (a) of this section if that valve:

- (1) Meets §§154.540 and 154.544; and
- (2) Is capable of local manual operation.

**§ 154.534 Cargo pumps and cargo compressors.**

Cargo pumps and cargo compressors must shut-down automatically when the quick-closing shut-off valves under §§154.530 and 154.532 are closed by the emergency shut-down system required under §154.540.

**§ 154.536 Cargo tank gauging and measuring connections.**

Unless the outward flow from a cargo tank is less than the flow through a circular hole of 1.4 mm (0.055 in.) in diameter, cargo tank connections for