

§ 56.30-15

for the preinserted ring of silver brazing alloy, a bevel may be machined on the end of the hub and the silver brazing alloy introduced from the end of the hub to attach the pipe to the flange.

(14) *Figure 56.30-10(b), Method 14.* Flanges may be attached to nonferrous pipe by inserting the pipe in the flange and flanging the end of the pipe into the recess machined in the face of the flange to receive it. The width of the flange shall be not less than three times the pipe wall thickness. In addition, the pipe shall be securely brazed to the wall of the flange.

(15) *Figure 56.30-10(b), Method 15.* The flange of the type described and illustrated by Figure 56.30-10(b), Method 14, except with the brazing omitted, may be used for Class II piping and where the temperature does not exceed 250 °F.

[CGFR 68-82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9978, June 17, 1970; CGD 77-140, 54 FR 40605, Oct. 2, 1989; USCG-2000-7790, 65 FR 58460, Sept. 29, 2000]

§ 56.30-15 Expanded or rolled joints.

(a) Expanded or rolled joints may be used where experience or test has demonstrated that the joint is suitable for the design conditions and where adequate provisions are made to prevent separation of the joint. Specific application for use must be made to the Commandant.

(b) [Reserved]

§ 56.30-20 Threaded joints.

(a) Threaded joints may be used within the limitations specified in subpart 56.15 of this chapter and within other limitations specified in this section.

(b) (Reproduces 114.1.) All threads on piping components must be taper pipe threads in accordance with the applicable standard listed in Table 56.60-1(b). Threads other than taper pipe threads may be used for piping components where tightness of the joint depends on a seal weld or a seating surface other than the threads, and where experience or test has demonstrated that such threads are suitable.

(c) Threaded joints may not be used where severe erosion, crevice corrosion, shock, or vibration is expected to occur; or at temperatures over 925 °F.

46 CFR Ch. I (10-1-04 Edition)

Size limitations are given in Table 56.30-20(c) of this section.

TABLE 56.30-20(c)—THREADED JOINTS^{1 2}

Maximum nominal size, inches	Maximum pressure, p.s.i.g.
Above 2"	(Not permitted in Class I piping service.)
Above 1" up to 2"	600.
Above 3/4" up to 1"	1,200.
3/4" and below	1,500.

¹ Further restrictions on the use of threaded joints appear in the low temperature piping section.

² Threaded joints in hydraulic systems are permitted above the pressures indicated for the nominal sizes shown when commercially available components such as pumps, valves and strainers may only be obtained with threaded connections.

(d) Pipe with a wall thickness less than that of standard weight of ANSI B36.10 steel pipe must not be threaded regardless of service. For additional threading limitations for pipe used in steam service over 250 pounds per square inch or water service over 100 pounds per square inch and 200 °F, see part 104.1.2(c)(1) of ANSI B31.1. Restrictions as to the use of threaded joints appear for low temperature piping and should be checked when designing for these systems.

[CGFR 68-82, 33 FR 18843, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9978, June 17, 1970; CGD 73-254, 40 FR 40164, Sept. 2, 1975; CGD 77-140, 54 FR 40606, Oct. 2, 1989]

§ 56.30-25 Flared, flareless, and compression fittings.

(a) This section applies to pipe fittings that are mechanically connected to pipe by such means as ferrules, flared ends, swaging, elastic strain pre-load, crimping, bite-type devices, and shape memory alloys. Fittings to which this section applies must be designed, constructed, tested, and marked in accordance with ASTM F 1387 (incorporated by reference, see § 56.01-2). Previously approved fittings may be retained as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

(b) Flared, flareless and compression fittings may be used within the service limitations of size, pressure, temperature, and vibration recommended by the manufacturer and as specified in this section.

(c) Flared, flareless, and compression type tubing fittings may be used for

tube sizes not exceeding 50 millimeters (2 inches) outside diameter within the limitations of applicable standards and specifications listed in this section and § 56.60–1 of this part.

(d) Flareless fittings must be of a design in which the gripping member or sleeve must grip or bite into the outer surface of the tube with sufficient strength to hold the tube against pressure, but without appreciably distorting the inside tube diameter or reducing the wall thickness. The gripping member must also form a pressure seal against the fitting body.

(e) For fluid services, other than hydraulic systems, using a combustible fluid as defined in § 30.10–15 of this chapter and for fluid services using a flammable fluid as defined in § 30.10–22 of this chapter, flared fittings must be used; except that flareless fittings of the nonbite type may be used when the tubing system is of steel, nickel copper or copper nickel alloy. When using copper or copper zinc alloy, flared fittings are required. (See also § 56.50–70 for gasoline fuel systems, § 56.50–75 for diesel fuel systems, and § 58.25–20 for hydraulic systems for steering gear.)

[CGD 95–027, 61 FR 26000, May 23, 1996; 61 FR 35138, July 5, 1996, as amended by USCG–1999–5151, 64 FR 67180, Dec. 1, 1999; USCG–2000–7790, 65 FR 58460, Sept. 29, 2000]

§ 56.30–27 Caulked joints.

Caulked joints may not be used in marine installations.

[CGD 77–140, 54 FR 40606, Oct. 2, 1989]

§ 56.30–30 Brazed joints.

(a) *General (refer also to subpart 56.75).* Brazed socket-type joints shall be made with suitable brazing alloys. The minimum socket depth shall be sufficient for the intended service. Brazing alloy shall either be end-fed into the socket or shall be provided in the form of a preinserted ring in a groove in the socket. The brazing alloy shall be sufficient to fill completely the annular clearance between the socket and the pipe or tube.

(b) *Limitations.* (1) Brazed socket-type joints shall not be used on systems containing flammable or combustible fluids in areas where fire hazards are involved or where the service tempera-

ture exceeds 425 °F. When specifically approved by the Commandant, brazed construction may be used for service temperatures up to 525 °F. in boiler steam air heaters provided the requirements of UB-12 of section VIII of the ASME Code are satisfied at the highest temperature desired.

(2) Brazed joints depending solely upon a fillet, rather than primarily upon brazing material between the pipe and socket are not acceptable.

§ 56.30–35 Gasketed mechanical couplings.

(a) This section applied to pipe fittings that form a seal by compressing a resilient gasket onto the pipe joint primarily by threaded fasteners and where joint creep is only restricted by such means as machined grooves, centering pins, or welded clips. Fittings to which this section applies must be designed, constructed, tested, and marked in accordance with ASTM F 1476 (incorporated by reference, see § 56.01–2) and ASTM F 1548 (incorporated by reference, see § 56.01–2). Previously approved fittings may be retained as long as they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection.

(b) Gasketed mechanical couplings may be used within the service limitations of pressure, temperature and vibration recommended by the manufacturer, except that gasketed mechanical couplings must not be used in—

(1) Any location where leakage, undetected flooding or impingement of liquid on vital equipment may disable the vessel; or

(2) In tanks where the liquid conveyed in the piping system is not chemically compatible with the liquid in the tank.

(c) Gasketed mechanical couplings must not be used as expansion joints. Positive restraints must be included, where necessary, to prevent the coupling from creeping on the pipe and uncovering the joint. Bite-type devices do not provide positive protection against creep and are generally not accepted for this purpose. Machined grooves, centering pins, and welded clips are