

the particular section of the ASME Boiler and Pressure Vessel Code. Materials designated by other specifications shall be evaluated on the basis of physical and chemical properties. To assure these properties, the specifications shall specify and require such physical and chemical testing as considered necessary by the Commandant. All tubing and pipe materials shall be suitable for handling the hydraulic fluid used and shall be of such chemical and physical properties as to remain ductile at the lowest operating temperature.

(c) Bolting shall meet the requirements of 46 CFR 56.25-20 except that regular hexagon bolts conforming to SAE J429, grades 2 through 8 (incorporated by reference, see 46 CFR 58.03-1), or ASTM A 193 (incorporated by reference, see 46 CFR 58.03-1) may be used in sizes not exceeding 1½ inches.

(d) The maximum allowable working pressure and minimum thickness shall be calculated as required by § 56.07-10(e) of this subchapter when the outside diameter to wall thickness ratio is greater than 6. Where the ratio is less than 6, the wall thickness may be established on the basis of an applicable thick-wall cylinder equation acceptable to the Commandant using the allowable stress values specified in § 56.07-10(e) of this subchapter.

(e) All flared, flareless and compression type joints shall be in accordance with § 56.30-25 of this subchapter.

(f) Fluid power motors and pumps installed on vessels subject to inspection shall be certified by the manufacturer as suitable for the intended use. Such suitability shall be demonstrated by operational tests conducted aboard the vessel which shall be witnessed by a marine inspector.

[CGFR 68-82, 33 FR 18878, Dec. 18, 1968, as amended by CGD 73-254, 40 FR 40168, Sept. 2, 1975; CGD 95-027, 61 FR 26001, May 23, 1996; USCG-2000-7790, 65 FR 58460, Sept. 29, 2000;]

§ 58.30-20 Fluid power hose and fittings.

(a) The requirements of this section are applicable to those hydraulic and pneumatic systems listed in § 58.30-1.

(b) Hose and fittings shall meet the requirements of subpart 56.60 of this subchapter.

(c) Hose assemblies may be installed between two points of relative motion but shall not be subjected to torsional deflection (twisting) under any conditions of operation and shall be limited, in general, to reasonable lengths required for flexibility. Special consideration may be given to the use of longer lengths of flexible hose where required for proper operation of machinery and components in the hydraulic system.

(d) Sharp bends in hoses shall be avoided.

§ 58.30-25 Accumulators.

(a) An accumulator is an unfired pressure vessel in which energy is stored under high pressure in the form of a gas or a gas and hydraulic fluid. Accumulators must meet the applicable requirements in § 54.01-5 (c)(3), (c)(4), and (d) of this chapter or the remaining requirements in part 54.

(b) If the accumulator is of the gas and fluid type, suitable separators shall be provided between the two media, if their mixture would be dangerous, or would result in contamination of the hydraulic fluid and loss of gas through absorption.

(c) Each accumulator which may be isolated, shall be protected on the gas and fluid sides by relief valves set to relieve at pressures not exceeding the maximum allowable working pressures. When an accumulator forms an integral part of systems having relief valves, the accumulator need not have individual relief valves.

[CGFR 68-82, 33 FR 18878, Dec. 18, 1968 as amended by CGD 77-147, 47 FR 21811, May 20, 1982]

§ 58.30-30 Fluid power cylinders.

(a) The requirements of this section are applicable to those hydraulic and pneumatic systems listed in § 58.30-1 and to all pneumatic power transmission systems.

(b) Fluid power cylinders consisting of a container and a movable piston rod extending through the containment vessel, not storing energy but converting a pressure to work, are not considered to be pressure vessels and need not be constructed under the provisions of part 54 of this subchapter.

(c) Cylinders shall be designed for a bursting pressure of not less than 4