

§ 54.01-17

§ 54.01-17 Pressure vessel for human occupancy (PVHO).

Pressure vessels for human occupancy (PVHO's) must meet the requirements of subpart B (Commercial Diving Operations) of part 197 of this chapter.

[CGD 76-009, 43 FR 53683, Nov. 16, 1978]

§ 54.01-18 Plan approval.

(a) Manufacturers intending to fabricate pressure vessels, heat exchangers, evaporators, and similar appurtenances, covered by the regulations in this part shall submit detailed plans in accordance with subpart 50.20 of this subchapter.

(b) The following information shall be submitted:

(1) Calculations for all pressure containment components including the maximum allowable working pressure, the hydrostatic or pneumatic test pressure, and the intended safety device setting.

(2) Joint design and methods of attachment of all pressure containment components.

(3) Foundations and supports (design and attachment).

(4) Pertinent calculations for pressure vessel foundations and/or supports.

(5) A bill of material meeting the requirements of section VIII of section VIII of the ASME Boiler and Pressure Vessel Code (incorporated by reference; see 46 CFR 54.01-1), as modified by this part.

(6) A diagrammatic arrangement drawing of the assembled unit indicating location of internal and external components.

[CGFR 68-82, 33 FR 18828, Dec. 18, 1968, as amended by USCG-2003-16630, 73 FR 65166, Oct. 31, 2008]

§ 54.01-25 Miscellaneous pressure components (modifies UG-11).

(a) Pressure components for pressure vessels shall be as required by UG-11 of section VIII of the ASME Boiler and Pressure Vessel Code (incorporated by reference; see 46 CFR 54.01-1) except as noted otherwise in this section.

(b) All pressure components conforming to an accepted ANSI (American National Standards Institute)

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Standard referred to in an adopted code, specification or standard or in this subchapter shall also be marked in accordance with MSS SP-25 (incorporated by reference; see 46 CFR 54.01-1).

[CGFR 68-82, 33 FR 18828, Dec. 18, 1968, as amended by CGFR 69-127, 35 FR 9977, June 17, 1970; USCG-2003-16630, 73 FR 65167, Oct. 31, 2008]

§ 54.01-30 Loadings (modifies UG-22).

(a) The loadings for pressure vessels shall be as required by UG-22 of section VIII of the ASME Boiler and Pressure Vessel Code (incorporated by reference; see 46 CFR 54.01-1) except as noted otherwise in this section.

(b) In evaluating loadings for certain pressure vessel applications, the Commandant may require consideration of the following loads in addition to those listed in UG-22 of section VIII of the ASME Boiler and Pressure Vessel Code:

(1) Loading imposed by vessel's attitude in roll, list, pitch and trim.

(2) Dynamic forces due to ship motions.

[CGFR 68-82, 33 FR 18828, Dec. 18, 1968, as amended by USCG-2003-16630, 73 FR 65167, Oct. 31, 2008]

§ 54.01-35 Corrosion (modifies UG-25).

(a) Vessels or portions of vessels subject to corrosion shall be as required by UG-25 of section VIII of the ASME Boiler and Pressure Vessel Code (incorporated by reference; see 46 CFR 54.01-1) except as noted otherwise in this section.

(b) The pressure portions of pressure vessels shall:

(1) Normally have a corrosion allowance of one-sixth of the calculated thickness, or one-sixteenth inch, whichever is smaller, added to the calculated thickness as determined by the applicable design formula.

(2) Be specifically evaluated in cases where unusually corrosive cargoes will be involved, for the possible increase of this corrosion allowance.

(3) Have no additional thickness required when acceptable corrosion resistant materials are used.

(4) Not normally need additional thickness allowance when the effective stress (either S or SE depending on the design formula used) is 80 percent or