

(1) Stress concentrations in tension, bending and torsion which occur at pads, cradles, or other supports must be considered in accordance with appendix G in Section VIII of the ASME Code.

(2) Longitudinal compressive buckling stress for ASME certified vessels must be calculated using paragraph UG-23(b) in Section VIII of the ASME Code. For cargo tanks not required to be certified in accordance with the ASME Code, compressive buckling stress may be calculated using alternative analysis methods which are accurate and verifiable. When alternative methods are used, calculations must include both the static loads described in this paragraph and the dynamic loads described in paragraph (c) of this section.

* * *

■ 128. In § 178.345-4, paragraph (a) is revised to read as follows:

§ 178.345-4 Joints.

(a) All joints between the cargo tank shell, heads, baffles, baffle attaching rings, and bulkheads must be welded in conformance with Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter).

* * *

■ 129. In § 178.345-7, paragraphs (a)(1) and (d)(3) are revised to read as follows:

§ 178.345-7 Circumferential reinforcements.

(a) * * *

(1) Circumferential reinforcement must be located so that the thickness and tensile strength of the shell material in combination with the frame and reinforcement produces structural integrity at least equal to that prescribed in § 178.345-3 and in such a manner that the maximum unreinforced portion of the shell does not exceed 60 inches. For cargo tanks designed to be loaded by vacuum, spacing of circumferential reinforcement may exceed 60 inches provided the maximum unreinforced portion of the shell conforms with the requirements in Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter).

* * *

(d) * * *

(3) When used to meet the vacuum requirements of this section, ring stiffeners must be as prescribed in Section VIII of the ASME Code.

* * *

■ 130. In § 178.345-14, the first sentence of paragraph (a) is revised to read as follows:

§ 178.345-14 Marking.

(a) *General.* The manufacturer shall certify that each cargo tank motor vehicle has been designed, constructed and tested in accordance with the applicable Specification DOT 406, DOT 407 or DOT 412 (§§ 178.345, 178.346, 178.347, 178.348) cargo tank requirements and, when applicable, with Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter).

* * *

* * *

■ 131. In § 178.345-15, paragraph (b)(2) is revised to read as follows:

§ 178.345-15 Certification.

* * *

(b) * * *

(2) For each ASME cargo tank, a cargo tank manufacturer's data report as required by Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter). For each cargo tank motor vehicle, a certificate signed by a responsible official of the manufacturer and a Registered Inspector certifying that the cargo tank motor vehicle is constructed, tested and completed in conformance with the applicable specification.

* * *

■ 132. In § 178.346-1, paragraphs (d), (d)(1), (d)(8), and (d)(10) are revised to read as follows:

§ 178.346-1 General requirements.

* * *

(d) Each cargo tank must be "constructed in accordance with Section VIII of the ASME Code" (IBR, see § 171.7 of this subchapter) except as modified herein:

(1) The record-keeping requirements contained in the ASME Code Section VIII do not apply. Parts UG-90 through 94 in Section VIII do not apply. Inspection and certification must be made by an inspector registered in accordance with subpart F of part 107.

* * *

(8) The following paragraphs in parts UG and UW in Section VIII of the ASME Code do not apply: UG-11, UG-12, UG-22(g), UG-32(e), UG-34, UG-35, UG-44, UG-76, UG-77, UG-80, UG-81, UG-96, UG-97, UW-12, UW-13(b)(2), UW-13.1(f) and the dimensional requirements found in Figure UW-13.1.

* * *

(10) The requirements of paragraph UW-9(d) in Section VIII of the ASME Code do not apply.

■ 133. In § 178.346-3, paragraph (b)(3) is revised to read as follows:

§ 178.346-3 Pressure relief.

* * *

(b) * * *

(3) Notwithstanding the requirements in § 178.345-10(b), after August 31, 1996, each pressure relief valve must be able to withstand a dynamic pressure surge reaching 30 psig above the design set pressure and sustained above the set pressure for at least 60 milliseconds with a total volume of liquid released not exceeding 1 L before the relief valve recloses to a leak-tight condition. This requirement must be met regardless of vehicle orientation. This capability must be demonstrated by testing. TTMA RP No. 81 (IBR, see § 171.7 of this subchapter), cited at § 178.345-10(b)(3)(i), is an acceptable test procedure.

* * *

■ 134. In § 178.347-1, paragraphs (c), (d), (d)(1) and (d)(8) are revised to read as follows:

§ 178.347-1 General requirements.

* * *

(c) Any cargo tank built to this specification with a MAWP greater than 35 psig and each tank designed to be loaded by vacuum must be constructed and certified in conformance with Section VIII of the ASME Code (IBR, see § 171.7 of this subchapter). The external design pressure for a cargo tank loaded by vacuum must be at least 15 psi.

(d) Each cargo tank built to this specification with MAWP of 35 psig or less must be "constructed in accordance with Section VIII of the ASME Code" except as modified.

(1) The record-keeping requirements contained in Section VIII of the ASME Code do not apply. The inspection requirements of parts UG-90 through 94 do not apply. Inspection and certification must be made by an inspector registered in accordance with subpart F of part 107.

* * *

(8) The following paragraphs in parts UG and UW in Section VIII of the ASME Code do not apply: UG-11, UG-12, UG-22(g), UG-32(e), UG-34, UG-35, UG-44, UG-76, UG-77, UG-80, UG-81, UG-96, UG-97, UW-12, UW-13(b)(2), UW-13.1(f), and the dimensional requirements found in Figure UW-13.1.

* * *

■ 135. In § 178.348-1, paragraphs (e)(1), (e)(2), (e)(2)(i) and (e)(2)(viii) are revised to read as follows:

§ 178.348-1 General requirements.

* * *

(e) * * *

(1) MAWP greater than 15 psig must be "constructed and certified in conformance with Section VIII of the