

## § 178.245-2

must be protected by a shear section or sacrificial device located outboard of the valve. The shear section or sacrificial device must break at no more than 70 percent of the load that would cause failure of the internal self-closing stop-valve.

(iii) Each internal self-closing stop-valve must be provided with remote means of automatic closure, both thermal and mechanical. The thermal means of automatic closure must actuate at a temperature of not over 250 °F.

(e) Each uninsulated tank used for the transportation of compressed gas, as defined in §173.115 of this subchapter, must have an exterior surface finish that is significantly reflective, such as a light reflecting color if painted, or a bright reflective metal or other material if unpainted.

[Amdt. 178-117, 61 FR 50627, Sept. 26, 1996, as amended at 68 FR 75749, Dec. 31, 2003; 70 FR 56099, Sept. 23, 2005]

## § 178.245-2 Material.

(a) All material used for the construction of the tank and appurtenances shall be suitable for use with the commodity to be transported therein.

(b) A material of thickness less than  $\frac{3}{16}$  inch shall not be used for the shells and heads.

## § 178.245-3 Design pressure.

(a) The design pressure of a tank authorized under this specification shall be not less than the vapor pressure of the commodity contained therein at 46 °C (115 °F), or as prescribed for a particular commodity by part 173 of this chapter, except that in no case shall the design pressure of any container be less than 100 psig or more than 500 psig. When corrosion factor is prescribed by these regulations, the wall thickness of the tank calculated in accordance with Section VIII of the ASME Code (IBR, see §171.7 of this subchapter) shall be increased by 20 percent or 2.54 mm (0.10 inch), whichever is less.

NOTE 1: The term design pressure as used in this specification is identical to the term "MAWP" as used in the ASME Code.

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(b) [Reserved]

[29 FR 18972, Dec. 29, 1964; Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by 66 FR 45387, Aug. 28, 2001; 68 FR 75749, Dec. 31, 2003]

## § 178.245-4 Tank mountings.

(a) Tanks shall be designed and fabricated with mountings to provide a secure base in transit. "Skids" or similar devices shall be deemed to comply with this requirement.

(b) All tank mountings such as skids, fastenings, brackets, cradles, lifting lugs, etc., intended to carry loadings shall be permanently secured to tanks in accordance with the requirements in Section VIII of the ASME Code (IBR, see §171.7 of this subchapter) under which the tanks were fabricated, and shall be designed to withstand static loadings in any direction equal to twice the weight of the tank and attachments when filled with the lading using a safety factor of not less than four, based on the ultimate strength of the material to be used. The specific gravity used in determining the static loadings shall be shown on the marking required by §178.245-6(a) and on the report required by §178.245-7(a).

(c) Lifting lugs or hold-down lugs may be added to either the tank or tank mountings. If lifting lugs and hold-down lugs are added directly to the tank, they shall be secured to doubling plates welded to the tank and located at points of support, except that lifting lugs or hold-down lugs with integral bases serving as doubling plates may be welded directly to the tank. Each lifting lug and hold-down lug shall be designed to withstand static loadings in any direction equal to twice the weight of the tank and attachments when filled with the lading using a safety factor of not less than four, based on the ultimate strength of the material to be used.

(d) All tank mountings shall be designed so as to prevent the concentration of excessive loads on the tank shell.

(e) A DOT 51 portable tank that meets the definition of "container" in §450.3(a)(2) of this title must meet the requirements of parts 450 through 453

of this title, in addition to the requirements of this subchapter.

[29 FR 18972, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 178-117, 61 FR 50628, Sept. 26, 1996; 64 FR 51919, Sept. 27, 1999; 68 FR 75750, Dec. 31, 2003]

§ 178.245-5 Protection of valves and accessories.

(a) All valves, fittings, accessories, safety devices, gaging devices, and the like shall be adequately protected against mechanical damage.

(b) The protective device or housing shall conform to the requirements under which the tanks are fabricated with respect to design and construction, and shall be designed to withstand static loadings in any direction equal to twice the weight of the tank and attachments when filled with the lading using a safety factor of not less than four, based on the ultimate strength of the material to be used.

(c) Requirements concerning types of valves, retesting, and qualification of portable tanks contained in §§173.32 and 173.315 of this chapter must be observed.

[29 FR 18972, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 178-104, 59 FR 49135, Sept. 26, 1994]

§ 178.245-6 Name plate.

(a) In addition to the markings required by Section VIII of the ASME Code (IBR, see §171.7 of this subchapter) under which tanks were constructed, they shall have permanently affixed, in close proximity to the ASME "U" stamp certification, a metal plate. This plate shall be permanently affixed by means of soldering, brazing, or welding around its complete perimeter. Neither the plate itself nor the means of attachment to the tank shall be subject to destructive attack by the contents of tank. Upon such plate shall be plainly marked by stamping, embossing, or other means of forming letters into or onto the metal plate itself the following information in characters at least 1/8-inch high:

Manufacturer's name \_\_\_\_\_  
Serial No. \_\_\_\_\_ Owner's serial No. \_\_\_\_\_  
D.O.T. Specification No. \_\_\_\_\_  
Water capacity (pounds) \_\_\_\_\_  
Tare weight (pounds) \_\_\_\_\_

Design pressure (psig) \_\_\_\_\_  
Design specific gravity \_\_\_\_\_  
Original test date \_\_\_\_\_  
Tank retested at \_\_\_\_\_ (psig) on: \_\_\_\_\_

(b) All tank outlets and inlets, except safety relief valves, shall be marked to designate whether they communicate with vapor or liquid when the tank is filled to the maximum permitted filling density.

[29 FR 18972, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 178-67, 46 FR 49906, Oct. 8, 1981; Amdt. 178-117, 61 FR 50628, Sept. 26, 1996; 68 FR 75750, Dec. 31, 2003]

§ 178.245-7 Report.

(a) A copy of the manufacturer's data report required by Section VIII of the ASME Code (IBR, see §171.7 of this subchapter) under which the tank is fabricated shall be furnished to the owner for each new tank.

(b) [Reserved]

[Amdt. 178-76, 48 FR 28102, June 20, 1983, as amended at 68 FR 75750, Dec. 31, 2003]

§§ 178.251-178.253-5 [Reserved]

§ 178.255 Specification 60; steel portable tanks.

§ 178.255-1 General requirements.

(a) Tanks must be of fusion welded construction, cylindrical in shape with seamless heads concave to the pressure. Tank shells may be of seamless construction.

(b) Tanks must be designed, constructed, certified, and stamped in accordance with Section VIII of the ASME Code (IBR, see §171.7 of this subchapter).

(c) Tanks including all permanent attachments must be postweld heat treated as a unit.

(d) Requirements concerning types of valves, retesting, and qualification of portable tanks contained in §§173.32 and 173.315 of this chapter must be observed.

[29 FR 18972, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 178-7, 34 FR 18250, Nov. 14, 1969; 68 FR 75750, Dec. 31, 2003]