§ 178.356-2 Materials of construction and other requirements.

(a) Phenolic foam insulation must be fire-resistant and fabricated in accordance with USDOE Material and Equipment Specification SP–9, Rev. 1 and Supplement (IBR, see §171.7 of this subchapter), which is a part of this specification. (Note: Packagings manufactured under USAEC Specification SP–9 and Rev. 1 thereto are authorized for continued manufacture and use.) A 13.7 cm (5.4-inch) minimum thickness of foam must be provided over the entire liner except:

(1) Where wood spacers replace the foam; or

(2) At protrusions of liner or shell, such as flanges, baffles, etc., where minimum insulation thickness is 9 cm (3.5 inches); or

(3) Where alternate top section (specification 20PF–1) is used. Foam must not interfere with proper seating of screws in inner liner flange assembly. Average density of insulation must be 0.13 g/cc (8 pounds per cubic foot (pcf)) minimum for bottom section and 0.16 g/cc (10 pcf) minimum for top section, except 0.1 g/cc (6.5 pcf) for the specification 20PF–1 top section.

(b) Gaskets must be as follows:

(1) Inner liner flange—Neoprene rubber of 30 to 60 type A durometer hardness or other equivalent gasket material which is compatible with the specific contents.

(2) Outer shell—Synthetic rubber conforming to MIL-R-6855 (available from the Naval Publications Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120) class 2, grade 60.

(3) Support and pressure pads for inner liner top and bottom must be sponge rubber or equivalent.

(c) Alternate top section (specification 20PF–1 only). Average insulation density must be 0.16 g/cc (10 pcf minimum). Thickness of plug must be 11 cm (4.3 inches) minimum, except thickness may be reduced to 10 cm (4 inches) to clear bolt heads. A flush mounted top lifting device must be securely fastened to a wood block encapsulated by the foam.

(d) Vent holes 5 mm (0.2-inch) diameter must be drilled in the outer shell to provide pressure relief during the insulation foaming and in the event of a fire. These holes, which must be drilled in all areas of the shell that mate with the foam insulation, must be spaced in accordance with DOE CAPE–1662, Rev. 1 and Supplement 1 (IBR, see §171.7 of this subchapter).

(e) Welding must be by a fusion welding process in accordance with American Welding Society Codes B–3.0 and D–1.0 (IBR, see §171.7 of this subchapter). Body seams and joints for the liner or shell must be continuous welds.

(f) Waterproofing. Each screw hole in the outer shell must be sealed with appropriate resin-type sealing material, or equivalent, during installation of the screw. All exposed foam surfaces, including any vent hole, must be sealed with waterproofing material as prescribed in USDOE Material and Equipment Specification SP–9, Rev. 1 and Supplement, or equivalent.

[Amdt. 178–35, 39 FR 45247, Dec. 31, 1974, as amended by Amdt. 178–56, 44 FR 49458, Aug. 23, 1979. Redesignated by Amdt. 178–97, 55 FR 52716, Dec. 21, 1990; 66 FR 45387, Aug. 28, 2001; 68 FR 75757, Dec. 31, 2003]