

**§ 178.362-6 Marking.**

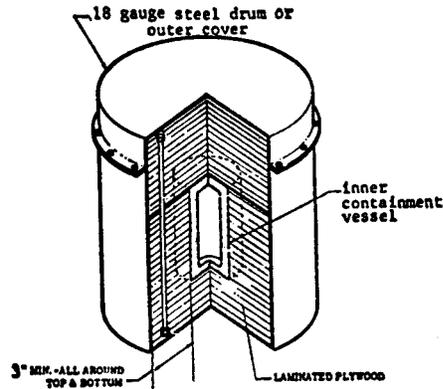
(a) Each jacket must be marked on the external surface as follows: "USA-DOT 20WC-( ) TYPE B." The appropriate numeral must be inserted in the marking to indicate the appropriate specification 20WC category: e.g., "20WC-2."

(b) Each jacket must also be marked with the name or symbol of person making the marks specified in paragraph (a) of this section. Symbol, if used, must be registered with the Associate Administrator.

[Amdt. 178-35, 39 FR 45252, Dec. 31, 1974, as amended by Amdt. 178-40, 41 FR 38182, Sept. 9, 1976. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990, and amended at Amdt. 178-97, 56 FR 66287, Dec. 20, 1991; 66 FR 45386, Aug. 28, 2001]

**§ 178.362-7 Typical assembly sketches.**

(a) Spec. 20WC-2.



[Amdt. 178-35, 39 FR 45253, Dec. 31, 1974; 40 FR 2435, Jan. 13, 1975. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990]

**§ 178.364 Specification 21WC wooden-steel protective overpack.**

**§ 178.364-1 General requirements.**

(a) Each jacket must meet all the applicable requirements of §173.24 of this subchapter.

(b) The maximum authorized gross weight of the overpack, including its inner container and contents may not exceed 1360 kg (3000 pounds).

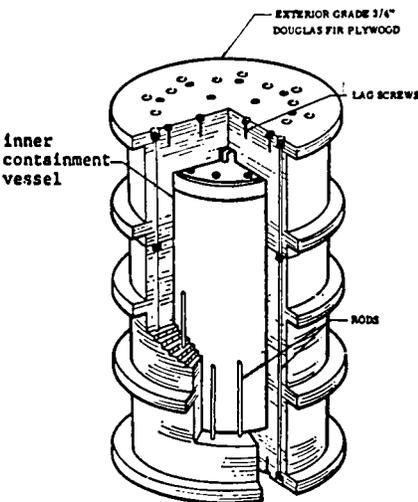
[Amdt. 178-35, 39 FR 45253, Dec. 31, 1974. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990; 66 FR 45387, Aug. 28, 2001]

**§ 178.364-2 Materials of construction and other requirements.**

(a) The general configuration of the protective overpack must be a combination of two nested plywood boxes, each 2.5 cm (1 inch) thick, nested within a third wooden box of nominal 5 cm (2-inch) thickness solid hardwood. The three nested boxes must be enclosed within a welded framework 10 cement-coated nails spaced on nominally 1 centimeter (3/8-inch) thick by 8-10 cm (3-4 inches) wide. All outer surfaces of each box must be coated with intumescent paint.

(b) Plywood must be exterior-grade, void-free, Douglas fir, or equivalent, at least 2.5 cm (1 inch) thick. Solid hardwood must be maple, or equivalent.

(c) All box joints and interior surfaces must be glued with a strong, shock-resistant adhesive such as



(b) Spec. 20WC-5.

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polyvinylacetate emulsion, or equivalent.

(d) All hardwood joints must be mitered, or equivalent, reinforced with No. 10 cement-coated nails space on nominal 15 cm (6-inch) centers.

(e) All plywood joints must be butt-type, or equivalent, reinforced with No. 10 cement-coated nails spaced on nominal 15 cm (6-inch) centers.

(f) The angles and strapping of the metal frame must be spaced such that separation distances do not exceed 15 cm (6 inches).

(g) The lid must be of the same material as the box and fabricated in such a manner that closure forms a mitered joint with the hardwood box and 2 stepped-joints with the plywood boxes.

[Amdt. 178-35, 39 FR 45253, Dec. 31, 1974. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990, as amended by 66 FR 45387, Aug. 28, 2001]

**§ 178.364-3 Closure.**

Closure for the protective overpack must be provided by at least 4 mild steel hinges formed from minimum 2.5 cm (1 inch) × 5 mm (3/16 inch) bar stock. Hinge pins must be minimum 6 mm (1/4

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inch) diameter by 13.3 cm (5¼ inches) long mild steel rod drilled at both ends for cotter pins.

[66 FR 45389, Aug. 28, 2001]

**§ 178.364-4 Tests.**

Prior to each use, each overpack must be visually inspected for defects such as wood checking or splintering, weld cracking, corrosion of steel parts, improper joint bonding, or improperly fitting closure lid.

[Amdt. 178-35, 39 FR 45253, Dec. 31, 1974. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990; 66 FR 45389, Aug. 28, 2001]

**§ 178.364-5 Required marking.**

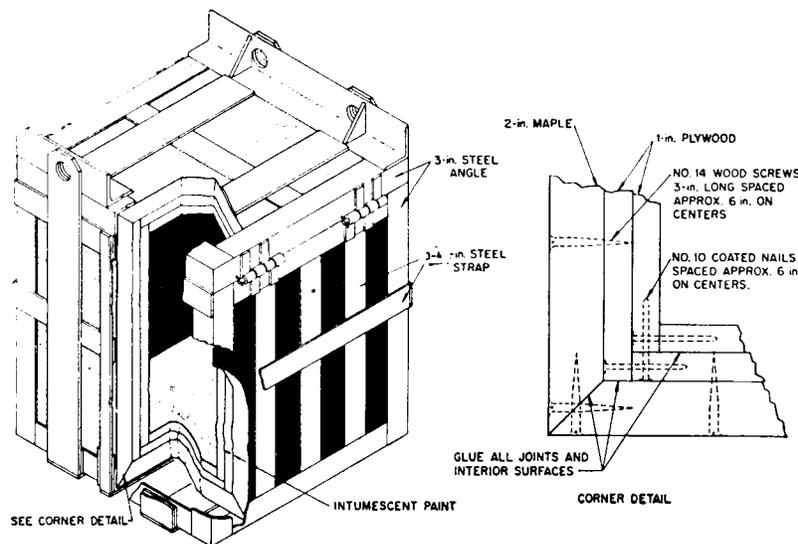
(a) Marking must be as prescribed in § 178.3.

(b) Marking on the outside of each overpack must include the following:

- (1) "USA-DOT 21WC" and "TYPE B" as appropriate.
- (2) [Reserved]

[Amdt. 178-35, 39 FR 45253, Dec. 31, 1974. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990, as amended at 63 FR 37462, July 10, 1998]

**§ 178.364-6 Typical assembly detail.**



**RADIOISOTOPES SHIPPING CASK FIRE AND IMPACT SHIELD**