

Nominal pipe size		Flange O.D.		Number of bolts	Bolt circle diameter		Diameter of bolts		Flange thickness	
Inches	Cm	Inches	Cm		Inches	Cm	Inches	Cm	Inches	Cm
2	5	6	15	4	4¾	11.8	½	1.2	⅝	1.6
2½	6.2	7	17.5	4	5½	13.8	½	.....	⅝	.....
3	7.5	7½	18.8	4	6	15	½	.....	⅝	.....
3½	8.8	8½	21.3	8	7	17.5	½	.....	⅝	.....
4	10	9	22.5	8	7½	18.8	½	.....	⅝	.....
5	12.6	10	25.4	8	8½	21.3	½	.....	⅝	.....

- (iv) Cast iron flanges prohibited.
- (b) [Reserved]

[Amdt. 178-35, 39 FR 45245, Dec. 31, 1974; 40 FR 2435, Jan. 13, 1975, as amended at 40 FR 44327, Sept. 26, 1975. Redesignated by Amdt. 178-97, 56 FR 66284, Dec. 20, 1991]

**§ 178.362 Specification 20WC wooden protective jacket.**

**§ 178.362-1 General requirements.**

- (a) Each jacket must meet the applicable requirements of §173.24 of this subchapter.
- (b) Maximum gross weight of the jacket plus the contents may not exceed the following:
  - (1) Specification 20WC-1: 225 kg (500 pounds).
  - (2) Specification 20WC-2: 225 kg (500 pounds).
  - (3) Specification 20WC-3: 455 kg (1000 pounds).
  - (4) Specification 20WC-4: 910 kg (2000 pounds).
  - (5) Specification 20WC-5: 1820 kg (4000 pounds).
  - (6) Specification 20WC-6: 2230 kg (6000 pounds).

[Amdt. 178-35, 39 FR 45252, Dec. 31, 1974. Redesignated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990; 66 FR 45387, Aug. 28, 2001]

**§ 178.362-2 Materials of construction.**

- (a) The general configuration of the wooden protective jacket must be a hollow cylindrical shell constructed of one-piece discs and rings of plywood or solid hardwood reinforced with steel rods.
  - (1) The specification 20WC-2 must be additionally completely encased, snugly fit, within an 18-gauge steel shell. The steel shell must be provided with at least four 6 millimeter (0.25-inch) diameter vent holes. Each hole must be covered with durable weatherproof tape, or equivalent device.

(2) The specification 20WC-6 jacket must be additionally completely encased, snugly-fit, within a 12-gauge steel shell. The steel shell must be provided with at least twelve 1.2 cm (0.5-inch) diameter vent holes, located in 3 rows of 4 holes each, spaced at 90 degree intervals near the top, middle, and bottom of the drum. Each hole must be covered with durable weatherproof tape, or equivalent device.

(b) Plywood must be exterior-grade, void-free, Douglas fir (or equivalent) not more than 2.5 cm (1 inch) thick. Solid hardwood is authorized for specification 20WC-2 only.

(c) Discs and rings must be glued together with a strong, shock-resistant adhesive, such as either of the following:

- (1) A resorcinol-formaldehyde adhesive, which has been bonded under both heat and pressure; or
- (2) A polyvinyl-acetate emulsion, which has been reinforced with cement-coated nails. The nails must be randomly spaced and must be at least 2.5 times as long as the minimum thickness of the plywood discs or rings.

(d) Full-length steel rods are required for reinforcement and lid closure.

(1) The minimum number of rods and the minimum rod diameter are as shown in the following table:

Specification	Minimum number of rods	Minimum rod diameter	
		Inches	Mm
20WC-1 .....	6	0.25	6.0
20WC-2 .....	6	.25	6.0
20WC-3 .....	12	.375	9.5
20WC-4 .....	16	.375	9.5
20WC-5 .....	16	.50	12.0
20WC-6 .....	16	.50	12.0

(2) For specifications 20WC-1 and 20WC-2, steel rods must be equally spaced around the circumference to the rings and discs, midway between the O.D. and I.D. of the rings. For specifications 20WC-3 and 20WC-4, bolts may