

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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CIRCULAR OF THE BUREAU OF STANDARDS, No. 243

[2d ed., issued June 8, 1927]

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR
PACKING, ASBESTOS METALLIC CLOTH SHEET

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 94b

[Revised May 12, 1927. Supersedes F. S. B. No. 94a]

This specification was officially promulgated by the Federal Specifications Board on December 29, 1923, for the use of the departments and independent establishments of the Government in the purchase of asbestos metallic cloth sheet packing.

[The latest date on which the technical inspection requirements of this revision shall become mandatory for all departments and independent establishments of the Government is August 12, 1927. They may be put into effect, however, at any earlier date, after promulgation]

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I. GENERAL SPECIFICATIONS

All tests and analyses shall be made in accordance with the methods described in United States Government general specification for rubber goods, Federal Specifications Board Specification No. 59, in effect on date of invitation for bids.

II. GRADES

Packing shall be furnished in the following grades as required: Grade 1, not less than 90 per cent asbestos; and grade 2, not less than 75 per cent asbestos.

III. MATERIAL AND WORKMANSHIP

Asbestos metallic cloth sheet packing shall be made of woven asbestos wire insertion cloth treated with a rubber compound. The workmanship shall be first class in every respect.

IV. GENERAL REQUIREMENTS

1. Sheet packing $\frac{1}{16}$ inch in thickness shall be 1 ply of cloth. Sheet packing $\frac{1}{8}$, $\frac{3}{16}$, and $\frac{1}{4}$ inch in thickness shall be made of 2, 3, and 4 plies, respectively, of $\frac{1}{16}$ -inch cloth cemented together.

2. A plus tolerance of $\frac{1}{64}$ inch will be permitted. No minus tolerance in thickness shall be allowed.

3. The finished packing shall not crack nor show any signs of injury when bent flat on itself in any direction.

4. The brass or copper wire shall be 0.007 inch in diameter, plus or minus 0.001 inch.

V. DETAIL REQUIREMENTS

1. GRADE 1

(a) The cloth shall be woven from yarn containing not less than 90 per cent, by weight, long fiber asbestos of not less than 12 per cent, by weight, water of composition.

(b) The weave of the cloth shall consist of not less than 20 strands in the warp and 10 strands in the filler per linear inch.

(c) For packing $\frac{1}{16}$ inch in thickness, each strand of the warp and filler shall consist of 2 plies of asbestos yarn and 1 brass or copper wire twisted together.

(d) The weight per square yard of $\frac{1}{16}$ -inch asbestos metallic cloth before application of the rubber compound shall be not less than 2.75 pounds per square yard.

(e) The rubber compound shall be not more than 50 per cent by weight of the finished packing.

(f) Packing shall show no signs of flowing, cracking, material hardening, or disintegration of the rubber compound when bolted between iron plates and subjected to the action of saturated steam at 275 pounds per square inch for a total of 24 hours.

(g) The finished packing shall conform to the weights shown in the following table:

Thickness (inch)	Weight per square yard	
	Minimum	Maximum
	<i>Pounds</i>	<i>Pounds</i>
$\frac{1}{16}$ -----	5.50	6.25
$\frac{1}{8}$ -----	10.50	11.75
$\frac{3}{16}$ -----	16.00	17.75
$\frac{1}{4}$ -----	21.50	24.00

2. GRADE 2

(a) The cloth shall be woven from yarn containing not less than 75 per cent, by weight, long fiber asbestos of not less than 12 per cent, by weight, water of composition.

(b) The weave of the cloth shall consist of not less than 16 strands in the warp and 8 strands in the filler per linear inch.

(c) For packing $\frac{1}{16}$ inch in thickness, each strand of the warp and filler shall consist of 2 plies of asbestos yarn and not more than 2 brass or copper wires twisted together.

(d) The weight per square yard of $\frac{1}{16}$ -inch asbestos metallic cloth before application of the rubber compound shall be not less than 2.75 pounds per square yard.

(e) The rubber compound shall be not more than 55 per cent, by weight, of the finished packing.

(f) Packing shall show no signs of flowing, cracking, material hardening or disintegration of the rubber compound when bolted between iron plates and subjected to the action of saturated steam at 200 pounds per square inch for a total of 24 hours.

(g) The finished packing shall conform to the weights shown in the following table:

Thickness (inch)	Weight per square yard	
	Minimum	Maximum
	<i>Pounds</i>	<i>Pounds</i>
$\frac{1}{16}$ -----	5.50	6.25
$\frac{1}{8}$ -----	10.50	11.75
$\frac{3}{16}$ -----	16.00	17.75
$\frac{1}{4}$ -----	21.50	24.00

VI. METHOD OF INSPECTION AND TESTS

A sample of finished packing 12 inches square and of untreated fabric 12 inches square shall be taken at random by the inspector from each lot of 2,000 pounds of packing or less and forwarded to the testing laboratory.

VII. PACKING AND MARKING OF SHIPMENTS

1. Packing shall be supplied in rolls weighing approximately 100 pounds, or 250 pounds unless otherwise ordered. Each roll shall be wrapped in waterproof paper.

2. The packing shall be marked with the makers' name and brand neatly stenciled upon each linear yard. The date of manufacture shall be marked on each end of each roll.

VIII. NOTES

1. Grade 1 packing is suitable for steam pressures up to 300 pounds per square inch and temperatures up to 700° F.

2. Grade 2 packing is suitable for steam pressures up to 200 pounds per square inch.

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