

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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CIRCULAR OF THE BUREAU OF STANDARDS, No. 236

[Issued June 15, 1925]

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR
CLOTH INSERTION RUBBER PACKING

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 110a

[Revised June 15, 1925]

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 cloth insertion rubber packing.

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I. GRADES

This packing shall be supplied as required in two grades as follows: Grade A and grade B.

II. MATERIAL AND WORKMANSHIP

1. The packing shall consist of alternate layers of rubber and frictioned fabric. Both faces of the packing shall be of rubber or fabric as specified. The alternate layers of rubber in all cases shall be of uniform thickness.

2. The fabric shall be well, evenly, and firmly woven, as free from unsightly defects, dirt, knots, lumps, and irregularities of twist as is consistent with the best manufacturing practice.

3. The rubber compound shall be properly vulcanized and shall be free from all substances which might injuriously affect its quality.

III. GENERAL REQUIREMENTS

1. There shall be at least one ply of fabric for each 1/16 inch in thickness.

2. The fabric insertion shall have 35 to 50 threads per inch in the warp and filling and shall weigh between $4\frac{3}{4}$ and $5\frac{1}{2}$ ounces per square yard.

3. A tolerance in thickness, plus or minus, will be permitted as follows: For thickness $\frac{3}{32}$ inch or less, 10 per cent; for greater thickness, 5 per cent.

4. Packing shall be made in sheets 36 inches wide.

IV. DETAIL REQUIREMENTS

1. GRADE A.—(a) The rubber layers shall contain not less than 70 per cent by volume of the best quality new wild or plantation rubber. The acetone extract corrected for free sulphur shall not exceed 6 per cent nor shall the total sulphur, exclusive of that contained in barytes, exceed 8 per cent of the weight of the rubber as compounded. (b) The tensile strength, ultimate elongation, set, and friction shall be as stated below:

Tensile strength, minimum.....	lbs./in. ² ..	1, 200
Ultimate elongation, minimum.....	inches..	2 to 10
Set stretch for 10 minutes.....		2 to 8
Set after 10 minutes rest, maximum.....	per cent..	25
Friction between rubber layers and fabric insertions, minimum.....	pounds..	9

2. GRADE B.—(a) The rubber layers shall contain not less than 55 per cent of rubber by volume and shall contain no oil substitutes. (b) The tensile strength, ultimate elongation, and friction shall be as stated below:

Tensile strength, minimum.....	lbs./in. ² ..	600
Ultimate elongation, minimum.....	inches..	2 to 7
Friction between rubber layers and fabric insertions, minimum.....	pounds..	5

3. The weights of the finished packing shall be as follows:

Size of packing (inch)	Weight of packing (pounds per square yard)			
	Grade A		Grade B	
	Minimum	Maximum	Minimum	Maximum
$\frac{1}{16}$	4.5	5.5	4.5	5.5
$\frac{1}{8}$	7.0	8.0	7.0	9.0
$\frac{1}{4}$	9.0	11.0	9.5	11.5
$\frac{3}{8}$	13.5	16.0	14.0	17.5
$\frac{1}{2}$	18.5	21.5	18.5	23.0

V. METHOD OF INSPECTION AND TESTS

1. One sample of finished packing, 1 square foot in area, shall be selected by the inspector from each lot of 1,000 pounds and forwarded to the testing laboratory.

2. In testing the friction between the rubber layers and fabric, the specimen shall be 1 inch in width and may be cut in either direction.

VI. PACKING AND MARKING

1. Packing shall be delivered in rolls containing 100 pounds each, unless a smaller quantity is specified in the proposal.

2. Each roll shall be wrapped in wax paper and packed in accordance with the usual commercial practice.

VII. ADDITIONAL INFORMATION

1. Grade A packing is used as a gasket material in flanges of ventilation systems or in flanges in contact with cold water which are separated only at long intervals.

2. Grade B packing is used as a gasket material in flanges in contact with cold water which are separated frequently.

VIII. GENERAL SPECIFICATIONS

All tests and analyses shall be made in accordance with the methods described in United States Government Master Specifications for Rubber Goods, F. S. B. Specification No. 59a, in effect on date of proposal.

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