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DEPARTMENT OF COMMERCE  
BUREAU OF STANDARDS  
George K. Burgess, Director

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[Issued June 15, 1925]

UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR  
ASBESTOS METALLIC CLOTH GASKETS

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 97a

[This is a revision of that part of specification 94 which relates to gaskets]

[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 asbestos metallic cloth gaskets.

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I. TYPES

Gaskets shall be furnished in the following types as required: Type A, seamless; and type B, jointed.

II. MATERIAL AND WORKMANSHIP

All gaskets shall be made from woven asbestos wire insertion cloth treated with a high-grade heat-resisting rubber compound. The workmanship shall be first class in every respect.

III. GENERAL REQUIREMENTS

1. 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.

2. 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.

3. For cloth  $\frac{1}{32}$  inch in thickness, each strand of the warp and filler shall consist of one ply of asbestos yarn which is intertwisted or spun about a brass or copper wire.

4. For cloth  $\frac{1}{16}$  inch in thickness, each strand of the warp and filler shall consist of two plies of asbestos yarn, which are intertwisted or spun about a brass or copper wire.

5. The brass or copper wire shall be 0.008 inch in diameter, plus or minus 0.001 inch.

6. The weight per square yard of the asbestos metallic cloth before application of the heat-resisting rubber compound shall be not less than that stated below:

Thickness (inch)	Weight per square yard (pounds)
$\frac{1}{32}$ -----	2. 75
$\frac{1}{16}$ -----	3. 25

7. The heat-resisting rubber compound shall be not less than 40 nor more than 50 per cent, by weight, of the finished gasket.

8. All gaskets  $\frac{1}{8}$  inch in thickness and greater shall be folded and contain not less than three plies of cloth. No gaskets less than  $\frac{1}{8}$  inch in thickness shall be ordered under this specification. (See Section VII, 3.)

9. No minus tolerances will be permitted. Plus tolerances will be permitted as follows:

- $\frac{1}{32}$  inch in thickness on all gaskets,
- $\frac{1}{32}$  inch on all other dimensions of handhole gaskets,
- $\frac{1}{16}$  inch on all other dimensions of all other gaskets.

10. A gasket shall not crack nor show any signs of injury when bent flat on itself.

11. Gaskets shall show no signs of softening, cracking, material hardening, or disintegration of the rubber compound when bolted between iron plates and subjected to the action of saturated steam at 275 lbs./in.<sup>2</sup> for a total of 24 hours.

#### IV. DETAIL REQUIREMENTS

1. Type A gaskets shall be seamless, composed of an integral piece of the fabric in which the filler threads run continuously around the gasket, while the warp threads run transversely. The fabric shall be folded on itself to form the desired thickness, the jointless fold forming that edge of the gasket which is exposed to steam.

2. Type B gaskets shall be jointed. The cloth shall be cut on the bias and folded into the required shape and thickness after the ends have been securely cemented together. The fold shall form that edge of the gasket which is exposed to steam.

## V. METHODS OF INSPECTION AND TESTS

One sample gasket and 1 square foot of untreated fabric shall be selected at random from each lot of 5,000 or less handhole gaskets, 1,000 or less mud drum and pipe flange gaskets, or 500 or less manhole gaskets, and forwarded to the testing laboratory.

## VI. PACKING AND MARKING

Packing and marking shall be as called for in the proposal.

## VII. ADDITIONAL INFORMATION

1. Gaskets described in this specification are suitable for a steam pressure of 300 lbs./in.<sup>2</sup> and a temperature of 700° F., and include all folded gaskets for boiler manholes, handholes, and flanged joints.

2. When ordered, gasket tape shall conform to the requirements of type B gaskets.

3. Stamped asbestos gaskets should be made from material described in Federal Specifications No. 94a, or 96a.

## VIII. GENERAL SPECIFICATIONS

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

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