

DEPARTMENT OF COMMERCE

BUREAU OF STANDARDS

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UNITED STATES GOVERNMENT MASTER SPECIFICATION FOR
GASKETS, METALLIC-ENCASED

FEDERAL SPECIFICATIONS BOARD SPECIFICATION No. 485

This specification was officially promulgated by the Federal Specifications Board on May 12, 1927, for the use of the departments and independent establishments of the Government in the purchase of metallic-encased gaskets.

[The latest date on which the technical requirements of this specification 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

There are no general specifications applicable to this specification.

II. TYPES

Metallic-encased gaskets shall be furnished in two types as follows:
Type A, metallic-asbestos; type B, metallic-cork.

III. MATERIAL AND WORKMANSHIP

Metallic-encased gaskets (single jacket without inlay) shall be made of annealed sheet metal so formed as to surround almost completely the asbestos or cork core. The seam of the jacket or any exposed part of the core shall be on the top or bottom side and not on the edge of the gasket exposed to gaseous or liquid pressure. After being formed and pressed into shape there shall be no breaks or creases in the finished gasket.

IV. GENERAL REQUIREMENTS

1. Unless otherwise specified, metallic-encased gaskets shall be copper, single-jacketed, closed type without inlay. Double jackets, or single jackets with metal inlay when specified, shall be constructed of the same materials as single jackets without inlay.

2. The metallic jacket shall be made of commercial annealed copper, unless otherwise specified, not less than 0.008 inch and not more than 0.015 inch thick.

3. No minus tolerance in dimensions shall be permitted. Plus tolerances shall be permitted as follows:

| | Gasket perimeter 25 inches or less | Gasket perimeter over 25 inches |
|---------------------------|---|--|
| Thickness..... | <i>Inch</i> $\frac{3}{32}$ | <i>Inch</i> $\frac{3}{32}$ |
| Flange width..... | $\frac{3}{32}$ | $\frac{3}{32}$ |
| All other dimensions..... | $\frac{3}{32}$ | $\frac{3}{32}$ |

V. DETAIL REQUIREMENTS

1. TYPE A

(a) The core shall be composed of soft asbestos millboard, or of twisted or braided asbestos cord.

(b) The asbestos fiber shall contain not less than 12 per cent water of composition.

(c) The loss in weight of the asbestos core after being dried to constant weight at a temperature not exceeding 105° F. shall not exceed 20 per cent when a 2 g sample is cut up and heated to a bright cherry-red, in an open crucible in a gas muffle for 30 minutes.

2. TYPE B

(a) The core shall be composed of compressed cork (cork board).

(b) No binder except natural cork gum shall be used.

(c) The cork core shall not disintegrate nor show an expansion greater than 2 per cent in any of its linear dimensions after being submerged in boiling water at atmospheric pressure for three hours.

(d) The cork core shall be unaffected when submerged in fuel oil at room temperature for one hour.

VI. METHOD OF INSPECTION AND TEST

One gasket from each lot of 5,000 or less of gaskets, the perimeter of which is 25 inches or under, and from each lot of 2,000 or less of gaskets, the perimeter of which is over 25 inches, shall be forwarded to the Government laboratory for tests.

VII. PACKING OF SHIPMENTS

Gaskets shall be packed in accordance with best commercial practice unless otherwise specified.

VIII. NOTES

1. Type A gaskets with single jackets are suitable for exhaust systems of internal-combustion engines, air compressors, and other connections subjected to temperatures above 150° F., and pressures up to 200 pounds per square inch. For higher pressures single jackets with inlay or double-jacketed gaskets should be used.

2. Type B gaskets are suitable for fuel, water, and air connections of internal-combustion engines at pressures up to 200 pounds per square inch and temperatures up to 150° F. Single-jacketed closed-type without inlay should be specified for type B gaskets.

3. The jacket of metallic-encased gaskets is usually made of copper. When required for a particular service, such as contact with ammonia, acid, or chemical that would readily attack copper, another more suitable metal should be substituted. Brass, steel, zinc, aluminum, Monel metal, or lead may be specified as a substitute for copper.

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