

METRIC

A-A-52444
August 6, 1993
SUPERSEDING
MIL-G-14243D
26 April 1989

COMMERCIAL ITEM DESCRIPTION

GASKETS: COMBINATION OF METAL AND
NONASBESTOS FACING MATERIAL (METRIC)

The General Services Administration has authorized the use of this commercial item description (CID) as a replacement for MIL-G-14243D, which is canceled.

ABSTRACT.

This CID covers three types of combination gaskets made from a combination of metal and nonasbestos facing material. These combination gaskets are used in automotive vehicle engine applications where they will be subjected to high temperatures as in cylinder heads and exhaust manifolds. The combination gaskets are referred to herein as "gaskets".

a. Classification. The gaskets shall be of the following types (see note b):

- Type I - Steel sheet with nonasbestos on both surfaces.
- Type II - Steel sheet with nonasbestos on one surface.
- Type III - Nonasbestos sheathed in sheet metal.

SALIENT CHARACTERISTICS.

a. Materials. Unless otherwise specified herein, the materials used to make the gaskets shall be in accordance with the manufacturer's materials specifications. The use of recovered material made in compliance to regulatory requirements is acceptable provided all the requirements of this CID are met (see note d).

1. Steel sheet. Steel sheet shall conform to ASTM A366 for low carbon (0.15 percent maximum), cold-rolled, commercial quality steel.

Beneficial comments, recommendations, additions, deletions clarifications, etc. and any other data which may improve this document should be sent by letter to: U.S. Army Tank-Automotive Command, ATTN: AMSTA-GDS, Warren, MI 48397-5000.

AMSC N/A

FSC 2805

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2. Steel strip. Steel strip shall conform to ASTM A109 for low carbon (0.15 percent maximum), cold-rolled, temper 4 or 5, matte (dull) finish steel.

3. Long terne steel sheet. Long terne steel sheet shall conform to ASTM A308 for commercial quality, oiled, coating designation LT35 steel.

4. Tin plate. Tin plate shall conform to ASTM A623 for steel as base metal (Type-optional), tin coating weight designation 25, temper designation T-4 or T-5, box annealed tin plate.

5. Copper sheet. Copper sheet shall conform to ASTM B152 for cold-rolled, soft anneal designation O60 copper.

6. Other metals. When specified (see not b), other metals may be used in the fabrication of gaskets.

b. Design and construction. The details of design and construction (e.g., configuration, size, dimensions) shall be in accordance with the applicable engineering drawing (AED) (see note b).

1. Type I gaskets. Type I gaskets shall be made from steel, sheet or strip, as specified under salient characteristics (SC) a.1 through a.4 and nonasbestos material on both surfaces. Type I gaskets shall have the steel sheet recessed and formed so as to have closely spaced tangs projecting from both surfaces. The tangs shall hold the nonasbestos materials to the metal after being pressed. When required to prevent delamination, adhesives may be used. The nonasbestos material shall be plied evenly on both surfaces of the metal with the same thickness on each surface.

2. Type II gaskets. Type II gaskets shall be made from steel sheet as specified in SC a.3 or a.4 and nonasbestos material on one surface. The type II gaskets shall have the steel sheet recessed and formed so as to have closely spaced tangs projecting from one surface only. The tangs shall hold the nonasbestos material to the metal after being pressed. When required to prevent delamination, adhesives may be used. The nonasbestos material shall be plied evenly on one surface and shall be uniform in thickness. The sheet metal shall be formed to protect the outer edges of the gasket but shall not be closed over the nonasbestos material at the outer edges.

3. Type III gaskets. Type III gaskets shall be made from nonasbestos material sheathed on both faces with metallic sheets as specified in SC a.3, a.4 or a.5. Metallic grommets shall band the gasket, as specified in the AED. Adhesives shall not be used. The metallic sheets shall be formed to protect the outer edges of the gasket but shall not be closed over the nonasbestos material at the outer edges.

4. Grommets. Grommets used to fabricate type III gaskets shall be made of material as specified in the AED and, if not specified, in accordance with the manufacturer's specifications/drawings.

5. Coating. To prevent seizure to metallic surfaces, a coating of pulverized carbon containing a binder, or equivalent material, shall be evenly applied to the nonasbestos material surfaces of type I and type II gaskets. Unless otherwise specified in the AED, type III gaskets shall be coated with lacquer or varnish.

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c. Performance.

1. Compressibility. The gaskets shall be capable of withstanding a 13.8 megapascals (MPa) load without rupture and compress 10 to 20 percent from original thickness.

2. Liquid absorption. The nonasbestos gasket material shall show no increase in weight in excess of 20 percent after being immersed for 22 hours and shall show no evidence of disintegration or of becoming soft or spongy after immersion. This shall be verified using the immersion fluids and test procedures of ASTM F146.

3. Resistance to boiling water. When immersed in boiling water for 2 hours, the nonasbestos material shall not become soft or spongy and shall not separate from the metal sheet.

4. Moisture loss. The moisture loss of the nonasbestos material shall not be more than two percent by weight when subjected to a temperature of 82 degrees Celsius (°C) until weight becomes constant.

5. Flexibility. The metal and nonasbestos material in type I and type II gaskets shall not separate when bent around a 50.8 mm mandrel.

d. Identification and marking. Unless otherwise specified in the AED, identification and marking of gaskets shall be permanent and legible and shall include, as a minimum, the AED part number and the manufacturer's CAGE code and part number (see note b).

QUALITY ASSURANCE PROVISIONS

a. Responsibility for inspection. The contractor is responsible for all inspections, including examinations and tests.

b. Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this commercial item description and that the product conforms to the producer's own drawings, specifications, workmanship standards, and quality assurance practices. Items with known defects shall not be submitted for Government acceptance. The Government reserves the right to require proof of such conformance prior to the first delivery and thereafter as may be otherwise provided for under the provisions of the contract or order.

PRESERVATION, PACKAGING, PACKING, LABELING, AND MARKING

c. Preservation, packaging, packing, labeling, and marking for the desired level shall be as specified in the contract (see note b).

NOTES

(This section contains information of a general or explanatory nature that may be helpful but is not mandatory.)

a. Addresses for obtaining copies of non-Government publications. Copies of ASTM A109 "Standard Specifications for Steel, Strip, Carbon, Cold-Rolled (Metric)", ASTM A308 "Standard Specifications for Steel, Sheet, Long Terne (Lead-Tin Alloy) Coated by the Hot-Dip Process", ASTM A366 "Standard Specifications for Steel, Sheet, Carbon, Cold-Rolled, Commercial Quality", ASTM A623 "Standard Specifications for Tin Mill Products, General Requirements", ASTM B152 "Standard Specifications for Copper Sheet, Strip, Plate, and Rolled Bar" and

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ASTM F146 "Standard Test Methods for Fluid Resistance of Gaskets Materials" can be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

b. Ordering data. Acquisition documents must specify the following:

1. Title, number, and date of this CID.
2. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced.
3. Type of gasket required.
4. Title, number, and date of AED and part number.
5. Metal required if other than as specified.
6. Selection of applicable level and packaging requirements.

c. Cross-reference data. Gaskets conforming to this CID are interchangeable with gaskets conforming to MIL-G-14243D, dated 26 April 1989.

d. Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

MILITARY INTERESTS:

Custodians

Army - AT
Navy - MC

Review Activity

DLA - CS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

PREPARING ACTIVITY:

Army - AT

(Project 2805-0565)