

INCH-POUND

A-A-52524
September 22, 1995
SUPERSEDING
MIL-S-45005C(AT)
16 February 1988

COMMERCIAL ITEM DESCRIPTION

SEAL, PLAIN, AND SEAL, PLAIN, ENCASED: FLUID, RADIAL, SINGLE AND MULTIPLE LIP SEALING MEMBER, SPRING-LOADED

The General Services Administration has authorized the use of this Commercial Item Description (CID) for all federal agencies.

1. SCOPE. This commercial item description (CID) covers radial spring-loaded single and multiple lip fluid seals. The seals are intended to be press mounted as rotary shaft seals to retain oil or other fluids. The seals covered by this CID are referred to commercially as "oil seals".

1.1 Classification. Seals shall be of the following classes, as specified (see 6.2):

- Class 1 - Polymer impregnated or coated chrome vegetable retanned leather sealing member, normal operating temperature service [-65 to 170 degrees Fahrenheit (°F)].
- Class 2 - Oil resistant synthetic elastomer sealing member, normal operating temperature service (-65 to 200°F).
- Class 3 - Oil resistant synthetic elastomer sealing member, extreme operating temperature service (-65 to 300°F).

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 and Armaments Command, ATTN: AMSTA-TR-E, Warren, MI 48397-5000.

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DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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2. SALIENT CHARACTERISTICS.

2.1 Materials. Unless otherwise specified herein, in the applicable drawing, or in the CID Specification Sheet (CIDSS), materials shall be in accordance with the manufacturer's specifications/drawings. The use of recovered material made in compliance with regulatory requirements is acceptable providing that all requirements of this CID are met (see 3.1).

2.2 Design and construction. The sealing member shall be leather or synthetic elastomer, spring-loaded and molded or mechanically clamped to a rigid or semirigid case, single or multiple lip. Seals shall be constructed to the class and dimensions specified in the applicable drawings, or in A52524/1 through A52524/12 (see 6.2).

2.3 Performance.

2.3.1 Leakage. The maximum leakage of the lubricant from the seals shall be not more than 0.5 grams per hour for any 24 hour period of testing. There shall be no leakage during any shut-down period.

2.3.2 Elevated temperature. Seals, when operated at elevated temperatures of $170 \pm 3^{\circ}\text{F}$ for class 1, $200 \pm 3^{\circ}\text{F}$ class 2, and $300 \pm 3^{\circ}\text{F}$ for class 3, shall evidence no leakage greater than that as specified in 2.3.1.

2.3.3 Low temperature. Seals shall evidence no cracks on the sealing lip after operating at a temperature of $\text{minus } 65 \pm 2^{\circ}\text{F}$.

2.3.4 Corrosion. Corrosion resistant seal cases or springs shall evidence no corrosion or damage affecting use and shall meet the requirements specified in 2.3.1 after exposure to salt spray (fog) in accordance with ASTM B117 minimum for 96 continuous hours.

2.4 Finish. When specified (see 3.1), the metallic case of the seal shall be zinc coated as per ASTM B633, Fe/Zn, type II. Corrosion resistant steel cases shall be passivated with a nitric acid solution. When specified (see 3.1), leather sealing members shall be mold-proofed. Springs shall not be coated. When corrosion resistance is required, a spring of corrosion resistant steel shall be specified (see 3.1). Corrosion tests (see 2.3.4) shall be performed only when plating of cases, or a spring of corrosion resistant steel is specified. The outer metal press fit casing surface shall have a finish of 125 microinches, root-mean-square maximum.

2.5 Identification and marking. Identification and marking of this seal shall be permanent and legible and shall include as a minimum, the manufacturer's identification code (CAGE) and the part identification number (PIN) or the applicable drawing number (see 3.1).

3. REGULATORY REQUIREMENTS.

3.1 Recovered material. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. QUALITY ASSURANCE PROVISIONS.

4.1 Responsibility for inspection. The contractor is responsible for all inspections (examinations and tests).

4.2 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.

5. PACKING. Preservation, packing, and marking for the desired level shall be as specified in the contract (see 3.1).

6. NOTES.

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

6.1 Addresses for obtaining copies of referenced documents.

6.1.1 Non-Government publications. ASTM B117 "Standard Test Method of Salt Spray (Fog) Testing" and ASTM B633 "Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel", are available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

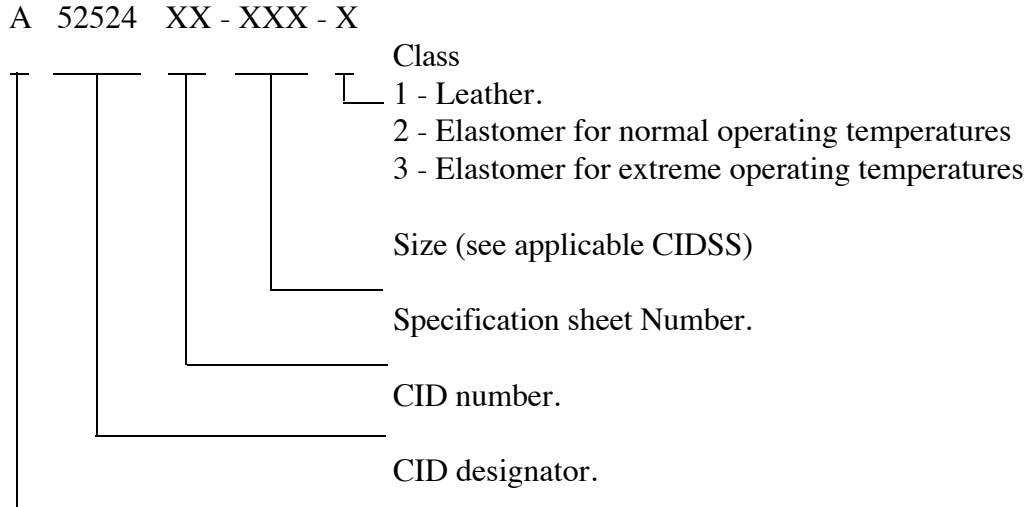
6.2 Ordering data. Acquisition documents must specify the following:

- a. Title, number, and date of this CID.
- b. Class of seal required.
- c. Applicable drawing number, title, and date or CIDSS PIN number.
- d. Type of finish for metal encased seals, and if springs of corrosion resisting steel are required.
- e. Whether mildew resistance treatment is required.

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- f. Issue of the DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced.
- g. Selection of applicable level and packaging requirements.

5.3 Part or identification number (PIN). The PINs to be used for seals acquired to the applicable CIDSS are created as follows:



6.4 Cross referenced data. Seals conforming to this document are interchangeable/substitutable with seals conforming to MIL-S-45005C(AT).

MILITARY INTERESTS:

Custodian:

Army - AT

Review activities:

Army - AR, MI

DLA - IS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing activity:

Army - AT

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