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INCH-POUND

A-A-52435
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SUPERSEDING
MIL-H-13524B(AT)
12 June 1974

# COMMERCIAL ITEM DESCRIPTION

## HOSE ASSEMBLIES, METAL: FLEXIBLE, FUEL AND OIL

The General Services Administration has authorized the use of this commercial item description as a replacement for MIL-H-13524B(AT), which is canceled.

1.0 Abstract. This commercial item description (CID) covers two types of flexible hose assemblies for the conveyance of gasoline or oil or for other applications when installed in military vehicles or other U.S. Army equipment with the exception of use with aircraft engine fluid lines.

1.1 Classification. Hose assemblies shall be of the following types as specified (see 5.2):

Type I - Corrosion resistant steel
Type II - Bronze or brass

2.0 Salient characteristics.

2.1 Materials. Materials used in the hose assemblies shall be as specified herein and in applicable drawings (see 5.2). The use of recovered materials made in compliance with regulatory requirements is acceptable providing all requirements of this CID are met (see 5.5).

2.2 Design and construction. Hose shall consist of corrugated or convoluted tubing of seamless, welded, or brazed design, protected with a cover of one or more beamed wire braids. Each length of hose shall be fitted with a set of couplings, as specified in applicable drawings (see 5.2), each permanently attached to hose.

Beneficial comments recommendations, additions, deletions clarification, 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 4720

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2.3 Dimensions. Hose assemblies shall be of the dimensions specified in procurement documents and in applicable drawings (see 5.2).

2.4 Hose assembly interchangeability. Unless otherwise specified, hose assemblies for each particular size (inside diameter) shall be interchangeable with all other like hose assemblies intended for the same use.

2.5 Performance.

2.5.1 Flexibility and leakage. Hose assemblies shall be capable of being bent around a mandrel under an internal hydrostatic pressure in accordance with table I while at 300 degrees Fahrenheit (°F) [149 degrees Celsius (°C)]. This shall be evidenced by the absence of leaks, deformation, permanent set, or interior obstruction.

TABLE I. Mandrel diameters and hydrostatic pressure for flexibility and leak test.

| Hose size (inside diameter) | | Mandrell diameter | | Hydrostatic pressure | |
|---|---|---|---|---|---|
| inches | millimeters | inches | millimeters | pounds per square inch | Kilopascals |
| 3/16 | 4.8 | 5-1/2 | 139.7 | 1830 | 12617 |
| 1/4 | 6.3 | 7 | 177.8 | 1470 | 10135 |
| 5/16 | 7.9 | 8 | 203.2 | 1160 | 7998 |
| 3/8 | 9.5 | 11 | 279.4 | 890 | 6136 |
| 1/2 | 12.7 | 14 | 355.6 | 820 | 5654 |
| 5/8 | 15.9 | 18 | 457.2 | 750 | 5171 |
| 3/4 | 19.0 | 20 | 508.0 | 660 | 4551 |
| 1 | 25.4 | 24 | 635.0 | 440 | 3034 |

2.6 Environmental.

2.6.1 Vibration. The hose assemblies shall show no evidence of leakage after being subjected to 500 hours of vibration, followed by 24 hours of refrigeration at -65°F and subsequent flexing through 90 degree bends in four directions, followed by an additional 24 hours of vibration. The vibration shall be performed with SAE 30 oil circulating at 300°F (149°C), 175 pounds per square inch (psi) [1207 Kilopascals (kPa)], 116°F (47°C) ambient air temperature, .052 inch [1.3 millimeters (mm)] total displacement (double amplitude), at 30 cycles per second. Prior to vibration, the sample shall be arranged to provide an initial slack of 3/16 inch (4.8 mm) and an offset of 1-1/2 inches (38.1 mm) at an angle of 90 degrees to the direction of stroke. The vibration may be performed continuously or intermittently.

2.6.2 Corrosion resistance. When hose fittings are made of ferrous alloys, either in whole or part, they shall withstand 100 hours of salt spray in accordance with ASTM B117 without showing evidence of damaging corrosion.

2.7 Identification and markings. Identification and markings of the hose assemblies shall be permanent and legible and shall include as a minimum, the manufacturer's identification code (CAGE), the engineering drawing part number (see 5.2), and the national stock number (NSN).

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2.8 Workmanship. Workmanship shall be such as to produce hose assemblies free from defects such as cracks, cuts, breaks, as well as restricted holes through end fittings, or damaged or burred end fitting threads.

3.0 Quality assurance provisions.

3.1 Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

3.2 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, standards, and quality assurance practices. 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.

4.0 Preservation, packaging, packing, labeling, and marking. Preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order (see 5.2).

5.0 Notes.

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

5.1 Addresses for obtaining copies of referenced documents.

5.1.1 Non-Government publications. ASTM B117 "Standard Test Method of Salt Spray (Fog) Testing" is available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

5.2 Ordering data. Acquisition documents must specify the following:

a. Title, number and date of this commercial item description.
b. Issue of the DODISS and industry standards to be cited in the solicitation (see 5.1).
c. Title, number, and revision letter of the applicable engineering drawing (see 2.2).
d. Type, size, and length of hose assemblies required (see 1.1, 2.1, and 2.3).
e. Engineering drawing part number (see 2.7).
f. Selection of applicable level of protection and packaging requirements (see 4.0).

5.3 Cross-reference data. Hose assemblies conforming to this document are interchangeable/substitutable with hose assemblies conforming to MIL-H-13524B(AT).

5.4 Metric product. Hose assemblies that are to metric dimensions will be considered on the following basis:

a. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of ASTM E380, and all other requirements of this CID are met.

b. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable.

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c. The contracting officer has the option of accepting or rejecting the product.

5.5 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:

Custodian
Army - AT

Review activities
Army - EA
DLA - CS

CIVIL AGENCY COORDINATING ACTIVITY:
GSA - FSS

PREPARING ACTIVITY:
Army - AT

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