

METRIC

A-A-52494

June 22, 1994

SUPERSEDING

MIL-R-46762(MO)

17 May 1963

COMMERCIAL ITEM DESCRIPTION

RUBBER STOCK, UNVULCANIZED: FOR TRACK SHOES, PADS, AND PIN BUSHINGS (METRIC)

The General Services Administration has authorized the use of this commercial item description (CID) for all federal agencies.

1. **ABSTRACT.** This CID covers unvulcanized rubber stock intended for use in reconditioning rubberized track shoe assemblies for use on military tracked vehicles.

1.1 **Classification.** The unvulcanized rubber stock shall be of the following styles as specified:

Style I - Block stock

Style II - Pin bushing stock

2. SALIENT CHARACTERISTICS

2.1 **Material.** Both of the following styles shall contain no reclaimed materials.

2.1.1 **Style I material.** Style I material shall be made of 100 percent (%) cold processed styrene butadiene rubber (SBR), synthetic rubber, or other synthetic polymers.

2.1.2 **Style II material.** Style II material shall be made of 100% natural rubber or blends of it with synthetic polymers.

2.2 **Design, dimensions, and construction.** The dimensions and weight of the extruded rubber stocks shall be as specified in the applicable engineering drawing (AED). In the event of a conflict between the dimensions given and the weight required, the dimensions shall take precedence.

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.

FSC 2530

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2.3 Ozone resistance. The unvulcanized rubber stock after vulcanization into track components shall, except for bushing components, be ozone resistant.

2.4 Adhesion. When molded into style I block or style II pin bushing the adhesion shall be as specified herein.

2.4.1 Style I. The load required to separate a 25 mm wide strip of rubber from the metal of shoes, pad, and shoe frame shall be no less than 667 newtons (N) and 267 N for end links.

2.4.2 Style II. The load required to separate the rings from the pin shall be not less than that shown in table I.

Note: The rubber pulled off and that remaining on the pin/metal shall show no evidence of blistering or porosity.

TABLE I. Load to separate rubber from pin.

Diameter of metal pin <u>1/</u> (millimeters)	Load (Newtons per 25 mm of width) minimum
25	129
29	138
32	147
41	151
51	160
67	169

1/ When size of pin is not shown in table, use value of load for next larger size.

2.5 Physical properties. The physical properties of the rubber shall be as specified in table II.

TABLE II. Physical properties.

	Shoes and pads	Bushings
<u>Before aging</u>		
Hardness: Shore A durometer	63-73	55-68
Tensile strength minimum (min)	20 MPa	24 MPa
Elongation, percent, min	400	500
Modulus (tensile stress)		
Before aging, at 400 percent elongation	13.8 MPa	12.4 MPa
Tear resistance, per meter of thickness:		
At 22°C, Kilonewtons (KN) minimum	52.5	N/A
At 121°C, KN minimum	30.6	N/A
Specific gravity, maximum (max)	1.16	1.21
Low temperature resistance	-40°C	-55°C
<u>After aging</u>		
Tensile strength:		
70 hours at 65°C (min)	N/A	20 MPa
70 hours at 100°C (min)	17 MPa	N/A
Elongation:		
70 hours at 70°C (percent, min)	N/A	425
70 hours at 100°C (percent, min)	300	N/A

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2.6 Deflection. Bushing when subjected to three loads of 4137 Kilopascals (kPa) for 5 seconds shall have a load deflection of 33 to 41 percent.

2.7 Compression set. The compression set of the rubber bushing shall not exceed 25 percent when subjected to ASTM D395 method B.

2.8 Low temperature resistance. Rubber from bushing specimens, shoes and pads shall show no evidence of cracks, fissures, or holes after exposure to the temperatures specified in table II.

2.9 Identification and marking. Unless otherwise specified in the AED identification and marking shall be permanent and legible and shall include, as a minimum, the date manufactured, national stock number (NSN), the manufacturer's CAGE code part number, and contract number. Each shipping container shall be marked with white letters "STORE IN COOL DRY PLACE". Part or identification number (PIN) use for material conforming to this CID shall be A52494-1 for SBR and A52494-2 for natural rubber.

3. 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 CID 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.

4. PRESERVATION, PACKAGING, PACKING, LABELING, AND MARKING. Preservation, packaging, packing, labeling, and marking for the desired level shall be as specified in the contract (see 5.2).

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

5.1 Addresses for copies of Federal Standard. Copies of ASTM D395 "Standard Test Methods for Rubber Property-Compression Set" are 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:

1. Title, number, and date of this CID.
2. Style of unvulcanized stock required.
3. Applicable level and packaging requirements.
4. Issue of Department of Defense Index of Specifications and Standards (DODISS) to be cited in the solicitation, and if required, the specific issue of individual documents referenced.
5. PIN and quantity required.

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5.3 Dimensions. Dimensions referenced in this CID were converted from inch pound units by rounding off number to the nearest whole number.

5.4 Cross-reference. Rubber stock conforming to this CID are interchangeable/substitutable with rubber stock conforming to MIL-R-46762(MO) dated 17 May 1963.

MILITARY INTERESTS:

Custodian

Army – AT

CIVIL AGENCY COORDINATING ACTIVITY

GSA-FSS

PREPARING ACTIVITY:

Army - AT

(Project 2530-0350)