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INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

SAE AMS-DTL-23053/10

Issued JUL 1999

Insulation Sleeving, Electrical, Heat Shrinkable, Silicone Rubber, Flexible

FSC 5970

NOTICE

This document has been taken directly from U.S. Military Specification MIL-DTL-23053/10D and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-DTL-23053/10D. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

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The requirements for acquiring the sleeving described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-DTL-23053.

REQUIREMENTS:

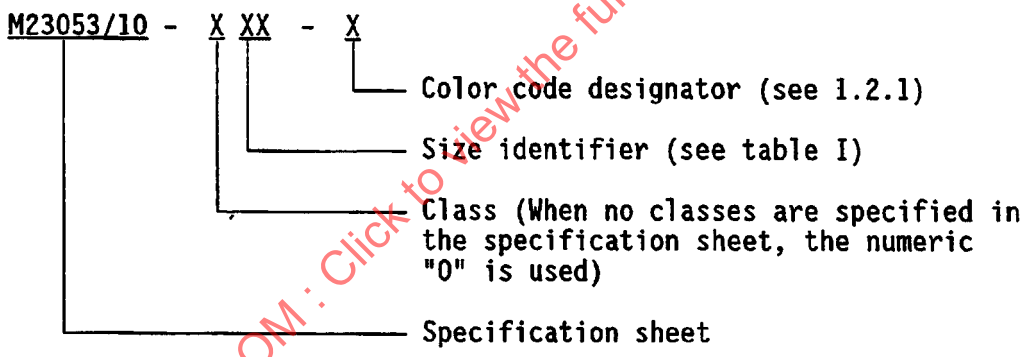
Polymer type: The base elastomer used in formulating this sleeving shall be a silicone.

Continuous operating temperature range: -75°C (-103°F) to +175°C (+347°F).

Color: The sleeving shall be furnished in a black color that conforms to the requirements of Class II of MIL-STD-104.

Longitudinal change: +3, -10 percent

Military part number: The Military part number shall consist of the basic number of this specification sheet and dash numbers shown as follows:



Example: Black, 2.000 inch (50.80 mm) as supplied ID sleeving shall be identified as M23053/10-012-0.

TABLE I. Construction details, inches (mm). 1/

Military part number 3/	As supplied ID minimum	After unrestricted shrinkage	
		ID maximum	Wall thickness 2/
M23053/10-001-0	.125(3.18)	.071(1.80)	.020 ± .006(.508 ± .152)
M23053/10-002-0	.250(6.35)	.143(3.63)	.035 ± .010(.889 ± .254)
M23053/10-003-0	.375(9.53)	.214(5.44)	.040 ± .010(1.016 ± .254)
M23053/10-004-0	.500(12.70)	.286(7.27)	.048 ± .015(1.219 ± .381)
M23053/10-005-0	.625(15.88)	.357(9.07)	.052 ± .015(1.321 ± .381)
M23053/10-006-0	.750(19.05)	.428(10.87)	.057 ± .015(1.448 ± .381)
M23053/10-007-0	.875(22.23)	.500(12.70)	.065 ± .015(1.651 ± .381)
M23053/10-008-0	1.000(25.40)	.570(14.48)	.070 ± .020(1.778 ± .508)
M23053/10-009-0	1.250(31.75)	.714(18.14)	.087 ± .020(2.210 ± .508)
M23053/10-010-0	1.500(38.10)	.857(21.77)	.095 ± .020(2.413 ± .508)
M23053/10-011-0	1.750(44.45)	1.000(25.40)	.107 ± .020(2.718 ± .508)
M23053/10-012-0	2.000(50.80)	1.140(28.96)	.110 + .020(2.794 + .508)

1/ Diameter limits for the object to be enclosed shall be as recommended in technical data.

2/ Wall thickness values are less when shrinkage is restricted.

3/ The color code identified is the standard color.

Unrestricted shrinkage: Test method 4.6.5.2 200° ± 2°C (392° ± 4°F) for 10 minutes.

TABLE II. Physical properties.

Characteristic	Requirement	Test procedure and conditions
As supplied:		
ID, minimum	Table I	4.6.3
Heat shock	No cracks, flowing or dripping	4.6.8 300° ± 4°C (572° ± 7.2°F) No mandrel bend
Tensile stress at 100 percent, psi (MPa), maximum	1,000(6.9)	4.6.12.2 ASTM D412

TABLE II. Physical properties. - Continued

Characteristic	Requirement	Test procedure and conditions
Cold impact	No cracking	4.6.7.2 -75° ± 2°C (-105° ± 4°F) longitudinal strip.ASTM D746
Dielectric strength, volts/mil (Kv/mm), minimum	200(7.9)	4.6.2 ASTM D2671
Restricted shrinkage	No cracks	4.6.6.1.1 200° ± 2°C (392° ± 4°F)
Voltage withstand	Pass	4.6.6.2
After unrestricted shrinkage:		
ID, maximum	Table I	4.6.3
Wall thickness	Table I	4.6.3
Tensile strength, psi (MPa), minimum	600(4.2)	4.6.13 ASTM D638, 20 inches/minute
Ultimate elongation, percent, minimum	200	4.6.13 ASTM D638, 20 inches/minute
Volume resistivity, Ohm-cm, minimum	1×10^{11}	4.6.2 ASTM D876
Water absorption, Percent, maximum	1.0	4.6.2 ASTM D570, 24 hrs at 23°C
Corrosion	No corrosion or pitting	4.6.10.1 and 4.6.10.2, 175°± 2°C (347° ± 4°F),16 hours
Heat resistance, properties after:		4.6.9 200° ± 3°C (392° ± 4°F), 168 hours
Tensile strength, psi (MPa), minimum	450 (3.1)	