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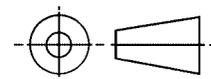
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AMS-I-23053/3

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THIRD ANGLE PROJECTION



ISSUED 2000-06

PREPARED BY SAE COMMITTEE AMS-CE



AMS SPECIFICATION

INSULATION SLEEVING, ELECTRICAL, HEAT SHRINKABLE, POLYVINYL CHLORIDE, SEMI RIGID, CROSSLINKED AND NON-CROSSLINKED

AMS-I-23053/3  
SHEET 1 OF 6

THE COMPLETE REQUIREMENTS FOR PROCURING THE SLEEVING DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE ISSUE IN EFFECT OF MIL-I-23053.

INACTIVE FOR NEW DESIGN

REQUIREMENTS:

THESE SLEEVINGS SHALL BE EXCLUDED FROM USE IN ALL SPACE VEHICLES, ALL AIRCRAFT, AND IN ENCLOSURES WHICH ARE SEALED OR PRIMARILY DEPENDENT ON RECIRCULATED ATMOSPHERE FOR COOLING.

CONTINUOUS OPERATING TEMPERATURE RANGE: -20°C (-4°F) TO +105°C (221°F).

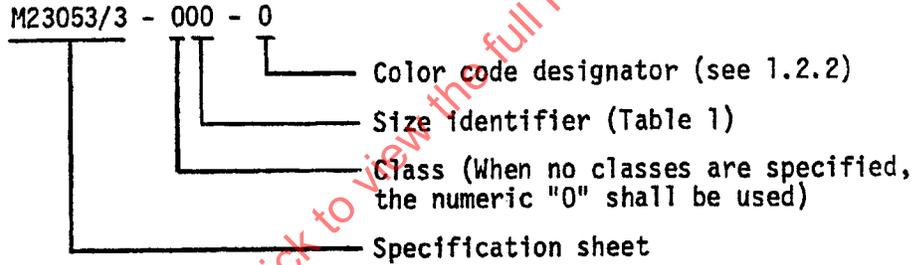
CLASSIFICATION: THE HEAT SHRINKABLE SLEEVING SHALL BE FURNISHED IN THE FOLLOWING CLASSES, AS SPECIFIED:

- CLASS 1 - CROSSLINKED
- CLASS 2 - NON-CROSSLINKED

COLOR: THE SLEEVING SHALL BE FURNISHED IN THE COLOR SPECIFIED BY THE PROCURING ACTIVITY AND IN CLEAR. COLORS SHALL CONFORM TO CLASS I OF MIL-STD-104.

LONGITUDINAL CHANGE: +1  
-10%

MILITARY PART NUMBER: THE MILITARY PART NUMBER SHALL CONSIST OF THE BASIC NUMBER OF THIS SPECIFICATION SHEET AND DASH NUMBERS AS SHOWN BELOW:



EXAMPLE: CLASS 1, RED, 0.063 INCH AS SUPPLIED ID SLEEVING SHALL BE IDENTIFIED AS M23053/3-102-2.

TABLE I. CONSTRUCTION DETAILS (INCHES) 1/

Military Part Number	As supplied	After unrestricted shrinkage	
	I.D. min.	I.D. max.	Wall thickness 2/
<b>Class 1</b>			
M23053/3-101-*	.046	.023	.034 + .003
M23053/3-102-*	.063	.031	.034 + .003
M23053/3-103-*	.093	.046	.034 + .003
M23053/3-104-*	.125	.062	.034 + .003
M23053/3-105-*	.187	.093	.034 + .003
M23053/3-106-*	.250	.125	.034 + .003
M23053/3-107-*	.375	.187	.034 + .003
M23053/3-108-*	.500	.250	.034 + .003
<b>Class 2</b>			
M23053/3-201-*	.063	.031	.020 + .003
M23053/3-202-*	.093	.046	.025 + .003
M23053/3-203-*	.125	.062	.025 + .003
M23053/3-204-*	.187	.093	.025 + .003
M23053/3-205-*	.250	.125	.025 + .003
M23053/3-206-*	.312	.156	.025 + .003
M23053/3-207-*	.375	.187	.025 + .003
M23053/3-208-*	.500	.250	.025 + .003
M23053/3-209-*	.750	.375	.025 + .003
M23053/3-210-*	1.000	.500	.030 + .005
M23053/3-211-*	1.500	.750	.035 + .005
M23053/3-212-*	2.000	1.000	.040 + .005

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

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

\* - The asterisk in the part number shall be replaced by color code designations.

UNRESTRICTED SHRINKAGE: TEST METHOD 4.6.5; CLASS 1, 200 ± 2°C (392 ± 4°F) FOR 5 MINUTES; CLASS 2, 135 ± 2°C (275 ± 4°F) FOR 5 MINUTES.

AMS-I-23053/3

TABLE II. PHYSICAL PROPERTIES 1/

Property	Requirement	Test Procedure and Conditions
<u>As Supplied</u>		
ID, min	Table I	4.6.3
Cold impact	No cracking	4.6.7.2 ASTM D 746, -10 ± 2°C (+14 ± 4°F)
Heat shock <u>2/</u>	No cracks, flowing or dripping	4.6.8 Class 1: 200 ± 2°C (392 ± 4°F) Class 2: 180 ± 2°C (356 ± 4°F)
Secant modulus, PSI, min	70,000	4.6.13.1 ASTM D 882, 2% strain
Restricted shrinkage	No cracks	4.6.6.1.3 Class 1: 175 ± 2°C (347 ± 4°F) Class 2: 135 ± 2°C (275 ± 4°F)
Voltage withstand	Pass	4.6.6.2
Color stability	Pass	4.6.16 130 ± 2°C (266 ± 4°F), 48 hours
<u>After Unrestricted Shrinkage</u>		
ID, max	Table I	4.6.3
Wall thickness	Table I	4.6.3
Tensile strength, PSI, min	3,000	4.6.14 ASTM D 638, Speed C
Ultimate elongation, %, min	150	4.6.14 ASTM D 638, Speed C
Dielectric strength, volts per mil, min	480	4.6.2 ASTM D 876
Volume resistivity, ohms - cm, min	10 <sup>11</sup>	4.6.2 ASTM D 876
Water absorption, %, max	1.0	4.6.2 ASTM D 570, Procedure A

AMS-I-23053/3