FEDERAL SUPPLY CLASS
5970

RATIONALE

MEANS TO DEFINE COLORS OF SLEEVES OTHER THAN THE STANDARD CLEAR COLOR CLARIFICATION IS REQUIRED FOR SOLID AND TRANSLUCENT SLEEVES.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS23053. PARAGRAPH NUMBERS HEREIN (TYPICALLY COMPOUND PARAGRAPH NUMBERS; E.G., X.X) WITHOUT REFERENCE TO A PROCUREMENT SPECIFICATION SHALL BE THAT OF AS23053.

REQUIREMENTS:

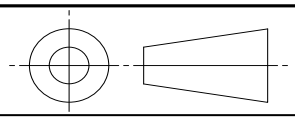
1. DIMENSIONS AND PROPERTIES IN INCH/POUND UNITS AND THE FAHRENHEIT TEMPERATURES ARE PRIMARY; DIMENSIONS AND PROPERTIES IN SI UNITS AND THE CELSIUS TEMPERATURES ARE SHOWN AS THE APPROXIMATE EQUIVALENTS OF THE PRIMARY UNITS AND ARE PRESENTED ONLY FOR INFORMATION.
2. POLYMER TYPE SHALL BE AS FOLLOWS: THE BASE POLYMER USED IN FORMULATING THIS SLEEVING SHALL BE POLYVINYLIDENE FLUORIDE HOMOPOLYMER. (REFER TO AS23053/18 FOR CO- AND TER-POLYMERS OF THIS MATERIAL.)
3. CONTINUOUS OPERATING TEMPERATURE RANGE SHALL BE -67 TO +347 °F (-55 TO +175 °C).
4. COLOR: THE HEAT SHRINKABLE SLEEVING SHALL BE FURNISHED TRANSPARENT TO TRANSLUCENT LIGHT TAN (CLEAR). OTHER COLORS SHALL CONFORM TO THE REQUIREMENTS OF CLASS 1, MIL-STD-104 (SEE 1.3 AND 3.3.3). FOR APPLICATIONS WHERE SEE-THROUGH PROPERTY IS REQUIRED, COLOR SHALL BE TRANSLUCENT LIGHT COLOR PER 1.3. FOR EXAMPLE, COLOR CODE "6" MAY BE TRANSLUCENT TO TRANSPARENT SLEEVE WITH BLUE TINT WHICH WOULD ALLOW SUBSTRATE TO BE VISIBLE.
5. LONGITUDINAL CHANGE SHALL BE WITHIN ±10%.
6. PART NUMBER: THE PART NUMBER SHALL BE AS LISTED BELOW:

EXAMPLE: .093 INCH (2.36 MM) AS SUPPLIED ID SLEEVING (CLEAR) SHALL BE IDENTIFIED AS M23053/8-003-C.

7. DIMENSIONAL LIFE: THE DIMENSIONAL LIFE OF A PRODUCT APPLIES TO THE EXPANDED ID, RECOVERED ID, AND WALL THICKNESS DIMENSIONS OF THE PRODUCT AS SOLD BY THE MANUFACTURER, DISTRIBUTORS, AND REBRAND DISTRIBUTORS. AS23053/8 PRODUCTS CAN BE EXPECTED TO HAVE A MINIMUM DIMENSIONAL LIFE OF 5 YEARS WHEN STORED BETWEEN 32 TO 95 °F (0 TO 35 °C). PRODUCTS STORED ABOVE THESE CONDITIONS MAY NOT MEET THE MINIMUM EXPANDED ID REQUIREMENTS OF THE DETAIL SPECIFICATION. A PRODUCT MAY BE USED BY THE FINAL PURCHASER BEYOND THE EXPECTED MINIMUM DIMENSIONAL LIFE, AS LONG AS THE EXPANDED ID, RECOVERED ID, AND WALL THICKNESS OF THE PRODUCT MEET THE REQUIREMENTS OF THIS SPECIFICATION AT THE TIME OF USE.
8. UNRESTRICTED SHRINKAGE: TEST METHOD 5.5, 392 °F ± 4 °F (200 °C ± 2 °C) FOR 3 MINUTES.

For more information on this standard, visit
https://www.sae.org/standards/content/AS23053/8A/

THIRD ANGLE PROJECTION



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CUSTODIAN: AE-8/AE-8D

PROCUREMENT SPECIFICATION: AS23053

SAE INTERNATIONAL

AEROSPACE STANDARD

INSULATION SLEEVING, ELECTRICAL, HEAT SHRINKABLE, POLYVINYLIDENE FLUORIDE, SEMI-RIGID, CROSSLINKED

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TABLE 1 - CONSTRUCTION DETAILS, INCHES (MM) 1/

PART NUMBER 3/	AS SUPPLIED ID MINIMUM	AFTER UNRESTRICTED SHRINKAGE	
		ID MAXIMUM	WALL THICKNESS 2/
M23053/8-001-C	.046 (1.2)	.023 (0.6)	.010 ± .002 (0.3 ± 0.1)
M23053/8-002-C	.063 (1.6)	.031 (0.8)	.010 ± .002 (0.3 ± 0.1)
M23053/8-003-C	.093 (2.4)	.046 (1.2)	.010 ± .002 (0.3 ± 0.1)
M23053/8-004-C	.125 (3.2)	.062 (1.6)	.010 ± .002 (0.3 ± 0.1)
M23053/8-005-C	.187 (4.7)	.093 (2.4)	.010 ± .002 (0.3 ± 0.1)
M23053/8-006-C	.250 (6.4)	.125 (3.2)	.012 ± .003 (0.3 ± 0.1)
M23053/8-007-C	.375 (9.5)	.187 (4.7)	.012 ± .003 (0.3 ± 0.1)
M23053/8-008-C	.500 (12.7)	.250 (6.4)	.012 ± .003 (0.3 ± 0.1)
M23053/8-009-C	.750 (19.1)	.375 (9.5)	.017 ± .003 (0.4 ± 0.1)
M23053/8-010-C	1.000 (25.4)	.500 (12.7)	.019 ± .003 (0.5 ± 0.1)
M23053/8-011-C	1.500 (38.1)	.750 (19.1)	.020 ± .003 (0.5 ± 0.1)

1/ DIAMETER LIMITS FOR 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. FOR ALTERNATE COLORS, SUBSTITUTE STANDARD COLOR CODE, “C” WITH AN APPROPRIATE CODE PER 1.3.

TABLE 2 - PHYSICAL PROPERTIES

CHARACTERISTIC	REQUIREMENT	TEST PROCEDURE AND CONDITIONS (AS23053)
AS SUPPLIED:		
ID, MIN	TABLE 1	5.3.1
HEAT SHOCK	NO CRACKS, FLOWING, OR DRIPPING	5.8; 572 °F ± 7.2 °F (300 °C ± 4 °C)
SECANT MODULUS, PSI (MPa), MIN	120000 (828)	8.12.1; ASTM D882, 2% STRAIN
RESTRICTED SHRINKAGE	NO CRACKS	5.6; 347 °F ± 4 °F (175 °C ± 2 °C)
VOLTAGE WITHSTAND	PASS	5.6.2.C
CLARITY STABILITY	PASS	5.16; 347 °F ± 4 °F (175 °C ± 2 °C) FOR 24 HOURS
CONCENTRICITY	70% MIN	5.3.4
CRYSTALLINE MELT POINT, °F (°C), MIN	150 (302)	ASTM D4591 1/
AFTER UNRESTRICTED SHRINKAGE:		
ID, MAX	TABLE 1	5.3.2
WALL THICKNESS	TABLE 1	5.3.3
LOW TEMPERATURE FLEXIBILITY 2/	NO CRACKING	5.7.1; -67 °F ± 2 °F (-55 °C ± 1 °C)
TENSILE STRENGTH, PSI (MPa), MIN	5000 (34.5)	5.13; ASTM D638, 2 IN/MIN
ULTIMATE ELONGATION, PERCENT, MIN	150	5.13; ASTM D638, 2 IN/MIN
DIELECTRIC STRENGTH, V/MIL (KV/MM), MIN	800 (31.5) - UP TO AN “AS SUPPLIED ID” OF 0.500 600 (23.6) - AN “AS SUPPLIED ID” OF 0.500 AND ABOVE	5.2; ASTM D2671
VOLUME RESISTIVITY, OHM-CM, MIN	1013	5.2; ASTM D876
SPECIFIC GRAVITY, MAX	1.8	5.2; ASTM D792
WATER ABSORPTION, PERCENT, MAX	0.5	5.2; ASTM D570, 24 HOURS AT 73 °F (23 °C)