

RATIONALE

FEDERAL SUPPLY CLASS
5970

CROSSLINKED ETFE HEAT-SHRINKABLE SLEEVE DETAIL SPECIFICATION IS NOT AVAILABLE. THIS DETAIL SPECIFICATION IS CREATED UNDER THE DIRECTION OF SAE AE-8D COMMITTEE.

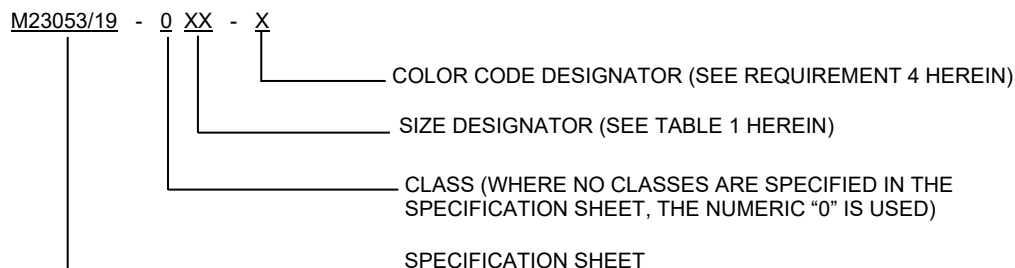
NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS23053.

REQUIREMENTS:

FOR PARAGRAPH NUMBERS WITHOUT A BASE SPECIFICATION NUMBER, AS23053 SHALL APPLY.

1. DIMENSIONS AND PROPERTIES IN INCH/POUND UNITS AND THE FAHRENHEIT TEMPERATURES SHALL BE THE 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: THE BASE POLYMER USED IN FORMULATING THIS SLEEVING SHALL BE ETHYLENE-TETRAFLUOROETHYLENE FLUOROPOLYMER AND SHALL BE CROSSLINKED.
3. CONTINUOUS OPERATING TEMPERATURE RANGE: -85 TO 392 °F (-65 TO 200 °C).
4. STANDARD COLOR: THE SLEEVING SHALL BE FURNISHED IN BLACK WITH THE COLOR CODE 0 (ZERO), TRANSPARENT (C), OR TRANSPARENT BLUE WITH THE COLOR CODE 6 (SIX) (SEE 1.3).
5. LONGITUDINAL CHANGE: -10 TO +5%.
6. PART NUMBER: THE PART NUMBER SHALL BE AS LISTED BELOW:

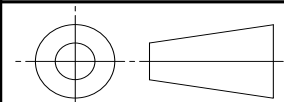


EXAMPLE: .500 INCH (12.7 MM) BLACK AS SUPPLIED ID CROSSLINKED ETFE SLEEVING SHALL BE IDENTIFIED WITH A PART NUMBER: M23053/19-006-0.

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. AS23053/19 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 AT 518 °F ± 2 °F (270 °C ± 5 °C) FOR 10 MINUTES.

For more information on this standard, visit
<https://www.sae.org/standards/content/AS23053/19>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS23053



AEROSPACE STANDARD

INSULATION SLEEVING, ELECTRICAL, HEAT SHRINKABLE, MODIFIED FLUOROPOLYMER, CROSSLINKED, 200 °C

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

PART NUMBER 2/	AS SUPPLIED ID MINIMUM	AFTER UNRESTRICTED SHRINKAGE	
		ID MAXIMUM	WALL THICKNESS 3/
M23053/19-001-*	.063 (1.6)	.031 (0.8)	.012 ± .002 (0.30 ± 0.08)
M23053/19-002-*	.125 (3.2)	.063 (1.6)	.013 ± .003 (0.33 ± 0.10)
M23053/19-003-*	.187 (4.7)	.094 (2.4)	.015 ± .004 (0.37 ± 0.10)
M23053/19-004-*	.250 (6.4)	.125 (3.2)	.017 ± .004 (0.42 ± 0.10)
M23053/19-005-*	.375 (9.5)	.187 (4.7)	.020 ± .004 (0.50 ± 0.10)
M23053/19-006-*	.500 (12.7)	.250 (6.4)	.020 ± .004 (0.50 ± 0.10)
M23053/19-007-*	.625 (15.9)	.313 (7.9)	.023 ± .004 (0.57 ± 0.10)
M23053/19-008-*	.750 (19.1)	.375 (9.5)	.028 ± .004 (0.70 ± 0.10)
M23053/19-009-*	1.000 (25.4)	.500 (12.7)	.032 ± .004 (0.80 ± 0.10)
M23053/19-010-*	1.250 (31.8)	.625 (15.9)	.034 ± .004 (0.85 ± 0.10)
M23053/19-011-*	1.500 (38.1)	.750 (19.1)	.038 ± .004 (0.95 ± 0.10)
M23053/19-012-*	2.000 (50.8)	1.000 (25.4)	.041 ± .004 (1.03 ± 0.10)

1/ DIAMETER LIMITS FOR OBJECT TO BE ENCLOSED SHALL BE AS SPECIFIED IN TECHNICAL DATA.

2/ * SHALL BE REPLACED BY 0 (ZERO) FOR BLACK, C FOR TRANSPARENT, OR 6 (SIX) FOR TRANSPARENT BLUE.

3/ WALL THICKNESS VALUES ARE LESS WHEN SHRINKAGE IS RESTRICTED.

TABLE 2 - PHYSICAL PROPERTIES

CHARACTERISTIC	REQUIREMENT	TEST PROCEDURE AND CONDITIONS (REFER TO AS23053)
AS SUPPLIED:		
ID MINIMUM	TABLE 1	5.3.1
RESTRICTED SHRINKAGE	NO CRACKS	5.6 518 °F ± 4 °F (270 °C ± 2 °C)
CONCENTRICITY, PERCENT, MINIMUM	60	5.3.4 ASTM D2671
AFTER UNRESTRICTED SHRINKAGE:		
ID, MAXIMUM	TABLE 1	5.3.2
WALL THICKNESS	TABLE 1	5.3.3
TENSILE STRENGTH, PSI (MPA), MINIMUM	4000 (27.6)	5.13 ASTM D2671, 2 INCHES/MINUTE
ULTIMATE ELONGATION, PERCENT, MINIMUM	200	5.13 ASTM D2671, 20 INCHES/MINUTE
DIELECTRIC STRENGTH, VOLTS/MIL, (VOLTS/MM) MINIMUM	200 (7.9)	5.2 ASTM D2671
LONGITUDINAL CHANGE, PERCENT	REQUIREMENT 5	5.4 ASTM D2671
WATER ABSORPTION, PERCENT, MAXIMUM	0.5	5.2 ASTM D2671, 24 HOURS AT 73 °F ± 5 °F (23 °C ± 3 °C)
LOW TEMPERATURE FLEXIBILITY	NO CRACKING	5.7.1 4 HOURS AT -85 °F ± 5 °F (-65 °C ± 3 °C)
SPECIFIC GRAVITY, MAXIMUM	2.0	5.2 ASTM D792
SECANT MODULUS, PSI (MPA), MAXIMUM	120000 (828)	5.12.1 ASTM D2671, 2% STRAIN
COLOR STABILITY (APPLICABLE FOR NON-BLACK ONLY)	3.3.2	5.15 347 °F ± 4 °F (175 °C ± 2 °C) FOR 24 HOURS



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