

Superseded



400 COMMONWEALTH DRIVE WARRENDALE PA 15096

AEROSPACE
MATERIAL
SPECIFICATION

AMS 3780

Issued 6-30-60
Revised 10-1-81

COPPER WIRE
Polytetrafluoroethylene Covered, Miniature

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of 10-2-75. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the original issue of the subject specification.

This specification has been declared "CANCELLED" by the Aerospace Materials Division, SAE, as of 10-1-81. By this action, subject specification number and title will be deleted from the active specification index of Aerospace Material Specifications.

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AEROSPACE MATERIAL SPECIFICATIONS

AMS 3780

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

Issued 6-30-50
Revised

COPPER WIRE Polytetrafluoroethylene Covered, Miniature

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily for use in assemblies operating continuously at temperatures between -85 F and 400 F and at up to 300 v, rms, and only where miniaturization precludes the use of larger wires. Care should be taken in the use of this wire to prevent breakage of strands and insulation cut-through.
3. CONSTRUCTION:
 - 3.1 Conductors: Stranded silver-coated and annealed copper wire conforming to ASTM B298-56T, Class A, unless otherwise specified. Splices in individual strands shall be brazed and finished so as not to increase the diameter at point of brazing. No more than one brazed strand shall occur at any one point in the wire. Splices in any strand shall not occur closer together than 10 feet.
 - 3.2 Insulation:
 - 3.2.1 Material: Polytetrafluoroethylene, extruded over the conductor to such concentricity that at any cross-section of the wire the minimum thickness of the insulation shall be not less than 70% of the maximum thickness at that cross-section.
 - 3.2.2 Colors: Shall be black, brown, red, orange, yellow, green, blue, purple, gray, or white, as ordered. One stripe in any distinguishing color may be specified. Color shades shall conform to the limits of MIL-STD-104.

4. DIMENSIONS:

AWG Size	Min Stranding	Max Length of Lay Inch	Nominal Size Circular Mils	Max Conductor Resistance DC at 25 C, ohms per 1000 ft	Nominal Conductor Diameter Inch	Overall Diameter Inch	
						Min	Max
36	7/#44 (0.0020)	0.25	27	439	0.006	0.013	0.018
34	7/#42 (0.0025)	0.25	43	272	0.0075	0.014	0.020
32	7/#40 (0.0031)	0.25	63	179	0.009	0.017	0.023
30	7/#38 (0.0040)	0.25	112	111	0.012	0.020	0.026
28	7/#36 (0.0050)	0.25	175	69	0.015	0.023	0.029
26	7/#34 (0.0063)	0.25	278	42.9	0.019	0.027	0.033
24	19/#36 (0.0050)	0.33	475	26.8	0.025	0.032	0.038
22	19/#34 (0.0063)	0.33	760	16.7	0.032	0.038	0.044

5. TECHNICAL REQUIREMENTS:

- 5.1 Spark Test, v, min 2000

Note 1 Documents



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