MIL-W-22759/11F
10 September 1976
SUPERSEDING
MIL-W-22759/11E
23 April 1976
See also "Supersession Data" on Page 3

MILITARY SPECIFICATION SHEET

# WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, EXTRUDED TFE, SILVER-COATED COPPER CONDUCTOR, 600-VOLT

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The complete requirements for procuring the wire described herein shall consist of this document and the issue in effect of Specification MIL-W-22759.

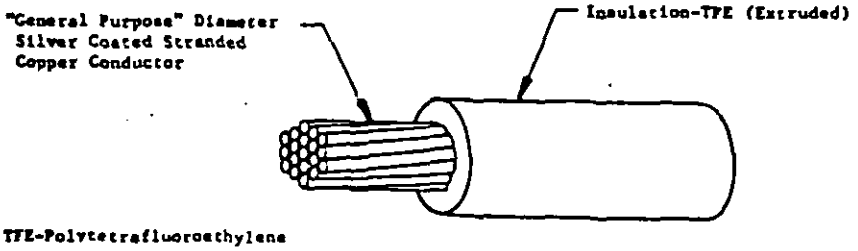



TABLE I. CONSTRUCTION DETAILS

| Part No. 1/ | Wire size | Stranding (Number of strands X AWG gage of strands) | Diameter of stranded conductor (inches) | | Finished wire | | |
|---|---|---|---|---|---|---|---|
| | | | (min) | (max) | Resistance at 20°C (68°F) (ohms/1000 ft) (max) | Diameter (inches) | Weight (lbs/1000 ft) (max) |
| M22759/11-28-* | 28 | 7 X 36 | .014 | .015 | 63.8 | .033 ±.002 | 1.36 |
| M22759/11-26-* | 26 | 19 X 38 | .018 | .020 | 38.4 | .038 ±.002 | 1.90 |
| M22759/11-24-* | 24 | 19 X 36 | .023 | .025 | 24.3 | .043 ±.002 | 2.58 |
| M22759/11-22-* | 22 | 19 X 34 | .029 | .032 | 15.1 | .049 ±.002 | 3.72 |
| M22759/11-20-* | 20 | 19 X 32 | .037 | .040 | 9.19 | .058 ±.002 | 5.43 |
| M22759/11-18-* | 18 | 19 X 30 | .046 | .050 | 5.79 | .068 ±.002 | 8.14 |
| M22759/11-16-* | 16 | 19 X 29 | .052 | .057 | 4.52 | .075 ±.002 | 10.0 |
| M22759/11-14-* | 14 | 19 X 27 | .065 | .072 | 2.88 | .090 ±.002 | 15.1 |
| M22759/11-12-* | 12 | 19 X 25 | .082 | .090 | 1.81 | .111 ±.003 | 24.1 |
| M22759/11-10-* | 10 | 37 X 26 | .106 | .112 | 1.19 | .139 ±.004 | 37.8 |
| M22759/11-8-* | 8 | 133 X 29 | .158 | .169 | .658 | .202 ±.004 | 65.5 |

1/ PART NO.: The asterisks in the part number column, Tables I through III, shall be replaced by color code designators in accordance with MIL-STD-681. Examples: Size 20, white - M22759/11-20-9; white with orange stripe - M22759/11-20-93.

(F) denotes changes



FSC 6145

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TABLE II. PERFORMANCE DETAILS

| Part No. | Abrasion resistance (Procedure II) | | | | Bend testing. | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Mandrel diameter (inches) (±II) | | Test load (lbs) (±II) | |
| | Resistance (inches of tape) (min) (initial condition) | Weight support bracket | Weight (lbs) | Tension load (lbs) | Life cycle (oven & bend tests) 1/ | Cold bend test | Life cycle (oven & bend tests) 1/ | Cold bend test |
| M22759/11-28-* | 12 | A | .50 | 1.0 | .125 | .250 | .50 | |
| M22759/11-26-* | 18 | A | .50 | 1.0 | .125 | .250 | .50 | |
| M22759/11-24-* | 18 | A | .50 | 1.0 | .125 | .250 | .50 | |
| M22759/11-22-* | 24 | A | .50 | 1.0 | .250 | .375 | .75 | |
| M22759/11-20-* | 24 | A | .50 | 1.0 | .250 | .375 | .75 | |
| M22759/11-18-* | 20 | B | .75 | 1.0 | .250 | .375 | 1.00 | |
| M22759/11-16-* | 20 | B | .75 | 2.0 | .375 | .500 | 1.00 | |
| M22759/11-14-* | 15 | B | 1.00 | 2.0 | .500 | .750 | 2.00 | |
| M22759/11-12-* | 15 | B | 1.00 | 2.0 | .500 | .750 | 2.00 | |
| M22759/11-10-* | 15 | B | 1.00 | 2.0 | .750 | 1.00 | 3.00 | |
| M22759/11-8-* | 15 | B | 1.00 | 2.0 | .750 | 1.00 | 3.00 | |

1/ Also for bend tests after immersion.

## ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 200°C (392°F) max conductor temperature
VOLTAGE RATING: 600 volts (rms) at sea level
SPARK TEST OF PRIMARY INSULATION: Not required
(F) IMPULSE DIELECTRIC TEST: 100% test; 8.0 kilovolts (peak) for sizes 18 and smaller, 6.5 kilovolts (peak) for sizes 16 and larger
INSULATION RESISTANCE: 50,000 megohms for 1000 ft (min)
WRAP TEST: "Wrap back" test required; no cracking
Oven temperature, 313 ±2°C (595.4 ±3.6°F)
BLOCKING: 260 ±2°C (500 ±3.6°F)
SHRINKAGE: 0.03 inch max at 290 ±2°C (554 ±3.6°F)
WICKING: No requirement
LOW TEMPERATURE (COLD BEND):
Bend temperature: -65 ±2°C (-85 ±3.6°F)
Dielectric test, 2200 volts (rms), 60Hz
THERMAL SHOCK: Oven temperature, 200 ±2°C (392 ±3.6°F)
Max change in measurement, 0.06 inch
FLAMMABILITY: Post-flame dielectric test not required
LIFE CYCLE: Oven temperature 275 ±2°C (527 ± 3.6°F)
Dielectric test, 2200 volts (rms), 60Hz
DIELECTRIC TEST AFTER IMMERSION: 2200 volts (rms), 60Hz
ABRASION RESISTANCE AFTER IMMERSION: No requirement
HUMIDITY RESISTANCE: No requirement
SURFACE RESISTANCE: 500 megohm-inches (min), initial and final readings
SMOKE: 290°C (554°F)
ACID RESISTANCE: Required
Dielectric test, 2200 volts (rms), 60Hz
COLOR: In accordance with MIL-STD-104, Class 1; white preferred

COLOR STRIPING OR BANDING DURABILITY: 250 cycles (500 strokes) (min), 500 grams weight
IDENTIFICATION DURABILITY: 125 cycles (250 strokes) (min), 500 grams weight
WIRE LENGTH REQUIREMENTS: Schedule A
SUPERSESSION DATA: The wire of this specification sheet, by part number, replaces and supersedes the wire of MS21985(AS) (canceled) in accordance with Table III. MS21985(AS) included wire sizes 18 through 16 only.



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TABLE III. SUPERSESSION BY PART NUMBER

| Part number MS21985(AS) | Part number MIL-W-22759/11 |
|---|---|
| MS21985-28-* | M22759/11-28-* |
| MS21985-26-* | M22759/11-26-* |
| MS21985-24-* | M22759/11-24-* |
| MS21985-22-* | M22759/11-22-* |
| MS21985-20-* | M22759/11-20-* |
| MS21985-18-* | M22759/11-18-* |
| MS21985-16-* | M22759/11-16-* |

Custodians:
Navy - AS
Army - EL
Air Force - 99

Review activities:
Navy - EC, OS
Army - ME, MI, MU
Air Force -
DSA - IS
NSA

Preparing activity:
Navy - AS
(Project No. 6145-0701-5)

User activities:
Navy - MC
Army - AT, AV
Air Force - 11



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|---|---|
| | ☐ VENDOR |
| b. ADDRESS *(Street, City, State, ZIP Code)* | ☐ USER |
| | ☐ MANUFACTURER |
| | ☐ OTHER *(Specify)*: _____ |

**5. PROBLEM AREAS**

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

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