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REV.  
A

AS22759™/8

FEDERAL SUPPLY CLASS  
6145

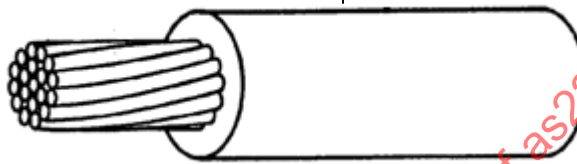
#### RATIONALE

SPECIFICATION UPDATED TO INCLUDE AS29606 CONDUCTOR REQUIREMENTS, ROHS RESTRICTIONS AND AS22759 MODIFICATIONS. THIS CHANGE ALSO INCREASES THE MAXIMUM WEIGHT REQUIREMENTS FOR WIRE SIZES 8 THROUGH 4 TO ACCOUNT FOR INCREASED CIRCULAR MIL AREA (CMA) ADOPTED IN AS29606 AND REMOVED THE WICKING REQUIREMENT SINCE WEIGHT CHANGE IS NO LONGER A CONSIDERATION IN THE TEST METHOD.

#### NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22759.

PTFE EXTRUDED, REINFORCED WITH  
ABRASION RESISTANT MINERAL FILLERS



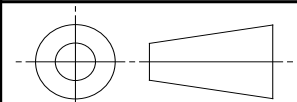
PTFE – POLYTETRAFLUOROETHYLENE  
CONDUCTOR – STRANDED NICKEL COATED COPPER

NOTE: OUTER SURFACE IS SMOOTH, HOMOGENEOUS PTFE WITH NO MINERAL FILLER EXPOSED.

**FIGURE 1 - AS22759/8 CONFIGURATION**

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on this Technical Report, please visit  
<http://www.sae.org/technical/standards/AS22759/8A>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8D



#### AEROSPACE STANDARD

(R) WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED,  
ABRASION RESISTANT EXTRUDED PTFE MEDIUM WEIGHT,  
NICKEL-COATED COPPER CONDUCTOR, 600 VOLT, ROHS

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**TABLE 1 - CONSTRUCTION DETAILS FOR FINISHED WIRE**

| PART NO. 1/   | WIRE SIZE | STRANDING<br>(NUMBER OF STRANDS X SIZE GAUGE OF STRANDS) | DIAMETER OF STRANDED CONDUCTOR (INCHES) |       | FINISHED WIRE                                    |                   |                             |
|---------------|-----------|----------------------------------------------------------|-----------------------------------------|-------|--------------------------------------------------|-------------------|-----------------------------|
|               |           |                                                          | (MIN)                                   | (MAX) | RESISTANCE AT 20 °C (68 °F) (OHMS/1000 FEET) MAX | DIAMETER (INCHES) | WEIGHT (LB/1000 FEET) (MAX) |
| M22759/8-24-* | 24        | 19 X 36                                                  | .0225                                   | .0264 | 25.9                                             | .062 ± .002       | 4.3                         |
| M22759/8-22-* | 22        | 19 X 34                                                  | .0285                                   | .0334 | 16.0                                             | .073 ± .002       | 6.0                         |
| M22759/8-20-* | 20        | 19 X 32                                                  | .0365                                   | .0414 | 9.77                                             | .082 ± .002       | 8.1                         |
| M22759/8-18-* | 18        | 19 X 30                                                  | .0455                                   | .0514 | 6.10                                             | .092 ± .002       | 11.0                        |
| M22759/8-16-* | 16        | 19 X 29                                                  | .0515                                   | .0584 | 4.76                                             | .102 ± .003       | 13.8                        |
| M22759/8-14-* | 14        | 19 X 27                                                  | .0645                                   | .0734 | 3.00                                             | .115 ± .003       | 18.6                        |
| M22759/8-12-* | 12        | 19 X 25                                                  | .0815                                   | .0924 | 1.89                                             | .134 ± .003       | 28.5                        |
| M22759/8-10-* | 10        | 37 X 26                                                  | .106                                    | .114  | 1.24                                             | .158 ± .004       | 41.8                        |
| M22759/8-8-*  | 8         | 133 X 29                                                 | .158                                    | .173  | .694                                             | .220 ± .005       | 76.8                        |
| M22759/8-6-*  | 6         | 133 X 27                                                 | .198                                    | .217  | .436                                             | .270 ± .006       | 117.                        |
| M22759/8-4-*  | 4         | 133 X 25                                                 | .250                                    | .274  | .275                                             | .328 ± .007       | 177.                        |

1/ PART NUMBER: THE ASTERISKS IN THE PART NUMBER COLUMN, TABLES 1 AND 3, SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: SIZE 20, WHITE-M22759/8-20-9; WHITE WITH ORANGE STRIPE – M22759/8-20-93. PRINTING OF COLOR CODE DESIGNATOR ON SURFACE OF WIRE INSULATION IS NOT REQUIRED.

2/ CONDUCTOR SHALL CONFORM TO AS29606 TYPE NCC GENERAL PURPOSE NICKEL PLATED COPPER CONDUCTOR.

REQUIREMENT: ALL REQUIREMENTS SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS22759.

1. WIRE CONSTRUCTION:

WIRE CONSTRUCTION SHALL BE IN ACCORDANCE WITH FIGURE 1 AND TABLES 1, 2, 3, AND 4.

2. WIRE PERFORMANCE RATING:

TEMPERATURE RATING: 260 °C (500 °F) MAXIMUM CONDUCTOR CONTINUOUS TEMPERATURE.

VOLTAGE RATING: 600 VOLTS (RMS) AT SEA LEVEL. THIS INSULATION SYSTEM HAS BEEN USED IN AEROSPACE APPLICATIONS USING 115 VOLTS (PHASE TO NEUTRAL), 400 HERTZ AC AND 28 VOLTS DC. VERIFICATION OF THE SUITABILITY OF THIS PRODUCT FOR USE IN OTHER ELECTRICAL SYSTEM CONFIGURATIONS IS THE RESPONSIBILITY OF THE USER.

3. MATERIALS AND PHYSICAL PROPERTIES:

SEE AS22759 FOR MATERIAL REQUIREMENT. MATERIALS USED IN THE MANUFACTURE OF THESE PRODUCTS SHALL COMPLY WITH THE RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE 2002/95/EC.

4. FINISHED WIRE INSULATION PROPERTIES:

FINISHED WIRE INSULATION PROPERTIES SHALL BE IN ACCORDANCE WITH TABLE 2.

**TABLE 2 - FINISHED WIRE INSULATION PROPERTIES REQUIREMENTS**

| INSULATION PROPERTIES         |                                   |
|-------------------------------|-----------------------------------|
| IMPULSE TEST VOLTAGE          | 8.0 KILOVOLTS (PEAK)              |
| HIGH FREQUENCY TEST VOLTAGE   | 5.7 KILOVOLTS (RMS)               |
| INSULATION BLOCKING           | 260 °C ± 2 °C (500 °F ± 3.6 °F)   |
| SHRINKAGE                     | 313 °C ± 2 °C (595.4 °F ± 3.6 °F) |
|                               | MAXIMUM CHANGE .125 INCHES        |
| ELECTRICAL RESISTANCE (IR)    | 50,000 MEGOHMS (MIN) - 1,000 FEET |
| ELECTRICAL SURFACE RESISTANCE | 500 MEGOHMS - INCHES (MIN)        |
| WET DIELECTRIC VOLTAGE        | 3,000 VOLTS (RMS), 60 HERTZ       |
| CONTINUOUS LENGTH SCHEDULE    | A                                 |

|                                                                                     |                                                                                                                                             |                                   |                         |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------|
|  | <b>AEROSPACE STANDARD</b>                                                                                                                   | <b>AS22759™/8</b><br>SHEET 2 OF 3 | <b>REV.</b><br><b>A</b> |
|                                                                                     | (R) WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, ABRASION RESISTANT EXTRUDED PTFE MEDIUM WEIGHT, NICKEL-COATED COPPER CONDUCTOR, 600 VOLT, ROHS |                                   |                         |