

NOTICE

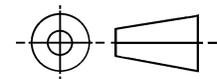
THIS DOCUMENT HAS BEEN TAKEN DIRECTLY FROM U.S. MILITARY SPECIFICATION MIL-W-22759/19A AND CONTAINS ONLY MINOR EDITORIAL AND FORMAT CHANGES REQUIRED TO BRING IT INTO CONFORMANCE WITH THE PUBLISHING REQUIREMENTS OF SAE TECHNICAL STANDARDS. THE INITIAL RELEASE OF THIS DOCUMENT IS INTENDED TO REPLACE MIL-W-22759/19A. ANY PART NUMBERS ESTABLISHED BY THE ORIGINAL SPECIFICATION REMAIN UNCHANGED.

THE ORIGINAL MILITARY SPECIFICATION WAS ADOPTED AS AN SAE STANDARD UNDER THE PROVISIONS OF THE SAE TECHNICAL STANDARDS BOARD (TSB) RULES AND REGULATIONS (TSB 001) PERTAINING TO ACCELERATED ADOPTION OF GOVERNMENT SPECIFICATIONS AND STANDARDS. TSB RULES PROVIDE FOR (A) THE PUBLICATION OF PORTIONS OF UNREVISED GOVERNMENT SPECIFICATIONS AND STANDARDS WITHOUT CONSENSUS VOTING AT THE SAE COMMITTEE LEVEL, AND (B) THE USE OF THE EXISTING GOVERNMENT SPECIFICATION OR STANDARD FORMAT.

UNDER DEPARTMENT OF DEFENSE POLICIES AND PROCEDURES, ANY QUALIFICATION REQUIREMENTS AND ASSOCIATED QUALIFIED PRODUCTS LISTS ARE MANDATORY FOR DOD CONTRACTS. ANY REQUIREMENT RELATING TO QUALIFIED PRODUCTS LISTS (QPL'S) HAS NOT BEEN ADOPTED BY SAE AND IS NOT PART OF THIS SAE TECHNICAL DOCUMENT.

SAENORM.COM : Click to view the full PDF of as22759-19

THIRD ANGLE PROJECTION



ISSUED 2001-07 REAFFIRMED 2008-03

AS22759/19

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user." SAE reviews each technical report at least every five years at which time it may be reaffirmed, revised, or cancelled. SAE invites your written comments and suggestions.

PREPARED BY SAE SUBCOMMITTEE AE-8D



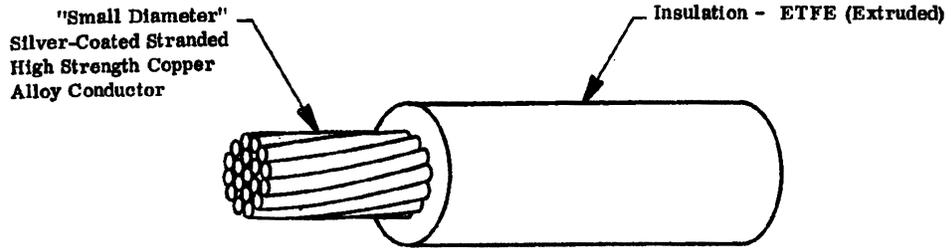
**AEROSPACE STANDARD**

WIRE, ELECTRIC, FLUOROPOLYMER-INSULATED, EXTRUDED  
ETFE, LIGHT WEIGHT, SILVER-COATED HIGH STRENGTH  
COPPER ALLOY CONDUCTOR, 600-VOLT, 150°C

**AS22759/19**  
SHEET 1 OF 4

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

AS22759/19



ETFE - Ethylene-Tetrafluoroethylene Copolymer

TABLE I. CONSTRUCTION DETAILS.

Part No. <sup>1/</sup>	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)
M22759/19-26-*	26	19 X 38	.018	.020	44.8	.032 ± .002	1.41
M22759/19-24-*	24	19 X 36	.023	.024	28.4	.036 ± .002	1.99
M22759/19-22-*	22	19 X 34	.029	.031	17.5	.043 ± .002	2.98
M22759/19-20-*	20	19 X 32	.037	.039	10.7	.051 ± .002	4.59

<sup>1/</sup> PART NO.: The asterisks in the part number column, Tables I and II, shall be replaced by color code designators in accordance with MIL-STD-681. Examples: Size 20, white - M22759/19-20-9; white with orange stripe - M22759/19-20-93.

TABLE II. BEND TEST MANDRELS AND TEST LOADS.

Part No.	Mandrel diameter (inches) (±3%)		Test load (lbs) (±3%)	
	Life cycle test and short-term thermal stability test <u>1</u> /	Cold bend test	Life cycle test and short-term thermal stability test <u>1</u> /	Cold bend test
M22759/19-26-*	.50	.50	.25	0.5
M22759/19-24-*	.50	.50	.38	0.5
M22759/19-22-*	.75	.75	.38	1.0
M22759/19-20-*	.75	.75	.38	1.0

1/ Also for bend tests after immersion.

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C (302°F) max conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

SHORT-TERM THERMAL STABILITY: 7 hours at 230 ±2°C (446 ±3.6°F). Quality conformance test, Group II; test procedure and requirements as in life cycle test except for time and temperature of oven exposure

ACID RESISTANCE: No requirement

BLOCKING: 200 ±2°C (392 ±3.6°F)

COLOR: In accordance with MIL-STD-104, Class 1; white preferred

COLOR STRIPING OR BANDING DURABILITY: 125 cycles (250 strokes) (min), 500 grams weight

DIELECTRIC TEST AFTER IMMERSION: 2000 volts (rms), 60Hz

FLAMMABILITY:

Vertical flame test (see page 4); 2 sec (max) after-flame, 5.50 in. (max) burn length  
Post-flame dielectric test not required

HUMIDITY RESISTANCE: 5000 megohms for 1000 ft, min insulation resistance after humidity exposure

IDENTIFICATION OF PRODUCT: Required. Shall be by ink printing only

IDENTIFICATION DURABILITY: 125 cycles (250 strokes) (min), 500 grams weight

IMPULSE DIELECTRIC TEST: 8.0 kilovolts (peak), 100% test

INSULATION RESISTANCE, INITIAL: 5000 megohms for 1000 ft (min)

LIFE CYCLE:

Oven temperature, 200 ±2°C (392 ±3.6°F)  
Dielectric test, 2000 volts (rms), 60Hz

LOW TEMPERATURE (COLD BEND):

Bend temperature: -65 ±2°C (-85 ±3.6°F)  
Dielectric test, 2000 volts (rms), 60Hz

SHRINKAGE: 0.125 inch max at 200 ±2°C (392 ±3.6°F)

SMOKE: 200°C (392°F)