

REV.
B

AS22759/90

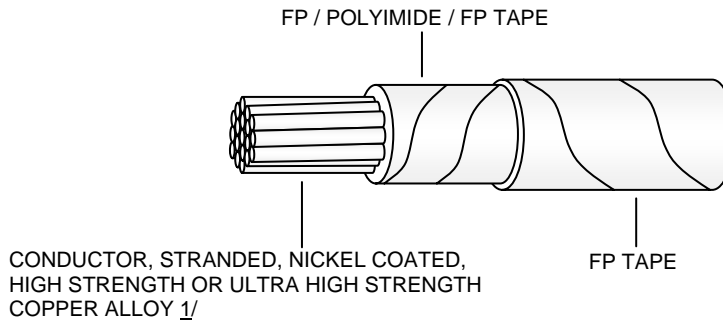
FEDERAL SUPPLY CLASS
6145

RATIONALE

TOTAL REVISION AND UPDATE WORD-FOR-WORD MIL SPECIFICATIONS CONVERTED TO SAE STANDARDS.

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION: AS22759.

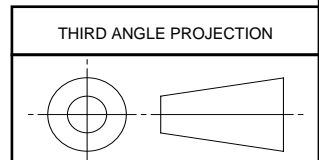
THIS SPECIFICATION IS NOT INTENDED FOR USE IN NAVAL AIRCRAFT OR NAVAL AIR SYSTEMS APPLICATIONS.



FP – FLUOROCARBON POLYMER, MODIFIED
POLYTETRAFLUOROETHYLENE (PTFE)

1/ ALLOY CONDUCTOR: THE SIZE 26 CONDUCTOR SHALL BE ULTRA-HIGH STRENGTH COPPER ALLOY. THE BREAKING STRENGTH SHALL BE 21.5 LB (MIN) AND THE CONDUCTOR ELONGATION 6.0% (MIN). ALL OTHER GAUGE SIZES SHALL BE HIGH STRENGTH COPPER ALLOY IN ACCORDANCE WITH AS22759.

FIGURE 1 - GENERAL CONFIGURATION



CUSTODIAN: SAE AE-8/AE-8D

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AEROSPACE STANDARD

(R) WIRE, ELECTRICAL, POLYTETRAFLUOROETHYLENE/
POLYIMIDE INSULATED, NORMAL WEIGHT, NICKEL
COATED, HIGH STRENGTH OR ULTRA HIGH STRENGTH
COPPER, ALLOY, 260 °C, 600 VOLTS

AS22759/90
SHEET 1 OF 6

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ISSUED 2000-06 REVISED 2006-12

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TABLE 1 - CONSTRUCTION DETAILS

PART NO. ^{1/}	WIRE SIZE	CONDUCTOR				FINISHED WIRE				
		STRANDING (NUMBER OF STRANDS X AWG GAUGE OF STRANDS)	DIAMETER (IN)		RESISTANCE AT 20 °C (68 °F) (OHMS/1000 FT MAX)	DIAMETER (IN)		WEIGHT (LB/1000 FT) ^{2/}		
			MIN	MAX		MIN	MAX	MIN	TARGET	MAX
M22759/90-26-*	26	19 X 38	0.0175	0.0204	58.4	0.033	0.037	1.34	1.47	1.60
M22759/90-24-*	24	19 X 36	0.0225	0.0254	30.1	0.038	0.042	1.87	2.04	2.20
M22759/90-22-*	22	19 X 34	0.0285	0.0314	18.6	0.043	0.047	2.70	2.90	3.10
M22759/90-20-*	20	19 X 32	0.0365	0.0404	11.4	0.051	0.055	4.25	4.45	4.65

^{1/} PART NUMBER: THE ASTERISKS IN THE PART NUMBER COLUMN OF TABLE 1 SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: M22759/90-20-93 IS A 20 AWG WHITE WITH ORANGE STRIPE.

^{2/} THE ACCEPTABLE VALUE FOR THE CPK FOR THE FINISHED WIRE WEIGHT LISTED SHALL BE 1.3, USING A NORMAL (GAUSSIAN) DISTRIBUTION TO OBTAIN THOSE CPK VALUES.

TABLE 2 - WIRE INSULATION MATERIALS ^{1/}

TAPE CODE	THICKNESS (NOM)	MATERIAL
1	0.0020	0.0005 (FP)/0.0010 (POLYIMIDE)/0.0005 (FP)
2	0.0020	FP (UNSINTERED)

^{1/} PHYSICAL PROPERTIES OF FP TAPES SHALL BE IN ACCORDANCE WITH AS22759 REQUIREMENTS.

TABLE 3 - PHYSICAL PROPERTIES OF FP/POLYIMIDE/FP TAPES

TENSILE STRENGTH	19,000 LB/IN SQ (AVERAGE MINIMUM)
TENSILE MODULUS	350,000 LB/IN SQ (AVERAGE MINIMUM)
ELONGATION	40 PERCENT (AVERAGE MINIMUM)
DIELECTRIC STRENGTH	4,000 VOLTS/MIL (AVERAGE MINIMUM)
0.0005 FP LAYER (BOTTOM)	DISTINGUISHABLE COLOR (NEXT TO CONDUCTOR) MAY BE USED AT MANUFACTURER'S OPTION

TABLE 4 - TAPE OVERLAP REQUIREMENTS ^{1/}

WIRE SIZE	WRAP 1				WRAP 2				NOMINAL WALL THICKNESS (MILS)
	TAPE CODE	PERCENT OVERLAP		TAPE CODE	PERCENT OVERLAP				
		MIN	MAX		MIN	MAX			
26	1	50.5	54.0	2	50.5	54.0	7.4		
24	1	50.5	54.0	2	50.5	54.0	7.4		
22	1	50.5	54.0	2	50.5	54.0	7.4		
20	1	50.5	54.0	2	50.5	54.0	7.4		

^{1/} WRAP 1 IS INNERMOST TAPE WHICH IS IN CONTACT WITH THE CONDUCTOR.