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REV.
A

AS81044™/10

FEDERAL SUPPLY CLASS
6145

RATIONALE

AS81044/10A HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

NOTICE

THE REQUIREMENTS FOR ACQUIRING THE COMPONENTS DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION AND THE LATEST ISSUE OF AS81044.

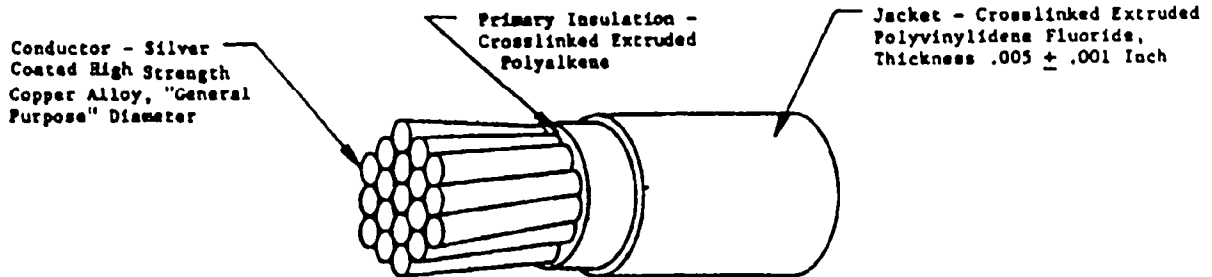


FIGURE 1 – AS81044/10 CONSTRUCTION

TABLE 1 – 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)	
							(NOM) 2/	(MAX)
M81044/10-26-*	26	19 X 38	.018	.020	44.8	.048 ± .002	1.8	1.9
M81044/10-24-*	24	19 X 36	.023	.025	28.4	.054 ± .002	2.5	2.7
M81044/10-22-*	22	19 X 34	.029	.032	17.5	.062 ± .003	3.7	3.9
M81044/10-20-*	20	19 X 32	.037	.040	10.7	.070 ± .003	5.3	5.5

1/ PART NO.: THE ASTERISKS IN THE PART NUMBER COLUMN, TABLES 1 AND 2, SHALL BE REPLACED BY COLOR CODE DESIGNATORS IN ACCORDANCE WITH MIL-STD-681. EXAMPLES: SIZE 20, WHITE – M81044/10-20-9; WHITE WITH ORANGE STRIPE – M81044/10-20-93.

2/ NOMINAL VALUES ARE FOR INFORMATION ONLY. NOMINAL VALUES ARE NOT REQUIREMENTS.

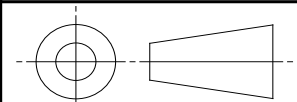
TABLE 2 – PERFORMANCE DETAILS

PART NO.	BEND TESTING				
	MANDREL DIAMETER (INCHES) (±3%)			TEST LOAD (LBS) (±3%)	
	LIFE CYCLE TEST AND ACCELERATED AGING TEST 1/	COLD BEND TEST	WRAP TEST	LIFE CYCLE TEST AND ACCELERATED AGING TEST 1/	COLD BEND TEST
M81044/10-26-*	.58	1.0	.25	0.5	3.0
M81044/10-24-*	.50	1.0	.25	0.5	3.0
M81044/10-22-*	.75	1.0	.25	1.5	3.0
M81044/10-20-*	.75	1.0	.25	2.0	4.0

1/ ALSO FOR BEND TESTS AFTER IMMERSION.

For more information on this standard, visit
<https://www.sae.org/standards/content/AS81044/10A/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS81044



AEROSPACE STANDARD

WIRE, ELECTRIC,
CROSSLINKED POLYALKENE INSULATED,
SILVER-COATED HIGH STRENGTH COPPER ALLOY,
MEDIUM WEIGHT, 600 VOLT, 150 °C

AS81044™/10
SHEET 1 OF 2

REV.
A

Documents

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WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150 °C (302 °F) MAX CONDUCTOR 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.

ACCELERATED AGING: OVEN TEMPERATURE, 300 $\pm$ 2 °C (572 $\pm$ 3.6 °F) FOR 6 HOURS; FOR IDENTIFICATION LEGIBILITY, 225 $\pm$ 2 °C (437 $\pm$ 3.6 °F) FOR 6 HOURS

BLOCKING: 150° $\pm$ 2 °C (302° $\pm$ 4 °F)

COLOR: IN ACCORDANCE WITH MIL-STD-104, CLASS 1; WHITE PREFERRED

FLAMMABILITY: 30 SECONDS (MAX); 3.0 INCHES (MAX); NO FLAMING OF TISSUE PAPER

HUMIDITY RESISTANCE: 5000 MEGOHMS FOR 1000 FT, MIN INSULATION RESISTANCE AFTER HUMIDITY EXPOSURE

IDENTIFICATION, STRIPING, OR BANDING DURABILITY: 125 CYCLES (250 STROKES) (MIN), 500 GRAMS WEIGHT

IMPULSE DIELECTRIC TEST:

PRIMARY INSULATION (WHEN TEST IS USED IN LIEU OF SPARK TEST): 6.0 KILOVOLTS (PEAK), 100% TEST

FINISHED WIRE: 8.0 KILOVOLTS (PEAK), 100% TEST

INSULATION RESISTANCE: 5000 MEGOHMS FOR 1000 FT (MIN)

LIFE CYCLE: OVEN TEMPERATURE, 200 $\pm$ 2 °C (392 $\pm$ 3.6 °F) FOR 168 HOURS

PHYSICAL PROPERTIES OF PRIMARY INSULATION (PULLED AT 2 INCHES PER MINUTE):

TENSILE STRENGTH, 2500 PSI (MIN)

ELONGATION, 150% (MIN)

POLYIMIDE CURE TEST: NOT APPLICABLE

SHRINKAGE: 0.125 INCH MAX AT 300 $\pm$ 2 °C (572 $\pm$ 3.6 °F)

SMOKE: 200 $\pm$ 2 °C (392 $\pm$ 3.6 °F)

SPARK TEST OF PRIMARY INSULATION: 3000 VOLTS (RMS), 60Hz, 100% TEST

SURFACE RESISTANCE: 500 MEGOHMS-INCHES (MIN), INITIAL AND FINAL READINGS

THERMAL SHOCK: OVEN TEMPERATURE, 150 $\pm$ 2 °C (302 $\pm$ 3.6 °F)

MAX CHANGE IN MEASUREMENT: 0.060 INCH

WET DIELECTRIC TEST: 2500 VOLTS (RMS)

WICKING: 2.25 INCHES (MAX)

WRAP TEST: MANDREL WRAP TEST REQUIRED

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	AEROSPACE STANDARD	AS81044™/10 SHEET 2 OF 2	REV. A
	WIRE, ELECTRIC, CROSSLINKED POLYALKENE INSULATED, SILVER-COATED HIGH STRENGTH COPPER ALLOY, MEDIUM WEIGHT, 600 VOLT, 150 °C		



Documents

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