

NOTICE

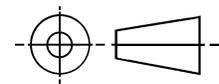
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THIRD ANGLE PROJECTION



ISSUED 1998-08 REAFFIRMED 2004-06

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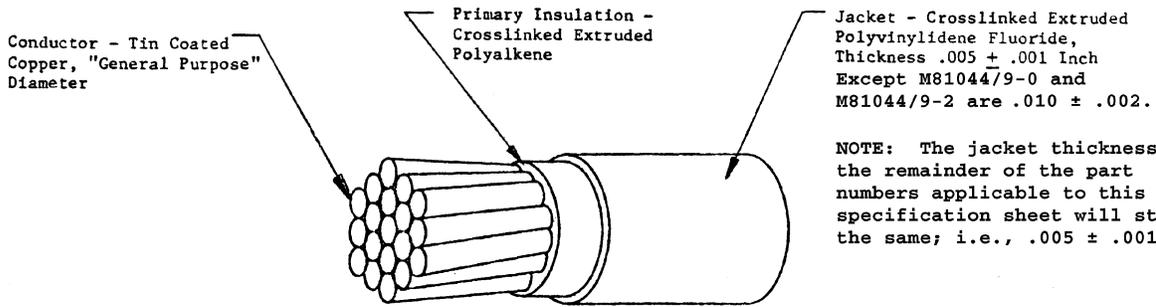
AEROSPACE STANDARD

WIRE, ELECTRIC, CROSSLINKED POLYALKENE
INSULATED, TIN-COATED COPPER, MEDIUM WEIGHT,
600-VOLT, 150°C

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THE COMPLETE REQUIREMENTS FOR PROCURING THE WIRE DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE ISSUE IN EFFECT OF SPECIFICATION MIL-W-81044.

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NOTE: The jacket thickness for the remainder of the part numbers applicable to this specification sheet will stay the same; i.e., .005 ± .001.

TABLE I. CONSTRUCTION DETAILS

Part No. <u>1</u> /	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) <u>2</u> /	(max)
M81044/9-24-*	24	19 X 36	.023	.026	26.2	.054 ±.002	2.5	2.7
M81044/9-22-*	22	19 X 34	.029	.033	16.2	.062 ±.003	3.7	3.9
M81044/9-20-*	20	19 X 32	.037	.041	9.88	.070 ±.003	5.3	5.5
M81044/9-18-*	18	19 X 30	.046	.051	6.23	.080 ±.003	7.7	8.0
M81044/9-16-*	16	19 X 29	.052	.058	4.81	.089 ±.004	9.6	10.1
M81044/9-14-*	14	19 X 27	.065	.073	3.06	.108 ±.004	14.8	15.5
M81044/9-12-*	12	37 X 28	.084	.090	2.02	.126 ±.004	21.6	23.0
M81044/9-10-*	10	37 X 26	.106	.114	1.26	.155 ±.005	34.0	35.7
M81044/9-8-*	8	133 X 29	.158	.173	0.701	.214 ±.006	59.7	62.8
M81044/9-6-*	6	133 X 27	.198	.217	0.445	.264 ±.007	91.4	99.3
M81044/9-4-*	4	133 X 25	.250	.274	0.280	.320 ±.008	145.	153.
M81044/9-2-*	2	665 X 30	.320	.340	0.183	.400 ±.012	227.	247.
M81044/9-0-*	0	1045 X 30	.405	.425	0.116	.490 ±.016	347.	377.

1/ 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 - M81044/9-20-9; white with orange stripe - M81044/9-20-93.

2/ Nominal values are for information only. Nominal values are not requirements.

TABLE II. PERFORMANCE DETAILS

Part No.	Abrasion resistance (Procedure I)				Bend testing				
	Resistance (inches of tape) (min) (initial and after immersion)	Weight support bracket	Weight (lbs)	Tension load (lbs)	Mandrel diameter (inches) (+3%)			Test load (lbs) (+3%)	
					Life cycle test and accelerated aging test <u>1</u> /	Cold bend test	Wrap test	Life cycle test and accelerated aging test <u>1</u> /	Cold bend test
M81044/9-24-*	12	A	1.0	1.0	.50	1.0	.250	0.5	3.0
M81044/9-22-*	22	A	1.0	1.0	.75	1.0	.250	1.5	3.0
M81044/9-20-*	22	A	1.0	1.0	.75	1.0	.250	2.0	4.0
M81044/9-18-*	22	A	1.0	1.0	1.00	1.5	.375	2.0	4.0
M81044/9-16-*	30	A	1.0	2.0	1.00	1.5	.375	2.0	5.0
M81044/9-14-*	13	B	3.0	2.0	1.50	2.0	.50	2.0	5.0
M81044/9-12-*	17	B	3.0	2.0	2.0	2.0	.50	2.0	5.0
M81044/9-10-*	20	B	3.0	3.0	3.0	3.0	.75	2.0	5.0
M81044/9-8-*	25	B	3.0	3.0	3.0	4.0	.75	3.0	6.0
M81044/9-6-*	25	C	3.0	4.0	4.0	5.0	1.00	3.0	10.0
M81044/9-4-*	33	C	4.25	4.0	5.0	6.0	1.25	3.0	10.0
M81044/9-2-*	34	C	4.25	5.0	6.0	8.0	3.0	4.0	15.0
M81044/9-0-*	48	C	4.25	5.0	8.0	10.0	4.0	4.0	15.0

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

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

BLOCKING: 225 ±2°C (437 ±3.6°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 ±2°C (392 ±3.6°F) FOR 168 HOURS

PHYSICAL PROPERTIES OF PRIMARY INSULATION: TENSILE STRENGTH: 2500 PSI (MIN) FOR SIZES 24 THROUGH 12
2000 PSI (MIN) FOR SIZES 10 THROUGH 0
ELONGATION, 150% (MIN), ALL SIZES

POLYIMIDE CURE TEST: NOT APPLICABLE

PROPELLANT RESISTANCE: TEST REQUIRED



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