

REV.
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AS81044™/12

FEDERAL SUPPLY CLASS
6145

RATIONALE

AS81044/12A HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE WIRE DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE ISSUE IN EFFECT OF SPECIFICATION AS81044.

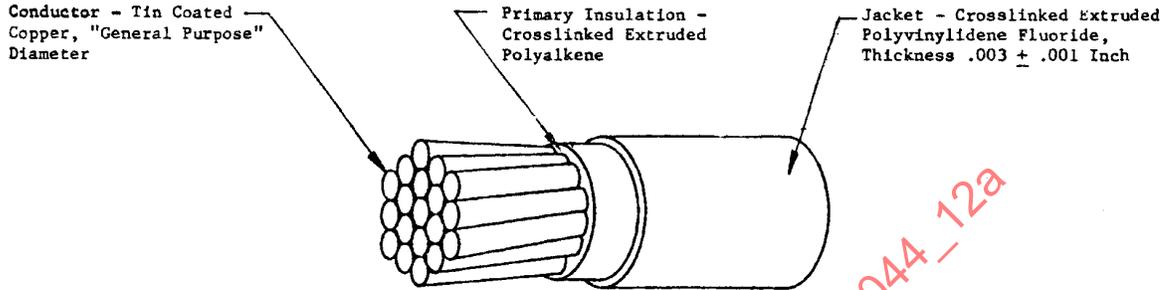
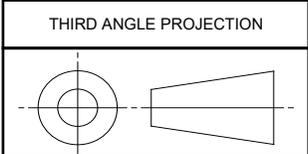


FIGURE 1 – AS81044/12 WIRE CONSTRUCTION

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For more information on this standard, visit
<https://www.sae.org/standards/content/AS81044/12A/>



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS81044



AEROSPACE STANDARD

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

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SHEET 1 OF 3

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ISSUED 1998-07 REVISED 2011-12 REAFFIRMED 2022-07

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)
M81044/12-30-*	30	7 X 38	.011	.013	108.4	.027 ± .002	.67	.71
M81044/12-28-*	28	7 X 36	.014	.016	68.6	.030 ± .002	.91	.96
M81044/12-26-*	26	19 X 38	.018	.021	41.3	.034 ± .002	1.3	1.4
M81044/12-24-*	24	19 X 36	.023	.026	26.2	.040 ± .002	2.0	2.1
M81044/12-22-*	22	19 X 34	.029	.033	16.2	.047 ± .002	2.9	3.1
M81044/12-20-*	20	19 X 32	.037	.041	9.88	.055 ± .002	4.4	4.6
M81044/12-18-*	18	19 X 30	.046	.051	6.23	.065 ± .002	6.8	7.0
M81044/12-16-*	16	19 X 29	.052	.058	4.81	.072 ± .003	8.5	8.9
M81044/12-14-*	14	19 X 27	.065	.073	3.06	.089 ± .004	13.4	13.9
M81044/12-12-*	12	37 X 28	.084	.090	2.02	.108 ± .004	20.7	21.7

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 – M81044/12-20-9; WHITE WITH ORANGE STRIPE – M81044/12-20-93.

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
M81044/12-30-*	.375	.375	.188	.25	.50
M81044/12-28-*	.375	.375	.188	.25	.50
M81044/12-26-*	.50	.50	.250	.25	.50
M81044/12-24-*	.50	.50	.250	.38	.50
M81044/12-22-*	.75	.75	.250	.38	1.0
M81044/12-20-*	.75	.75	.250	.38	1.0
M81044/12-18-*	1.00	1.00	.375	.50	1.0
M81044/12-16-*	1.00	1.00	.375	.50	1.0
M81044/12-14-*	1.50	1.50	.50	1.0	3.0
M81044/12-12-*	2.00	2.00	.50	1.0	3.0

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

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 ± 2 °C (572 ± 3.6 °F) FOR 6 HOURS; FOR IDENTIFICATION LEGIBILITY, 225 ± 2 °C (437 ± 3.6 °F) FOR 6 HOURS

BLOCKING: 150° ± 2 °C (302° ± 4 °F)

	AEROSPACE STANDARD WIRE, ELECTRIC, CROSSLINKED POLYALKENE INSULATED, TIN-COATED COPPER, LIGHT WEIGHT, 600 VOLT, 150 °C	AS81044™/12 SHEET 2 OF 3	REV. A