

REV.  
A

AS81044™/7

FEDERAL SUPPLY CLASS  
6145

RATIONALE

AS81044/7A 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.

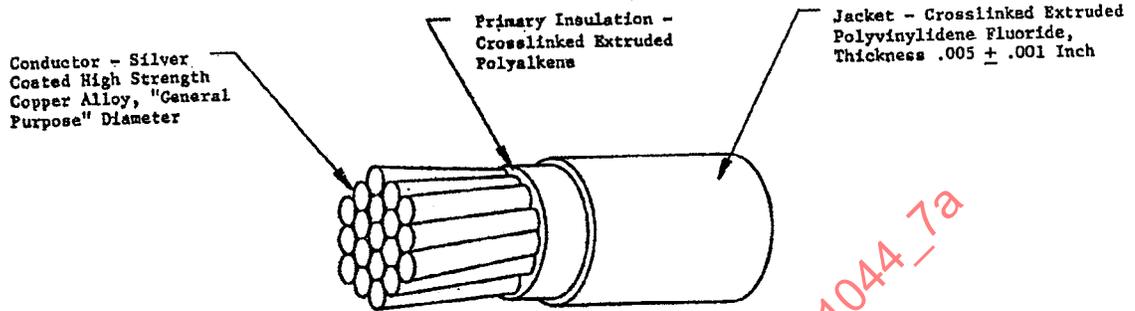
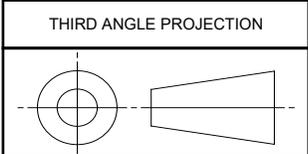


FIGURE 1 – AS81044/7 CONSTRUCTION

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<https://www.sae.org/standards/content/AS81044/7A>



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS81044



**AEROSPACE STANDARD**

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

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SHEET 1 OF 3

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ISSUED 2000-09 REVISED 2011-09 REAFFIRMED 2021-06

TABLE 1 – 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) |       |
|                        |           |   |   |       |   |                   | (NOM) <sup>2/</sup>  | (MAX) |
| M81044/7-26-*          | 26        | 19 X 38   | .018                                    | .020  | 44.8  | .053 ± .002       | 2.1                  | 2.2   |
| M81044/7-24-*          | 24        | 19 X 36   | .023                                    | .025  | 28.4  | .057 ± .002       | 2.8                  | 3.0   |
| M81044/7-22-*          | 22        | 19 X 34   | .029                                    | .032  | 17.5  | .069 ± .003       | 4.1                  | 4.3   |
| M81044/7-20*           | 20        | 19 X 32   | .037                                    | .040  | 10.7  | .078 ± .003       | 5.8                  | 6.1   |

<sup>1/</sup> 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 – M81044/7-20-9; WHITE WITH ORANGE STRIPE – M81044/7-20-93

<sup>2/</sup> NOMINAL VALUES ARE FOR INFORMATION ONLY. NOMINAL VALUES ARE NOT REQUIREMENTS.

TABLE 2 – PERFORMANCE DETAILS

| PART NO.      | ABRASION RESISTANCE (PROCEDURE I)                               |                        |              |                    | BEND TESTING   |                |           |  |                |
|---------------|---|------------------------|--------------|--------------------|--|----------------|-----------|--|----------------|
|               |   |                        |              |                    | MANDREL DIAMETER (INCHES) (±3%)                          |                |           | TEST LOAD (LBS) (±3%)                                    |                |
|               | RESISTANCE (INCHES OF TAPE) (MIN) (INITIAL AND AFTER IMMERSION) | WEIGHT SUPPORT BRACKET | WEIGHT (LBS) | TENSION LOAD (LBS) | LIFE CYCLE TEST AND ACCELERATED AGING TEST <sup>1/</sup> | COLD BEND TEST | WRAP TEST | LIFE CYCLE TEST AND ACCELERATED AGING TEST <sup>1/</sup> | COLD BEND TEST |
| M81044/7-26-* | 12  | A                      | 0.5          | 1.0                | .50  | 1.0            | .25       | 1.0  | 3.0            |
| M81044/7-24-* | 12  | A                      | 1.0          | 1.0                | .50  | 1.0            | .25       | 1.0  | 3.0            |
| M81044/7-22-* | 22  | A                      | 1.0          | 1.0                | .75  | 1.0            | .25       | 3.0  | 3.0            |
| M81044/7-20-* | 22  | A                      | 1.0          | 1.0                | .75  | 1.0            | .25       | 4.0  | 4.0            |

<sup>1/</sup> ALSO FOR BEND TESTS AFTER IMMERSION.

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

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

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.

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: 150° ± 2 °C (302° ± 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

|   |  |                                   |               |
|---|--|-----------------------------------|---------------|
|  | <b>AEROSPACE STANDARD</b><br>WIRE, ELECTRIC, CROSSLINKED POLYALKENE INSULATED, SILVER-COATED HIGH STRENGTH COPPER ALLOY, NORMAL WEIGHT, 600 VOLT, 150 °C | <b>AS81044™/7</b><br>SHEET 2 OF 3 | <b>REV. A</b> |
|   |  |                                   |               |