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REV.  
A

AS81044™/9

FEDERAL SUPPLY CLASS  
6145

## RATIONALE

AS81044/9A 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.

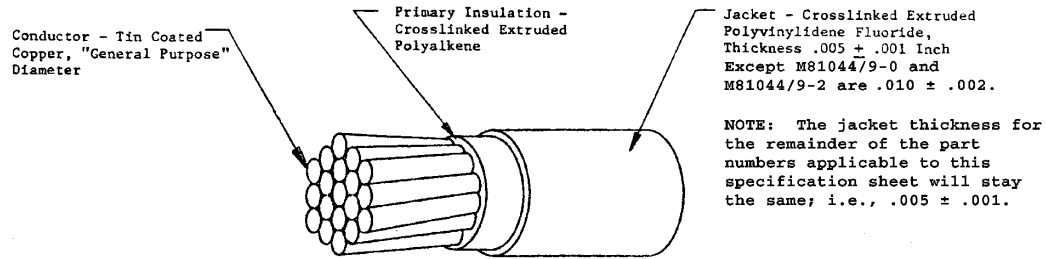
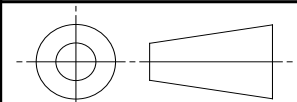


FIGURE 1 – AS81044/9 CONSTRUCTION

For more information on this standard, visit  
<https://www.sae.org/standards/content/AS81044/9A/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS81044



## AEROSPACE STANDARD

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

AS81044™/9  
SHEET 1 OF 3

REV.  
A

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TABLE 1 – CONSTRUCTION DETAILS

| PART NO. <sup>1/</sup> | WIRE SIZE | STRANDING<br>(NUMBER OF STRANDS X<br>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) |
| M81044/9-24-*          | 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       | 62.7                 | 65.9  |
| M81044/9-6-*           | 6         | 133 X 27                                                  | .198                                    | .217  | 0.445                                             | .264 ± .007       | 96.0                 | 104.  |
| M81044/9-4-*           | 4         | 133 X 25                                                  | .250                                    | .274  | 0.280                                             | .320 ± .008       | 152.                 | 161.  |
| M81044/9-2-*           | 2         | 665 X 30                                                  | .320                                    | .340  | 0.183                                             | .400 ± .012       | 238.                 | 259.  |
| M81044/9-0-*           | 0         | 1045 X 30                                                 | .405                                    | .425  | 0.116                                             | .490 ± .016       | 364.                 | 396.  |

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

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

TABLE 2 – PERFORMANCE DETAILS

| PART NO.      | ABRASION RESISTANCE<br>(PROCEDURE I)                                  |                              |                 |                          | BEND TESTING                                                      |                      |              |                                                                   |                      |
|---------------|-----------------------------------------------------------------------|------------------------------|-----------------|--------------------------|-------------------------------------------------------------------|----------------------|--------------|-------------------------------------------------------------------|----------------------|
|               |                                                                       |                              |                 |                          | MANDREL DIAMETER<br>(INCHES) (±3%)                                |                      |              | TEST LOAD<br>(LBS) (±3%)                                          |                      |
|               | RESISTANCE<br>(INCHES OF TAPE) (MIN)<br>(INITIAL AND AFTER IMMERSION) | WEIGHT<br>SUPPORT<br>BRACKET | WEIGHT<br>(LBS) | TENSION<br>LOAD<br>(LBS) | LIFE CYCLE<br>TEST AND<br>ACCELERATED<br>AGING TEST <sup>1/</sup> | COLD<br>BEND<br>TEST | WRAP<br>TEST | LIFE CYCLE TEST<br>AND<br>ACCELERATED<br>AGING TEST <sup>1/</sup> | COLD<br>BEND<br>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                  | .500         | 2.0                                                               | 5.0                  |
| M81044/9-12-* | 17                                                                    | B                            | 3.0             | 2.0                      | 2.0                                                               | 2.0                  | .500         | 2.0                                                               | 5.0                  |
| M81044/9-10-* | 20                                                                    | B                            | 3.0             | 3.0                      | 3.0                                                               | 3.0                  | .750         | 2.0                                                               | 5.0                  |
| M81044/9-8-*  | 25                                                                    | B                            | 3.0             | 3.0                      | 3.0                                                               | 4.0                  | .750         | 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                  | 3.00         | 4.0                                                               | 15.0                 |
| M81044/9-0-*  | 48                                                                    | C                            | 4.25            | 5.0                      | 8.0                                                               | 10.0                 | 4.00         | 4.0                                                               | 15.0                 |

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

|                                                                                     |                                                                                                                   |  |                                   |                         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--|-----------------------------------|-------------------------|
|  | <b>AEROSPACE STANDARD</b>                                                                                         |  | <b>AS81044™/9</b><br>SHEET 2 OF 3 | <b>REV.</b><br><b>A</b> |
|                                                                                     | (R) WIRE, ELECTRIC,<br>CROSSLINKED POLYALKENE INSULATED,<br>TIN-COATED COPPER, MEDIUM WEIGHT,<br>600 VOLT, 150 °C |  |                                   |                         |

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