

# SPECIFICATION CONTROL DRAWING

44A0311

WIRE, RADIATION-CROSSLINKED, POLYALKENE-INSULATED,  
LIGHTWEIGHT, GENERAL PURPOSE, 2500 VOLT

28MAR11

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This specification sheet forms a part of the latest issue of Raychem Specification 44.

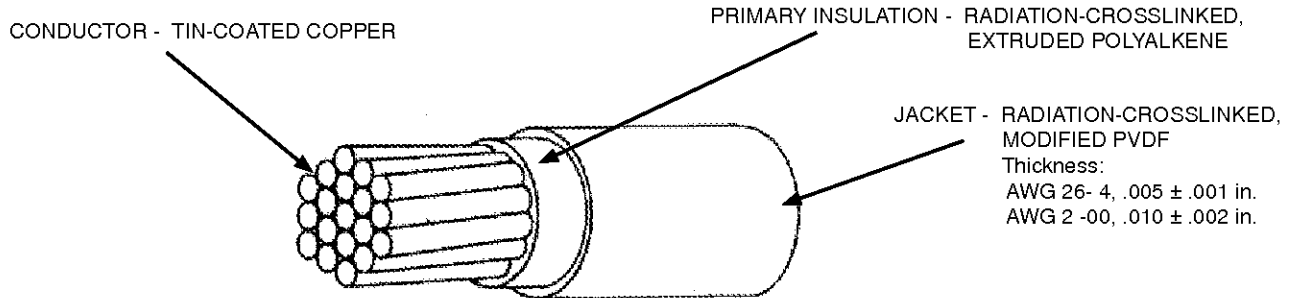


TABLE I. CONSTRUCTION DETAILS

| PART NUMBER<br>1/ | WIRE SIZE<br>(AWG) | CONDUCTOR STRANDING<br>(number x AWG) | DIAMETER OF STRANDED CONDUCTOR<br>(in.) |         | FINISHED WIRE                                   |                   |                                  |
|-------------------|--------------------|---------------------------------------|---|---------|---|-------------------|----------------------------------|
|                   |                    |                                       | MINIMUM                                 | MAXIMUM | MAXIMUM RESISTANCE<br>AT 20°C<br>(ohms/1000 ft) | DIAMETER<br>(in.) | MAXIMUM WEIGHT<br>(lbs/1000 ft.) |
|                   |                    |                                       |   |         |   |                   |                                  |
| 44A0311-26-*      | 26                 | 19 x 38                               | .018                                    | .020    | 41.3  | .053 ± .002       | 2.1                              |
| 44A0311-24-*      | 24                 | 19 x 36                               | .023                                    | .025    | 26.2  | .057 ± .002       | 3.0                              |
| 44A0311-22-*      | 22                 | 19 x 34                               | .029                                    | .033    | 16.2  | .069 ± .003       | 4.3                              |
| 44A0311-20-*      | 20                 | 19 x 32                               | .037                                    | .041    | 9.88  | .078 ± .003       | 6.1                              |
| 44A0311-18-*      | 18                 | 19 x 30                               | .046                                    | .051    | 6.23  | .088 ± .003       | 8.7                              |
| 44A0311-16-*      | 16                 | 19 x 29                               | .052                                    | .058    | 4.81  | .097 ± .004       | 10.9                             |
| 44A0311-14-*      | 14                 | 19 x 27                               | .065                                    | .073    | 3.06  | .115 ± .004       | 16.2                             |
| 44A0311-12-*      | 12                 | 37 x 28                               | .084                                    | .090    | 2.02  | .131 ± .004       | 24.2                             |
| 44A0311-10-*      | 10                 | 37 x 26                               | .106                                    | .114    | 1.26  | .161 ± .005       | 36.5                             |
| 44A0311-8-*       | 8                  | 133 x 29                              | .158                                    | .173    | .701  | .219 ± .006       | 65.0                             |
| 44A0311-6-*       | 6                  | 133 x 27                              | .198                                    | .217    | .445  | .269 ± .007       | 103.                             |
| 44A0311-4-*       | 4                  | 133 x 25                              | .250                                    | .274    | .280  | .325 ± .008       | 158.                             |
| 44A0311 2-*       | 2                  | 665 x 30                              | .320                                    | .340    | .183  | .404 ± .012       | 252.                             |
| 44A0311-0-*       | 0                  | 1045 x 30                             | .405                                    | .425    | .116  | .494 ± .016       | 380.                             |
| 44A0311-00-*      | 00                 | 1330 x 30                             | .450                                    | .475    | .092  | .545 ± .016       | 459.                             |

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice.

TE Connectivity also reserves the right to make changes in materials or processing, which do not affect compliance with any specification, without notification to Buyer.

1/ COLORS AND COLOR CODE DESIGNATORS SHALL BE IN ACCORDANCE WITH MIL-STD-681. OTHER CODES AND SUFFIXES MAY BE ADDED TO THE PART NUMBER, AS NECESSARY, TO CAPTURE ANY ADDITIONAL REQUIREMENTS IMPOSED BY THE PURCHASE ORDER.

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DIMENSIONS ARE IN INCHES, AND UNLESS OTHERWISE DESIGNATED ARE NOMINAL

THIS SPECIFICATION SHEET TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.  
REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATION FOR BID.



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**TABLE II. PERFORMANCE DETAILS**

| PART NUMBER<br>1/ | BEND TESTING                                     |              |      |  |              |
|-------------------|--|--------------|------|--|--------------|
|                   | MANDREL DIAMETER<br>(inch) (± 3%)                |              |      | WEIGHT<br>(lb) (± 3%)                            |              |
|                   | IMMERSION<br>LIFE CYCLE AND<br>ACCELERATED AGING | COLD<br>BEND | WRAP | IMMERSION<br>LIFE CYCLE AND<br>ACCELERATED AGING | COLD<br>BEND |
| 44A0311-26-*      | .500   | 1.00         | .250 | .625   | 3.00         |
| 44A0311-24-*      | .500   | 1.00         | .250 | .625   | 3.00         |
| 44A0311-22-*      | .750   | 1.00         | .250 | 2.00   | 3.00         |
| 44A0311-20-*      | .750   | 1.00         | .250 | 2.50   | 4.00         |
| 44A0311-18-*      | 1.00   | 1.50         | .375 | 2.50   | 4.00         |
| 44A0311-16-*      | 1.00   | 1.50         | .375 | 2.50   | 5.00         |
| 44A0311-14-*      | 1.50   | 2.00         | .500 | 2.50   | 5.00         |
| 44A0311-12-*      | 2.00   | 2.00         | .500 | 3.00   | 5.00         |
| 44A0311-10-*      | 3.00   | 3.00         | .750 | 3.00   | 5.00         |
| 44A0311-8-*       | 3.00   | 4.00         | .750 | 6.00   | 6.00         |
| 44A0311-6-*       | 4.00   | 5.00         | 1.00 | 6.00   | 10.0         |
| 44A0311-4-*       | 5.00   | 6.00         | 1.25 | 6.00   | 10.0         |
| 44A0311-2-*       | 6.00   | 8.00         | 3.00 | 6.00   | 15.0         |
| 44A0311-0-*       | 8.00   | 10.0         | 4.00 | 7.00   | 15.0         |
| 44A0311-00-*      | 9.00   | 12.0         | 5.00 | 7.00   | 15.0         |

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C

Maximum continuous conductor temperature

VOLTAGE RATING: 2500 volts (rms) at sea level

ACCELERATED AGING: 300 ± 2°C for 6 hours

Identification legibility, 225 ± 2°C for 6 hours

BLOCKING: 150 ± 2°C for 24 hours

COLOR: White preferred

FLAMMABILITY: 30 seconds (maximum); 3 in. (maximum); no flaming of facial tissue

HUMIDITY RESISTANCE: Insulation Resistance, 5000 megohms for 1000 ft. (minimum)

IDENTIFICATION AND COLOR STRIPING DURABILITY:

125 cycles (250 strokes) (minimum), 500 g weight

IMMERSION: Diameter increase 5% (maximum); no cracking, no dielectric breakdown.

INSULATION ELONGATION AND TENSILE STRENGTH:

1.5 inch jaw separation, 2.0 inch/minute crosshead speed

Primary Insulation,

Elongation, 150% (minimum)

Tensile Strength, 2500 lbf/in<sup>2</sup> (minimum), AWG 26-12

2000 lbf/in<sup>2</sup> (minimum), AWG 10-00

INSULATION FLAWS:

Primary Insulation,

Spark Test, 5.0 kV (rms)

Impulse Dielectric Test, 6.0 kV (peak)

Finished Wire,

Spark Test, 8.0 kV (rms) at 3 kHz

Impulse Dielectric Test, 13.0 kV (peak)

INSULATION RESISTANCE: 5000 megohms for 1000 ft. (minimum)

LIFE CYCLE: 200 ± 2°C for 168 hours

LOW TEMPERATURE-COLD BEND: -65 ± 2°C for 4 hours

SHRINKAGE: 300 ± 2°C, 0.125 in. (maximum) in 12 in., AWG 26-12

300 ± 2°C, 0.250 in. (maximum) in 12 in., AWG 10-00

SMOKE: 200 ± 2°C. No visible smoke.

SURFACE RESISTANCE: 500 megohms-in. (minimum), both readings

THERMAL SHOCK RESISTANCE: 150 ± 2°C, 0.060 in. (maximum)

VOLTAGE WITHSTAND (Post Environmental): 5000 volts (rms), 60 Hz, 5 minutes

WICKING: 2.25 in. (maximum)

PART NUMBER: The "" in the part numbers on pages 1 and 2 shall be replaced by color code designators.

1/ Example: AWG 20, white: 44A0311-20-9

AWG 20, white with black stripe: 44A0311-20-90

1/ See footer section on page 1

# Mouser Electronics

Authorized Distributor

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[44A0311-22-2-US](#) [44A0311-14-9CS3030](#) [44A0311-16-9CS3030](#)