

# SPECIFICATION CONTROL DRAWING

44A0111

TITLE WIRE, ELECTRIC, RADIATION-CROSSLINKED, TIN-COATED COPPER, LIGHTWEIGHT, GENERAL PURPOSE, 600 VOLT

Date 24MAR11

Revision P1

This specification sheet forms a part of the latest issue of Raychem Specification 44 and MIL-W-81044 as applicable.



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.) |
|                   |                    |                                       |   |         |   |                   |                                  |
| 44A0111-26-*      | 26                 | 19 x 38                               | .018                                    | .021    | 41.3  | .034 ± .002       | 1.4                              |
| 44A0111-24-*      | 24                 | 19 x 36                               | .023                                    | .026    | 26.2  | .040 ± .002       | 2.0                              |
| 44A0111-22-*      | 22                 | 19 x 34                               | .029                                    | .033    | 16.2  | .047 ± .002       | 3.0                              |
| 44A0111-20-*      | 20                 | 19 x 32                               | .037                                    | .041    | 9.88  | .055 ± .002       | 4.5                              |
| 44A0111-18-*      | 18                 | 19 x 30                               | .046                                    | .051    | 6.23  | .065 ± .002       | 6.8                              |
| 44A0111-16-*      | 16                 | 19 x 29                               | .052                                    | .058    | 4.81  | .072 ± .003       | 8.6                              |
| 44A0111-14-*      | 14                 | 19 x 27                               | .065                                    | .073    | 3.06  | .089 ± .004       | 13.2                             |
| 44A0111-12-*      | 12                 | 37 x 28                               | .084                                    | .090    | 2.02  | .108 ± .004       | 20.2                             |
| 44A0111-10-*      | 10                 | 37 x 26                               | .106                                    | .114    | 1.26  | .129 ± .004       | 31.1                             |

TABLE II. PERFORMANCE DETAILS

| PART NUMBER<br>1/ | BEND TESTING                                     |              |      |   |              |
|-------------------|--|--------------|------|---|--------------|
|                   | MANDREL DIAMETER<br>(inch) (± 3%)                |              |      | WEIGHT<br>(lb) (± 3%)                             |              |
|                   | IMMERSION,<br>LIFECYCLE AND<br>ACCELERATED AGING | COLD<br>BEND | WRAP | IMMERSION,<br>LIFE CYCLE AND<br>ACCELERATED AGING | COLD<br>BEND |
|                   |  |              |      |   |              |
| 44A0111-26-*      | .500   | .500         | .250 | .250  | .500         |
| 44A0111-24-*      | .500   | .500         | .250 | .375  | .500         |
| 44A0111-22-*      | .750   | .750         | .250 | .375  | 1.00         |
| 44A0111-20-*      | .750   | .750         | .250 | .375  | 1.00         |
| 44A0111-18-*      | 1.00   | 1.00         | .375 | .500  | 1.00         |
| 44A0111-16-*      | 1.00   | 1.00         | .375 | .500  | 1.00         |
| 44A0111-14-*      | 1.50   | 1.50         | .500 | 1.00  | 3.00         |
| 44A0111-12-*      | 2.00   | 2.00         | .500 | 1.00  | 3.00         |
| 44A0111-10-*      | 2.50   | 2.50         | .500 | 1.00  | 3.00         |

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

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.

TE CONNECTIVITY

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C,  
Maximum continuous conductor temperature

VOLTAGE RATING: 600 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, STRIPING, OR BAND DURABILITY:  
125 cycles (250 strokes) (minimum), 500 g weight

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

INSULATION ELONGATION AND TENSILE STRENGTH:  
Primary Insulation,  
Tensile Strength, 2500 lbf/in<sup>2</sup> (minimum)  
Elongation, 150% (minimum)

INSULATION FLAWS:  
Primary Insulation,  
Spark test, 1.5 kV (rms), at 60 Hz  
High Frequency Spark Test: 4.2 kV (rms) at 3.0 kHz  
Impulse Dielectric test, 6.0 kV (peak)  
Finished Wire,  
High Frequency Spark Test: 5.7 kV (rms) at 3.0 kHz  
Impulse Dielectric test, 8.0 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.

SMOKE TEST: 200 ± 2°C. No visible smoke

SOLDERABILITY (95% minimum coverage): per MIL-STD-202,  
Method 208, except without steam-aging, Type RMA Flux

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

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

VOLTAGE WITHSTAND TEST (POST ENVIRONMENTAL):  
2500 volts (rms), 60 Hz, 5 minutes

WICKING: 2.25 in. (maximum)

## PART NUMBER:

The "" in the part numbers on page 1 shall be replaced by a color code designator.

1/ Example: AWG 20, white: 44A0111-20-9

1/ See Footer section on page 1

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