

# SPECIFICATION CONTROL DRAWING

44A0112

Title WIRE ELECTRIC, RADIATION-CROSSLINKED POLYALKENE INSULATED, SILVER-COATED COPPER, LIGHTWEIGHT, GENERAL PURPOSE, 600 VOLT

Date 05-20-03

Revision C

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

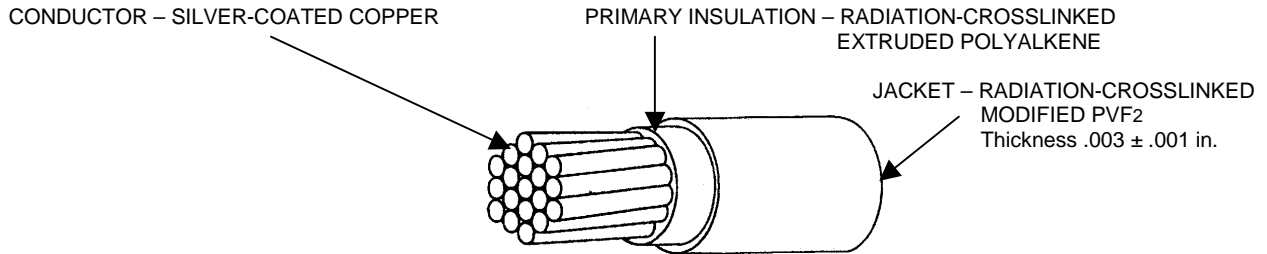


TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (in.)		FINISHED WIRE		
			MINIMUM	MAXIMUM	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft)	DIAMETER (in.)	MAXIMUM WEIGHT (lb/1000 ft)
44A0112-26-*	26	19 x 38	.018	.020	38.4	.034 ± .002	1.4
44A0112-24-*	24	19 x 36	.023	.025	24.3	.040 ± .002	2.1
44A0112-22-*	22	19 x 34	.029	.032	15.1	.047 ± .002	3.1
44A0112-20-*	20	19 x 32	.037	.040	9.19	.055 ± .002	4.6
44A0112-18-*	18	19 x 30	.046	.050	5.79	.065 ± .002	7.0
44A0112-16-*	16	19 x 29	.052	.057	4.52	.072 ± .003	8.9
44A0112-14-*	14	19 x 27	.065	.072	2.88	.089 ± .004	13.9
44A0112-12-*	12	37 x 28	.084	.089	1.90	.108 ± .004	21.7

TABLE II. PERFORMANCE DETAILS

PART NUMBER 1/	BEND TESTING				
	MANDREL DIAMETER (inch) (± 3%)			WEIGHT (lb) (± 3%)	
	IMMERSION LIFE CYCLE AND ACCELERATED AGING	COLD BEND	WRAP	IMMERSION LIFE CYCLE AND ACCELERATED AGING	COLD BEND
44A0112-26-*	.500	.500	.250	.250	.500
44A0112-24-*	.500	.500	.250	.375	.500
44A0112-22-*	.750	.750	.250	.375	1.00
44A0112-20-*	.750	.750	.250	.375	1.00
44A0112-18-*	1.00	1.00	.375	.500	1.00
44A0112-16-*	1.00	1.00	.375	.500	1.00
44A0112-14-*	1.50	1.50	.500	1.00	3.00
44A0112-12-*	2.00	2.00	.500	1.00	3.00

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

Tyco Electronics 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.



**Raychem Wire & Cable**  
501 Oakside Avenue  
Redwood City, CA 94063-3800  
Phone: 1-800-227-8816  
Fax: 1-650-361-6297

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.

**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,

Elongation, 150% (minimum)

Tensile Strength, 2500 lbf/in<sup>2</sup> (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

**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: 44A0112-20-9

AWG 20, white with a black stripe: 44A0112-20-90

1/ See Footer section on page 1