

# SPECIFICATION CONTROL DRAWING

44A0812

TITLE WIRE, ELECTRIC, RADIATION-CROSSLINKED, POLYALKENE INSULATED, SILVER-COATED COPPER, MEDIUMWEIGHT, AIRFRAME, 600VOLT

Date 10-15-93

Revision C

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

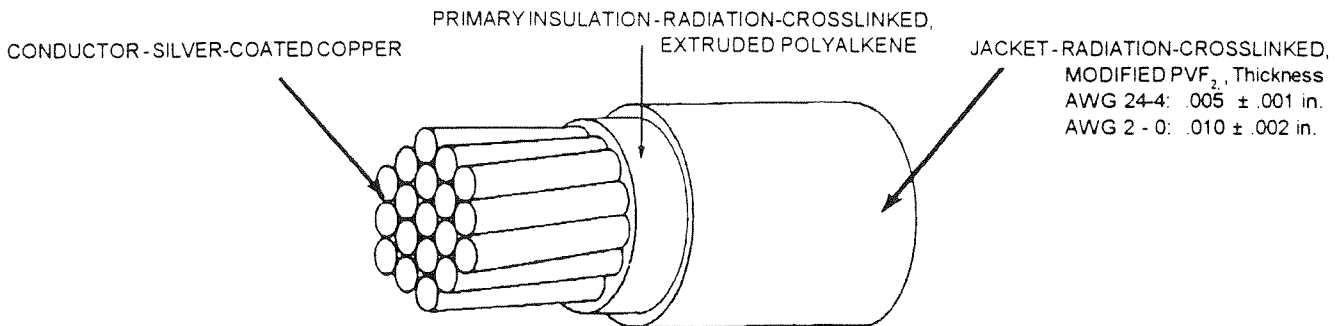


TABLE I. CONSTRUCTION DETAILS

PART NUMBER	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (in.)		FINISHED WIRE		
			MINIMUM	MAXIMUM	MAXIMUM RESISTANCE AT 20°C (ohms/1000ft)	DIAMETER (in.)	MAXIMUM WEIGHT (lb/1000 ft)
44A0812-24-*	24	19 x 36	.023	.025	24.3	.054 ± .002	2.7
44A0812-22-*	22	19 x 34	.029	.032	15.1	.062 ± .003	3.9
44A0812-20-*	20	19 x 32	.037	.040	9.19	.070 ± .003	5.5
44A0812-18-*	18	19 x 30	.046	.050	5.79	.080 ± .003	8.0
44A0812-16-*	16	19 x 29	.052	.057	4.52	.089 ± .004	10.1
44A0812-14-*	14	19 x 27	.065	.072	2.88	.108 ± .004	15.5
44A0812-12-*	12	37 x 28	.084	.089	1.90	.126 ± .004	23.0
44A0812-10-*	10	37 x 26	.106	.112	1.19	.155 ± .005	35.7
44A0812-8-*	8	133 x 29	.158	.169	.658	.214 ± .006	62.8
44A0812-6-*	6	133 x 27	.198	.213	.418	.264 ± .007	99.3
44A0812-4-*	4	133 x 25	.250	.268	.264	.320 ± .008	153
44A0812-2-*	2	665 x 30	.320	.340	.170	.400 ± .012	247
44A0812-0-*	0	1045 x 30	.405	.425	.108	.490 ± .016	377

TABLE II. PERFORMANCE DETAILS

PART NUMBER	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
44A0812-24-*	.500	1.00	250	0.50	3.00
44A0812-22-*	.750	1.00	250	1.50	3.00
44A0812-20-*	.750	1.00	250	2.00	4.00
44A0812-18-*	1.00	1.50	375	2.00	4.00
44A0812-16-*	1.00	1.50	375	2.00	5.00
44A0812-14-*	1.50	2.00	500	2.00	5.00
44A0812-12-*	2.00	2.00	500	2.00	5.00
44A0812-10-*	3.00	3.00	750	2.00	5.00
44A0812-8-*	3.00	4.00	750	3.00	6.00
44A0812-6-*	4.00	5.00	1.00	3.00	10.0
44A0812-4-*	5.00	6.00	1.25	3.00	10.0
44A0812-2-*	6.00	8.00	3.00	4.00	15.0
44A0812-0-*	8.00	10.0	4.00	4.00	15.0

COLORS AND COLOR CODE DESIGNATORS SHALL BE IN ACCORDANCE WITH MIL-STD-881.

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.

**Raychem**

Raychem Corporation  
 300 Constitution Drive, Menlo Park, California 94025  
 (415) 361 3333 TWX 910 373 1728

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms)

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), AWG 24-12  
2000 lbf/in<sup>2</sup> (minimum), AWG 10-0

Elongation, 150% (minimum)

INSULATION FLAWS:

Primary Insulation,

Spark Test, 3.0 kV (rms), 60 Hz, 100% test

Impulse Dielectric Test, 6.0 kV (peak), 100% test

Finished Wire;

Impulse Dielectric Test, 8.0 kV (peak), 100% test

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 24-12  
300 ± 2°C, 0.250 in. (maximum) in 12 in., AWG 10-0

SMOKE: 200 ± 2°C. No visible smoke

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

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

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

WICKING: 2.25 in. (maximum)

PART NUMBER: The "\*" in the part numbers on page one shall be replaced by  
color code designators

Example: AWG 20, white: 44A0812-20-9

AWG 20, white with black stripe: 44A0812-20-90