

# SPECIFICATION CONTROL DRAWING

44A0712

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

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.

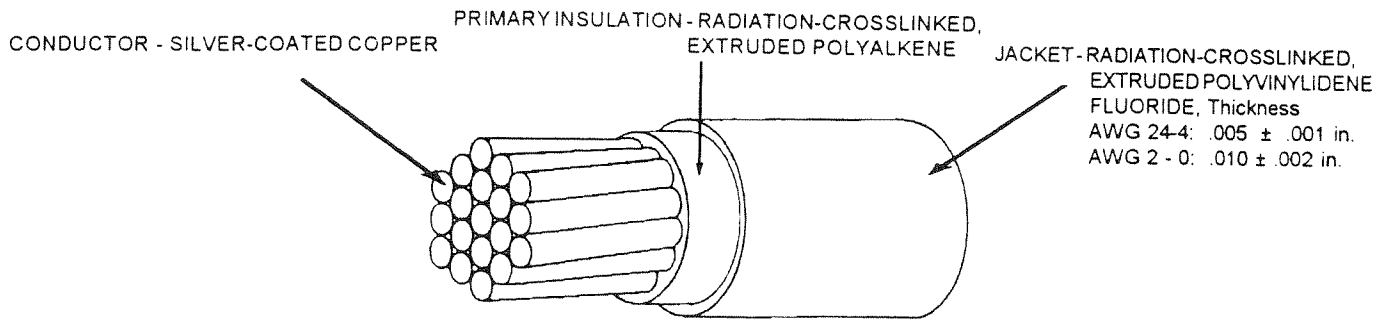


TABLE I. CONSTRUCTION DETAILS

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)
44A0712-24-*	24	19 x 36	.023	.025	24.3	.057 ± .002	3.0
44A0712-22-*	22	19 x 34	.029	.032	15.1	.069 ± .003	4.3
44A0712-20-*	20	19 x 32	.037	.040	9.19	.078 ± .003	6.1
44A0712-18-*	18	19 x 30	.046	.050	5.79	.088 ± .003	8.7
44A0712-16-*	16	19 x 29	.052	.057	4.52	.097 ± .004	10.9
44A0712-14-*	14	19 x 27	.065	.072	2.88	.115 ± .004	16.2
44A0712-12-*	12	37 x 28	.084	.089	1.90	.131 ± .004	24.2
44A0712-10-*	10	37 x 26	.106	.112	1.19	.161 ± .005	36.5
44A0712-8-*	8	133 x 29	.158	.169	.658	.219 ± .006	65.0
44A0712-6-*	6	133 x 27	.198	.213	.418	.269 ± .007	103.
44A0712-4-*	4	133 x 25	.250	.268	.264	.325 ± .008	158.
44A0712-2-*	2	665 x 30	.320	.340	.170	.404 ± .012	252.
44A0712-0-*	0	1045 x 30	.405	.425	.108	.494 ± .016	380.

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
44A0712-24-*	500	1.00	.250	1.00	3.00
44A0712-22-*	.750	1.00	.250	3.00	3.00
44A0712-20-*	.750	1.00	.250	4.00	4.00
44A0712-18-*	1.00	1.50	.375	4.00	4.00
44A0712-16-*	1.00	1.50	.375	5.00	5.00
44A0712-14-*	1.50	2.00	.500	5.00	5.00
44A0712-12-*	2.00	2.00	.500	5.00	5.00
44A0712-10-*	3.00	3.00	.750	5.00	5.00
44A0712-8-*	3.00	4.00	.750	6.00	6.00
44A0712-6-*	4.00	5.00	1.00	6.00	10.0
44A0712-4-*	5.00	6.00	1.25	6.00	10.0
44A0712-2-*	6.00	8.00	3.00	6.00	15.0
44A0712-0-*	8.00	10.0	4.00	7.00	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.

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## 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 TEST: (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: 44A0712-20-9

AWG 20, white with black stripe: 44A0712-20-90