

SPECIFICATION SHEET

44/0611

WIRE, ELECTRIC, RADIATION-CROSSLINKED, POLYALKENE-INSULATED, TIN-COATED COPPER, LIGHTWEIGHT, OUTER SPACE, 2500 VOLT

17 October 1986  
Revision 3

135°C

The complete requirements for procuring the wire described herein shall consist of this document and the issue in effect of Raychem Specification 44 and Specification MIL-W-81044 as applicable.

CONDUCTOR - TIN-COATED COPPER

PRIMARY INSULATION - RADIATION-CROSSLINKED EXTRUDED POLYALKENE

JACKET - RADIATION-CROSSLINKED, MODIFIED PVF<sub>2</sub>.

Thickness .005 ± .001 in., Sizes 24-4  
.007 ± .002 in., Sizes 2-00

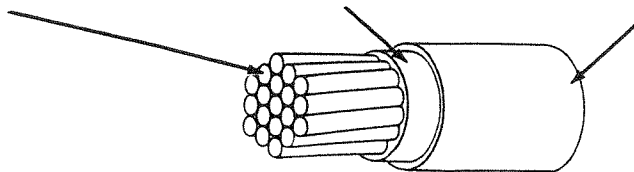


TABLE I. CONSTRUCTION DETAILS

PART NUMBER	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	MAXIMUM DIAMETER OF STRANDED CONDUCTOR (in.)	FINISHED WIRE		
				MAXIMUM RESISTANCE AT 20°C (Ω/1000 ft)	DIAMETER (in.)	MAXIMUM WEIGHT (lb/1000 ft)
44/0611-24-*	24	19 x 36	.026	26.2	.056 ± .003	3.0
44/0611-22-*	22	19 x 34	.033	16.2	.068 ± .003	4.3
44/0611-20-*	20	19 x 32	.041	9.88	.077 ± .003	6.1
44/0611-18-*	18	19 x 30	.052	6.23	.087 ± .003	8.6
44/0611-16-*	16	19 x 29	.060	4.81	.096 ± .004	10.9
44/0611-14-*	14	19 x 27	.074	3.06	.114 ± .004	16.1
44/0611-12-*	12	19 x 25	.092	2.02	.142 ± .004	26.1
44/0611-10-*	10	37 x 26	.118	1.26	.160 ± .005	36.2
44/0611- 8-*	8	133 x 29	.176	.701	.218 ± .010	65.0
44/0611- 6-*	6	133 x 27	.218	.445	.268 ± .010	98.0
44/0611- 4-*	4	133 x 25	.272	.280	.324 ± .012	158.
44/0611- 2-*	2	665 x 30	.345	.183	.386 ± .012	236.
44/0611- 0-*	0	1045 x 30	.432	.116	.472 ± .016	393.
44/0611-00-*	00	1330 x 30	.490	.091	.544 ± .016	492.

TABLE II. PERFORMANCE DETAILS

PART NUMBER	BEND TESTING					
	MANDREL DIAMETER (in.) (±3%)				WEIGHT (lb) (±3%)	
	LIFE CYCLE, IMMERSION AND ACCELERATED AGING	COLD BEND	WRAP	RADIATION RESISTANCE	LIFE CYCLE, IMMERSION AND ACCELERATED AGING	COLD BEND
44/0611-24-*	1.00	1.00	.500	1.50	.375	2.00
44/0611-22-*	1.00	1.00	.500	1.50	.375	2.00
44/0611-20-*	1.00	1.00	.500	2.00	.375	2.00
44/0611-18-*	1.50	1.50	.750	2.00	.500	2.00
44/0611-16-*	1.50	1.50	.750	2.50	.500	3.00
44/0611-14-*	2.00	2.00	.750	2.50	1.50	3.00
44/0611-12-*	2.00	2.00	1.00	3.50	1.50	3.00
44/0611-10-*	3.00	3.00	1.50	3.50	1.50	5.00
44/0611- 8-*	3.00	3.00	1.50	4.00	1.50	5.00
44/0611- 6-*	4.00	4.00	2.00	5.00	1.50	10.0
44/0611- 4-*	5.00	5.00	2.50	6.00	3.00	10.0
44/0611- 2-*	6.00	6.00	3.00	8.00	3.00	15.0
44/0611- 0-*	8.00	8.00	4.00	10.0	3.50	15.0
44/0611-00-*	10.0	10.0	5.00	12.0	3.50	20.0

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 135°C

Maximum continuous conductor temperature

VOLTAGE RATING: 2500 volts (rms)

ACCELERATED AGING: 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 MΩ 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:

Primary Insulation,

Elongation, 150% (minimum)

Tensile Strength, 2500 lbf/in<sup>2</sup> (minimum), AWG 24-10

2000 lbf/in<sup>2</sup> (minimum), AWG 8-00

INSULATION FLAWS:

Primary Insulation,

Spark Test, 5.0 kV, 60 Hz (rms), 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 MΩ for 1000 ft (minimum)

LIFE CYCLE: 200 ± 2°C for 120 hours

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

RADIATION RESISTANCE: 500 megarads

SHRINKAGE: 225 ± 2°C, 0.125 in. (maximum) in 12 in.,

AWG 24-10 only

SMOKE TEST: 165 ± 2°C, no visible smoke

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

THERMAL SHOCK RESISTANCE: 135 ± 2°C, 0.060 in. (maximum)

VACUUM STABILITY:

Total Mass Loss (TML), 1.0% (maximum)

Volatile Condensable Material (VCM), 0.1% (maximum)

VOLTAGE WITHSTAND TEST: (After Accelerated Aging,

Immersion, Life Cycle, Low Temperature-Cold Bend and

Radiation Resistance) 5000 volts, 5 minutes

WICKING: 2.50 in. (maximum)

PART NUMBER:

The "\*" in the part numbers above shall be replaced by

a color code designator in accordance with MIL-STD-130.

Example: AWG 20, white: 44/0611-20-9

AWG 20, white with black stripe: 44/0611-20-9-1

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THIS SPECIFICATION SHEET TAKES PRECEDENCE OVER DOCUMENTS REFERENCED HEREIN.

REFERENCED DOCUMENTS SHALL BE THE ISSUE IN EFFECT ON DATE OF IMITATION FOR 213