

# SPECIFICATION CONTROL DRAWING

44A9970

TITLE WIRE, ELECTRICAL, RADIATION CROSSLINKED, POLYALKENE INSULATED, TIN-COATED COPPER, LIGHTWEIGHT, GENERAL PURPOSE, 2500 VOLT

Date 3-25-91

Revision

This specification sheet forms a part of the latest issue of Raychem Specification 44

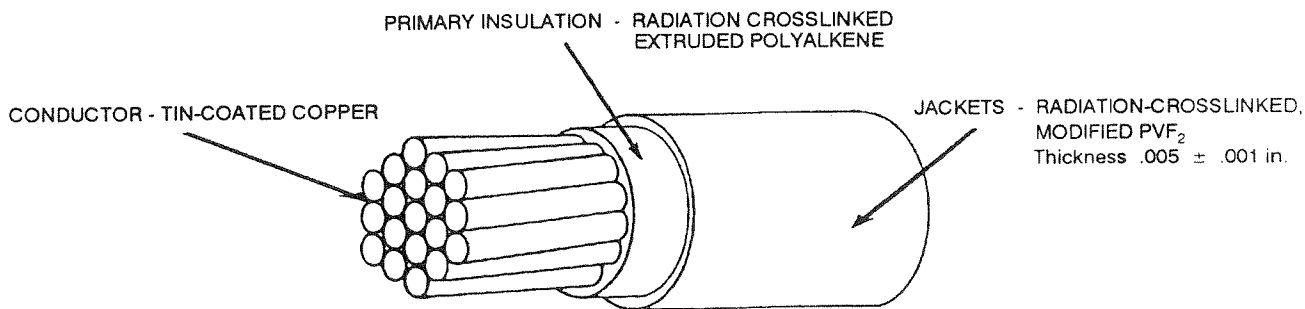


TABLE I. CONSTRUCTION DETAILS

PART NUMBER	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	MAXIMUM DIAMETER OF STRANDED CONDUCTOR (inches)	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.)	DIAMETER (inches)	MAXIMUM WEIGHT (lb/1000 ft)
44A9970-16-*	16	37 x 32	.058	5.00	.097 ± .004	10.7
44A9970-14-*	14	37 x 30	.073	3.20	.115 ± .004	16.2

TABLE II. PERFORMANCE DETAILS

PART NUMBER	BEND TESTING				
	MANDREL DIAMETER (inch) (3%)			WEIGHT (lb) (± 3%)	
	IMMERSION LIFE CYCLE AND ACCELERATED AGING	COLD BEND	WRAP TEST	IMMERSION LIFE CYCLE AND ACCELERATED AGING	COLD BEND
44A9970-16-*	1.00	1.50	.400	4.375	4.375
44A9970-14-*	1.50	2.00	.500	4.375	4.375

### WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C  
 Maximum continuous conductor temperature  
 VOLTAGE RATING: 2500 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 AND 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, 2,500 lbf/in<sup>2</sup> (minimum)  
 INSULATION FLAWS:  
 Primary Insulation,  
 Spark Test, 5.0 kV (rms), 60 Hz, 100% test  
 Impulse Dielectric Test, 6.0 kV (peak), 100% test  
 Finished Wire,  
 Impulse Dielectric Test, 12.0 kV (peak), 100% test

INSULATION RESISTANCE: 5000 megohms  
 for 1000 ft. (minimum)  
 LIFE CYCLE: 200 ± 3°C for 168 hours  
 LOW TEMPERATURE-COLD BEND: -65 ± 2°C for 4 hours  
 SHRINKAGE: 300 ± 3°C, .125 in. (maximum)  
 in 12 in. (maximum)  
 SMOKE: 200 ± 2°C, no visible smoke  
 SURFACE RESISTANCE: 500 megohms-in (minimum)  
 both readings  
 THERMAL SHOCK RESISTANCE: 150 ± 3°C 0.060 in.  
 (maximum)  
 VOLTAGE WITHSTAND TEST: (After Accelerated Aging,  
 Immersion, Life Cycle and Low-Temperature Cold bend)  
 5000 volts (rms), 60 Hz, 5 minutes

PART NUMBER:  
 The \*\*\* in the part numbers above shall be replaced  
 by a color code designator.  
 Example: AWG 16, White; 44A9970-16-9

This is an Americanized UK SCD of 44A9970, issue 1.

COLORS AND COLOR CODE DESIGNATORS SHALL BE IN ACCORDANCE WITH MIL-STD-681.

DIMENSIONS ARE IN INCHES, AND UNLESS OTHERWISE DESIGNATED ARE NOMINAL.

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