

# SPECIFICATION CONTROL DRAWING

82A0812

TITLE WIRE, RADIATION-CROSSLINKED, MODIFIED FLEXIBLE ETFE-INSULATED,  
NORMAL WEIGHT, GENERAL PURPOSE, 600 VOLT

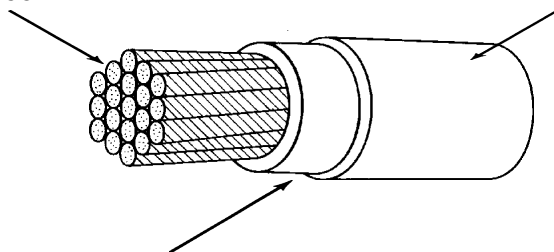
Date 4-10-06

Revision H

This specification sheet forms a part of the latest of Raychem Specification 80.

CONDUCTOR - SILVER-COATED COPPER

JACKET - RADIATION-CROSSLINKED,  
MODIFIED FLEXIBLE ETFE



PRIMARY INSULATION - RADIATION-CROSSLINKED,  
MODIFIED FLEXIBLE ETFE  
COLOR - LIGHT GREEN

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)
82A0812-26-*	26	63 x 44	.017	.021	46.9	.038 ± .003	1.7
82A0812-24-*	24	105 x 44	.023	.027	28.2	.044 ± .003	2.5
82A0812-22-*	22	154 X 44	.029	.033	19.2	.054 ± .003	3.7
82A0812-20-*	20	154 X 42	.037	.043	11.7	.064 ± .004	5.2
82A0812-18-*	18	259 X 42	.047	.053	7.14	.076 ± .004	8.0
82A0812-16-*	16	259 x 40	.061	.067	4.62	.092 ± .005	11.9
82A0812-14-*	14	665 x 42	.078	.086	2.96	.116 ± .005	19.3
82A0812-12-*	12	665 x 40	.096	.106	1.89	.137 ± .006	27.9
82A0812-10-*	10	665 x 38	.126	.140	1.12	.187 ± .008	50.0
82A0812-8-*	8	665 x 36	.157	.173	.714	.230 ± .008	77.3
82A0812-6-*	6	1045 x 36	.192	.208	.490	.277 ± .010	118.
82A0812-4-*	4	1665 x 36	.265	.285	.326	.359 ± .010	190.
82A0812-2-*	2	1665 x 34	.325	.345	.204	.433 ± .016	282.
82A0812-0-*	0	2660 x 34	.435	.465	.133	.558 ± .016	442.

TABLE II. PERFORMANCE DETAILS

PART NUMBER 1/	BEND TESTING	
	MANDREL DIAMETER (inch) (±3%)	WEIGHT (lb) (± 3%)
	CROSSLINKING PROOF TEST	CROSSLINKING PROOF TEST
82A0812-26-*	.375	.500
82A0812-24-*	.500	.750
82A0812-22-*	.500	1.00
82A0812-20-*	.500	1.50
82A0812-18-*	.750	2.00
82A0812-16-*	1.00	2.00
82A0812-14-*	1.00	3.00
82A0812-12-*	1.50	3.00
82A0812-10-*	2.00	3.00
82A0812-8-*	3.00	4.00
82A0812-6-*	4.00	4.00
82A0812-4-*	5.00	4.00
82A0812-2-*	6.00	6.00
82A0812-0-*	8.00	6.00

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.

**tyco**  
Electronics

**Raychem** Wire & Cable  
501 Oaks 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

CONCENTRICITY: 70% (minimum)

CROSSLINKING PROOF TEST: 300 ± 3°C,

30 minutes for AWG 26 - 14, 1 hour for AWG 12 and larger

IDENTIFICATION AND COLOR STRIPING DURABILITY:

125 cycles (250 strokes) (minimum), 500 g weight

INSULATION ELONGATION AND TENSILE STRENGTH:

AWG 26, Elongation, 75% (minimum)

Tensile Strength, 3000 lbf/in<sup>2</sup> (minimum)

AWG 24 - 10, Elongation, 75% (minimum)

Tensile Strength, 3500 lbf/in<sup>2</sup> (minimum)

AWG 8 - 0, Elongation, 125% (minimum)

Tensile Strength, 3000 lbf/in<sup>2</sup> (minimum)

INSULATION FLAWS:

Primary Insulation,

Spark Test, 1.5 kV (rms) at 3 kHz

Impulse Dielectric Test, 6.0 kV (peak)

Finished Wire,

Spark Test, 3.0 kV (rms) at 3 kHz

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION THICKNESS:

For AWG 26 - 18, .004 inch (minimum) for primary insulation

.004 inch (minimum) for outer jacket

For AWG 16 - 10, .005 inch (minimum) for primary insulation

.005 inch (minimum) for outer jacket

For AWG 8 - 4, .008 inch (minimum) for primary insulation

.012 inch (minimum) for outer jacket

For AWG 2 - 0, .010 inch (minimum) for primary insulation

.015 inch (minimum) for outer jacket

JACKET COLOR: White preferred

PRODUCT IDENTIFICATION: AWG 26 - 10, black ink only

AWG 8 and larger, black ink preferred

SECANT MODULUS: (Test per ASTM D 882)

AWG 26 - 10: 5.0 x 10<sup>4</sup> lbf/in<sup>2</sup> (maximum)AWG 8 and larger: 4.0 x 10<sup>4</sup> lbf/in<sup>2</sup> (maximum)

2% strain, 2 inch jaw separation, 0.2 inch/minute

SHRINKAGE: 150 ± 3°C for 6 hours,

AWG 26 - 10, 0.13 inch (maximum) in 12 inches

AWG 8 - 0, 0.25 inch (maximum) in 12 inches

VOLTAGE WITHSTAND TEST (Post Environmental): 2500 volts (rms), 60 Hz

PART NUMBER:

The "\*" in the part numbers on page 1 shall be replaced by color code designators.

1/ Example: AWG 16, white wire: 82A0812-16-9

AWG 16, white with blue stripe: 82A0812-16-96

1/ See footer section on page 1