

# SPECIFICATION CONTROL DRAWING

**82A0112**

TITLE WIRE, RADIATION-CROSSLINKED, MODIFIED FLEXIBLE  
ETFE-INSULATED, SILVER-COATED COPPER, LIGHTWEIGHT

Date 04-27-04

Revision P

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

CONDUCTOR - SILVER-COATED COPPER

INSULATION - RADIATION-CROSSLINKED,  
MODIFIED FLEXIBLE ETFE

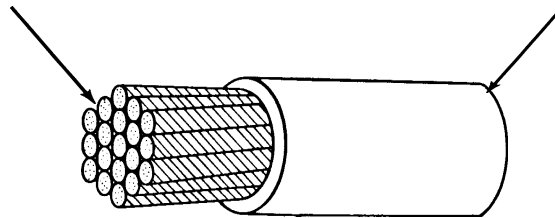


TABLE I. CONSTRUCTION DETAILS

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 (inch)	MAXIMUM WEIGHT (lb/1000 ft)
82A0112-28-*	28	42 x 44	.013	.017	75.5	.029 ± .003	1.2
82A0112-26-*	26	63 x 44	.017	.021	46.9	.033 ± .003	1.4
82A0112-24-*	24	105 x 44	.023	.027	28.2	.037 ± .003	2.1
82A0112-22-*	22	154 x 44	.029	.033	19.2	.043 ± .003	2.9
82A0112-20-*	20	154 x 42	.037	.043	11.7	.053 ± .004	4.2
82A0112-18-*	18	259 x 42	.047	.053	7.14	.064 ± .004	6.7
82A0112-16-*	16	259 x 40	.061	.067	4.62	.079 ± .004	10.2
82A0112-14-*	14	665 x 42	.078	.086	2.96	.099 ± .005	16.5
82A0112-12-*	12	665 x 40	.096	.106	1.89	.121 ± .006	24.8
82A0112-10-*	10	665 x 38	.126	.140	1.12	.157 ± .009	42.2
82A0112- 8-*	8	665 x 36	.157	.173	.714	.195 ± .010	66.3
82A0112- 6-*	6	1045 x 36	.192	.208	.490	.236 ± .011	102.
82A0112- 4-*	4	1665 x 36	.265	.285	.326	.318 ± .013	168.
82A0112- 2-*	2	1665 x 34	.325	.345	.204	.385 ± .014	253.
82A0112- 0-*	0	2660 x 34	.435	.465	.133	.516 ± .020	405.

TABLE II. PERFORMANCE DETAILS

PART NUMBER 1/	BEND TESTING	
	MANDREL DIAMETER (in.) (±3%)	WEIGHT (lb) (±3%)
	CROSSLINKING PROOF TEST	CROSSLINKING PROOF TEST
82A0112-28-*	.250	.125
82A0112-26-*	.375	.125
82A0112-24-*	.375	.250
82A0112-22-*	.500	.375
82A0112-20-*	.500	.500
82A0112-18-*	.500	.500
82A0112-16-*	.750	.750
82A0112-14-*	1.00	1.00
82A0112-12-*	1.50	1.50
82A0112-10-*	2.00	1.50
82A0112- 8-*	3.00	2.00
82A0112- 6-*	3.00	2.00
82A0112- 4-*	4.00	2.50
82A0112- 2-*	6.00	3.00
82A0112- 0-*	8.00	4.00

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.

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.



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**WIRE RATINGS AND ADDITIONAL REQUIREMENTS**

TEMPERATURE RATING: 150°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

COLOR: White preferred

CONCENTRICITY: 70% (minimum)

CROSSLINKING PROOF TEST: 300 ± 3°C,

30 minutes for AWG 28 - 14, 1 hour for AWG 12 - 0

IDENTIFICATION AND COLOR STRIPING DURABILITY:

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

INSULATION ELONGATION AND TENSILE STRENGTH:

AWG 28-26, 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:

Spark Test: 4.2 kV (rms) at 3 kHz

Impulse Dielectric Test, 6.0 kV (peak)

INSULATION THICKNESS:

AWG 28-16, .004 in. (minimum)

AWG 14-10 .006 in. (minimum)

AWG 8-0 .012 in. (minimum)

PRODUCT IDENTIFICATION: Black ink only for AWG 28 - 10,

Black ink preferred for AWG 8 & larger

SECANT MODULUS:

AWG 28-10, 5.0 x 10<sup>4</sup> lbf/in<sup>2</sup> (maximum),

AWG 8-0, 4.0 x 10<sup>4</sup> lbf/in<sup>2</sup> (maximum),

2% strain, 2 inch jaw separation, 0.2 inch/minute, procedural reference ASTM D 882

SHRINKAGE: 150 ± 3°C for 6 hours,

AWG 28 - 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

1/ PART NUMBER:

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

Example: AWG 22, white: 82A0112-22-9

AWG 22, white with black stripe: 82A0112-22-90

1/ See footer section on page 1

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