

# SPECIFICATION CONTROL DRAWING

82A0113

TITLE	WIRE, RADIATION-CROSSLINKED, MODIFIED FLEXIBLE ETFE-INSULATED, LIGHTWEIGHT, GENERAL PURPOSE, 600 VOLT	Date	2-16-11	Revision	F
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This specification sheet forms a part of the latest issue of Raychem Specification 80.

CONDUCTOR - NICKEL-COATED COPPER

INSULATION - RADIATION-CROSSLINKED, MODIFIED FLEXIBLE ETFE

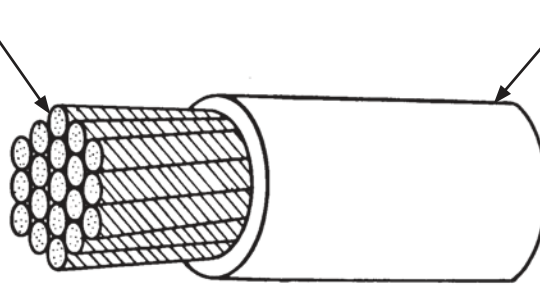


TABLE I. CONSTRUCTION DETAILS

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 (in.)	MAXIMUM WEIGHT (lbs/1000 ft.)
82A0113-24-*	24	105 x 44	.023	.027	30.6	.037 ± .003	2.1
82A0113-22-*	22	154 x 44	.029	.033	21.9	.043 ± .003	2.9
82A0113-20-*	20	154 x 42	.037	.043	13.3	.053 ± .004	4.3
82A0113-18-*	18	259 x 42	.047	.053	8.67	.064 ± .004	6.8
82A0113-16-*	16	259 x 40	.061	.067	5.10	.079 ± .004	10.2
82A0113-14-*	14	665 x 42	.078	.086	3.32	.099 ± .005	16.8
82A0113-12-*	12	665 x 40	.096	.106	1.99	.121 ± .006	24.8
82A0113-10-*	10	665 x 38	.126	.140	1.14	.157 ± .009	42.2
82A0113-8-*	8	665 x 36	.157	.173	.714	.195 ± .010	66.1
82A0113-6-*	6	1045 x 36	.192	.208	.490	.236 ± .011	102.
82A0113-4-*	4	1665 x 36	.265	.285	.326	.318 ± .013	169.
82A0113-2-*	2	1665 x 34	.325	.345	.204	.385 ± .014	254.
82A0113-0-*	0	2660 x 34	.435	.465	.133	.516 ± .020	408.
82A0113-00-*	00	3325 x 34	.485	.515	.102	.566 ± .020	503.

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.

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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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TABLE II. PERFORMANCE DETAILS		
PART NUMBER 1/	BEND TESTING	
	MANDREL DIAMETER (inch) (± 3%)	WEIGHT (lb) (± 3%)
	CROSSLINKING PROOF TEST	CROSSLINKING PROOF TEST
82A0113-24-*	.375	.250
82A0113-22-*	.500	.375
82A0113-20-*	.500	.500
82A0113-18-*	.500	.500
82A0113-16-*	.750	.750
82A0113-14-*	1.00	1.00
82A0113-12-*	1.50	1.50
82A0113-10-*	2.00	1.50
82A0113-8-*	3.00	2.00
82A0113-6-*	3.00	2.00
82A0113-4-*	4.00	2.50
82A0113-2-*	6.00	3.00
82A0113-0-*	8.00	4.00
82A0113-00-*	8.00	4.00

**WIRE RATINGS AND ADDITIONAL REQUIREMENTS**
**TEMPERATURE RATING: 200°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 for 7 hours**
**IDENTIFICATION AND COLOR STRIPING DURABILITY:**

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

**INSULATION ELONGATION AND TENSILE STRENGTH:**

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

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

AWG 8-00: Elongation, 125% (minimum)

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

**INSULATION FLAWS:**

Spark Test, 1.5 kV (rms) at 3 kHz

Impulse Dielectric Test, 6.0 kV (peak)

**INSULATION THICKNESS:**

AWG 24-16: .004 in. (minimum)

AWG 14-10: .006 in. (minimum)

AWG 8-00: .012 in. (minimum)

**PRODUCT IDENTIFICATION: AWG 24-10, black ink only**

AWG 8-00, black ink preferred

**SECANT MODULUS: (Test per ASTM D 882)**

 AWG 24-10: 5.0 x 10<sup>4</sup> lbf/in<sup>2</sup> (maximum)

 AWG 8-00: 4.0 x 10<sup>4</sup> lbf/in<sup>2</sup> (maximum)

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

**SHRINKAGE: 200 ± 3°C for 6 hours,**

AWG 24-10: 0.13 in. (maximum) in 12 inches

AWG 8-00: 0.25 in. (maximum) in 12 inches

**VOLTAGE WITHSTAND (Post Environmental): 2500 volts (rms), 60 Hz**
**PART NUMBER:**

The "\*" in the part numbers on page 1 and above shall be replaced by a color code designator.

1/ Example: AWG 12, white; 82A0113-12-9

AWG 12, white with a black stripe; 82A0113-12-90

1/ See footer section on page 1