

# SPECIFICATION CONTROL DRAWING

**82A0813**

TITLE	WIRE, RADIATION-CROSSLINKED, MODIFIED FLEXIBLE ETFE-INSULATED, NORMAL WEIGHT, GENERAL PURPOSE, 600 VOLT	Date	2-1-13	Revision	H
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This specification sheet forms a part of the latest issue of Raychem Specification 80.

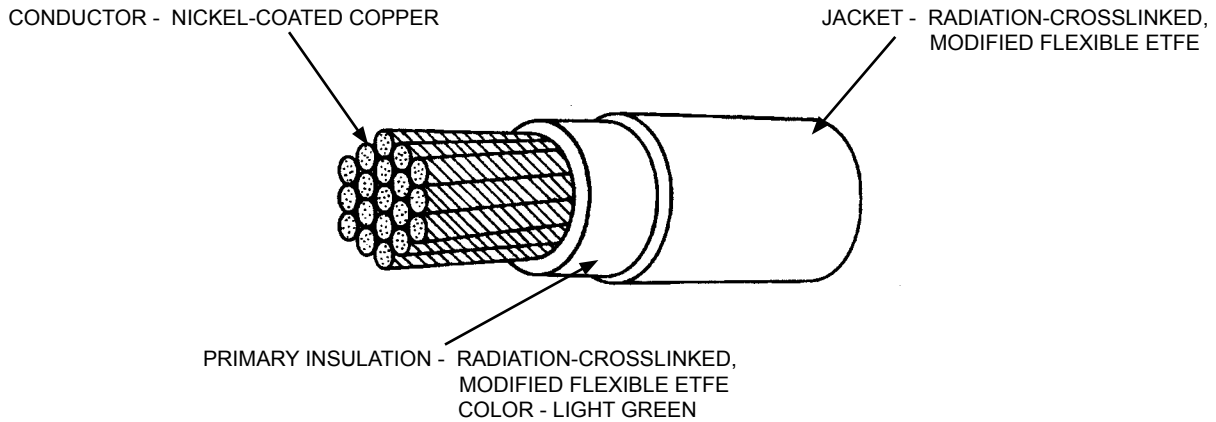


TABLE I. CONSTRUCTION DETAILS

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.)
82A0813-24-*	24	105 x 44	.023	.027	30.6	.044 ± .003	2.5
82A0813-22-*	22	154 x 44	.029	.033	21.9	.054 ± .003	3.7
82A0813-20-*	20	154 x 42	.037	.043	13.3	.064 ± .004	5.3
82A0813-18-*	18	259 x 42	.047	.053	8.67	.076 ± .004	8.1
82A0813-16-*	16	259 x 40	.061	.067	5.10	.092 ± .005	11.9
82A0813-14-*	14	665 x 42	.078	.086	3.32	.116 ± .005	19.6
82A0813-12-*	12	665 x 40	.096	.106	1.99	.137 ± .006	27.9
82A0813-10-*	10	665 x 38	.126	.140	1.14	.187 ± .008	50.0
82A0813-8-*	8	665 x 36	.157	.173	.714	.230 ± .008	77.3
82A0813-6-*	6	1045 x 36	.192	.208	.490	.277 ± .010	118.
82A0813-4-*	4	1665 x 36	.265	.285	.326	.359 ± .010	190.
82A0813-2-*	2	1665 x 34	.325	.345	.204	.433 ± .016	284.
82A0813-1-*	1	2109 x 34	.370	.400	.163	.488 ± .016	348.
82A0813-0-*	0	2660 x 34	.435	.465	.133	.558 ± .016	442.
82A0813-00-*	00	3325 x 34	.485	.515	.102	.612 ± .016	544.
82A0813-000-*	000	4123 x 34	.540	.575	.073	.678 ± .016	668.
82A0813-0000-*	0000	5320 x 34	.615	.655	.057	.771 ± .022	862.

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice. Tyco Electronics Corporation 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
82A0813-24-*	.500	.750
82A0813-22-*	.500	1.00
82A0813-20-*	.500	1.50
82A0813-18-*	.750	2.00
82A0813-16-*	1.00	2.00
82A0813-14-*	1.00	3.00
82A0813-12-*	1.50	3.00
82A0813-10-*	2.00	3.00
82A0813-8-*	3.00	4.00
82A0813-6-*	4.00	4.00
82A0813-4-*	5.00	4.00
82A0813-2-*	6.00	6.00
82A0813-1-*	8.00	6.00
82A0813-0-*	8.00	6.00
82A0813-00-*	10.0	8.00
82A0813-000-*	10.0	8.00
82A0813-0000-*	10.0	8.00

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

### TEMPERATURE RATING: 200°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

CONCENTRICITY: 70% (minimum)

CROSSLINKING PROOF TEST: 300 ± 3°C for 7 hours

IDENTIFICATION AND COLOR STRIPING DURABILITY:

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

INSULATION ELONGATION AND TENSILE STRENGTH:

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

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

AWG 8-0000: 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:

AWG 24-18: .004 in. (minimum) for primary insulation

.004 in. (minimum) for outer jacket

AWG 16-10: .005 in. (minimum) for primary insulation

.005 in. (minimum) for outer jacket

AWG 8-4: .008 in. (minimum) for primary insulation

.012 in. (minimum) for outer jacket

AWG 2-0000: .010 in. (minimum) for primary insulation

.015 in. (minimum) for outer jacket

JACKET COLOR: White preferred

PRODUCT IDENTIFICATION: AWG 24-10, black ink only

AWG 8-0000, 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 8-0000: 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 8-0000: 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; 82A0813-12-9

AWG 12, white with a black stripe; 82A0813-12-90

1/ See footer section on page 1