

SPECIFICATION CONTROL DRAWING

SCD

82A6083

Title WIRE, RADIATION-CROSSLINKED, MODIFIED FLEXIBLE ETFE-INSULATED, NORMAL WEIGHT, GENERAL PURPOSE, 2000 VOLT

Date
3-20-14

Revision
B

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

CONDUCTOR - E.C. ALUMINUM

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

JACKET - RADIATION-CROSSLINKED,
MODIFIED FLEXIBLE ETFE

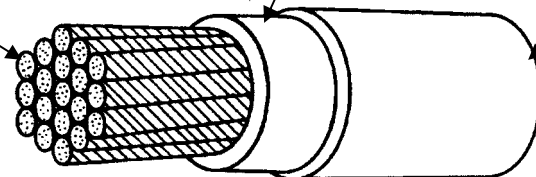


TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	CONDUCTOR DIAMETER (inch) (mm)			FINISHED WIRE						
			LOWER SPEC LIMIT	TARGET VALUE	UPPER SPEC LIMIT	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.) (ohms/km)	DIAMETER (inch) (mm)			WEIGHT (lbs/1000 ft.) (kg/km)		
							LOWER SPEC LIMIT	TARGET VALUE	UPPER SPEC LIMIT	LOWER SPEC LIMIT	TARGET VALUE	UPPER SPEC LIMIT
82A6083-8-*	8	77 x 27	.156 (3.96)	.162 (4.11)	.168 (4.27)	1.166 (3.83)	.218 (5.54)	.242 (6.15)	.254 (6.45)	28.84 (42.9)	35.06 (52.2)	43.57 (64.8)
82A6083-6-*	6	133 x 27	.198 (5.03)	.205 (5.21)	.212 (5.38)	.694 (2.28)	.260 (6.60)	.285 (7.24)	.298 (7.57)	41.22 (61.3)	48.89 (72.8)	59.33 (88.3)
82A6083-4-*	4	209 x 27	.252 (6.40)	.260 (6.60)	.268 (6.81)	.450 (1.48)	.314 (7.98)	.340 (8.64)	.354 (8.99)	59.34 (88.3)	68.44 (102.)	81.21 (121.)
82A6083-2-*	2	323 x 27	.305 (7.75)	.315 (8.00)	.325 (8.26)	.285 (.935)	.367 (9.32)	.395 (10.0)	.411 (10.4)	84.48 (126.)	95.78 (143.)	111.30 (166.)
82A6083-0-*	0	518 x 27	.375 (9.53)	.388 (9.86)	.401 (10.2)	.195 (.640)	.437 (11.1)	.468 (11.9)	.487 (12.4)	117.50 (175.)	131.14 (195.)	150.98 (225.)
82A6083-00-*	00	666 x 27	.435 (11.0)	.448 (11.4)	.461 (11.7)	.152 (.499)	.501 (12.7)	.533 (13.5)	.553 (14.0)	151.50 (225.)	168.53 (251.)	191.44 (285.)
82A6083-000-*	000	851 x 27	.488 (12.4)	.506 (12.9)	.524 (13.3)	.115 (.377)	.556 (14.1)	.594 (15.1)	.620 (15.7)	193.75 (288.)	215.60 (321.)	246.51 (367.)
82A6083-0000-*	0000	999 x 27	.534 (13.6)	.552 (14.0)	.570 (14.5)	.100 (.328)	.604 (15.3)	.642 (16.3)	.670 (17.0)	231.24 (344.)	254.69 (379.)	291.06 (433.)

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.



TABLE II. PERFORMANCE DETAILS		
PART NUMBER <u>1/</u>	BEND TESTING	
	MANDREL DIAMETER (inch) (mm) (± 3%)	WEIGHT (lbs) (kg) (± 3%)
	CROSSLINKING PROOF TEST	CROSSLINKING PROOF TEST
82A6083-8-*	1.50 (38.1)	8.00 (3.63)
82A6083-6-*	2.00 (50.8)	8.00 (3.63)
82A6083-4-*	2.50 (63.5)	8.00 (3.63)
82A6083-2-*	3.00 (76.2)	12.0 (5.44)
82A6083-0-*	4.00 (102.)	12.0 (5.44)
82A6083-00-*	5.00 (127.)	16.0 (7.26)
82A6083-000-*	5.00 (127.)	16.0 (7.26)
82A6083-0000-*	5.00 (127.)	16.0 (7.26)

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 175°C

Maximum continuous conductor temperature

VOLTAGE RATING: 2000 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), 250 g weight

INSULATION ELONGATION AND TENSILE STRENGTH:

Elongation, 125% (minimum)

Tensile Strength, 3000 lbf/in² (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:

0.013 inch (minimum) for primary insulation

0.020 inch (minimum) for outer jacket

JACKET COLOR: White preferred

SECANT MODULUS (Test per ASTM D 882):

4.0 x 10⁴ lbf/in² (maximum)

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

SHRINKAGE: 150 ± 3°C for 6 hours, 0.25 inch (maximum) in 12 inches

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

1/ PART NUMBER:

The "*" in the part numbers on pages 1 and 2 shall be replaced by a color code designator.

Example: AWG 2, white: 82A6083-2-9

AWG 2, white with a black stripe: 82A6083-2-90

1/ See footer section on page 1

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