

SPECIFICATION CONTROL DRAWING

SCD **400R0311**

Title **WIRE, RADIATION-CROSSLINKED, POLYOLEFIN-INSULATED, LIMITED FIRE HAZARD, 2500 VOLT** Date **3-8-16** Revision **B**

This specification sheet forms a part of the latest issue of Raychem Specification WCD 3114.

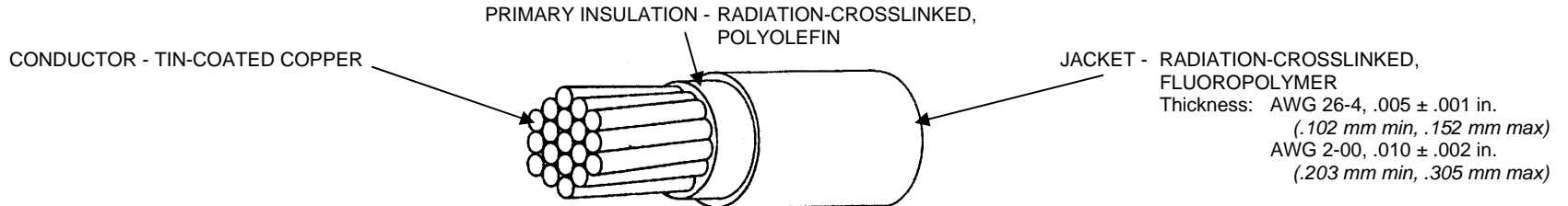


TABLE I. CONSTRUCTION DETAILS

PART NUMBER <i>1/</i>	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (inch) (mm)		MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.) (ohms/km)	FINISHED WIRE		MAXIMUM WEIGHT (lbs/1000 ft.) (kg/km)
			MINIMUM	MAXIMUM		DIAMETER (inch) (mm)		
						MINIMUM	MAXIMUM	
400R0311-26-*	26	19 x 38	.018 (.457)	.021 (.533)	41.3 (135.)	.051 (1.30)	.055 (1.40)	2.1 (3.13)
400R0311-24-*	24	19 x 36	.023 (.584)	.026 (.660)	26.2 (86.0)	.055 (1.40)	.059 (1.50)	3.0 (4.46)
400R0311-22-*	22	19 x 34	.029 (.737)	.033 (.838)	16.2 (53.1)	.066 (1.68)	.072 (1.83)	4.3 (6.40)
400R0311-20-*	20	19 x 32	.037 (.940)	.041 (1.04)	9.88 (32.4)	.075 (1.91)	.081 (2.06)	6.1 (9.08)
400R0311-18-*	18	19 x 30	.046 (1.17)	.051 (1.30)	6.23 (20.4)	.085 (2.16)	.091 (2.31)	8.7 (12.9)
400R0311-16-*	16	19 x 29	.052 (1.32)	.058 (1.47)	4.81 (15.8)	.093 (2.36)	.101 (2.57)	10.9 (16.2)
400R0311-14-*	14	19 x 27	.065 (1.65)	.073 (1.85)	3.06 (10.0)	.111 (2.82)	.119 (3.02)	16.2 (24.1)
400R0311-12-*	12	37 x 28	.084 (2.13)	.090 (2.29)	2.02 (6.63)	.127 (3.23)	.135 (3.43)	24.2 (36.0)
400R0311-10-*	10	37 x 26	.106 (2.69)	.114 (2.90)	1.26 (4.13)	.156 (3.96)	.166 (4.22)	36.5 (54.3)
400R0311-8-*	8	133 x 29	.158 (4.01)	.173 (4.39)	.701 (2.30)	.213 (5.41)	.225 (5.72)	65.0 (96.7)
400R0311-6-*	6	133 x 27	.198 (5.03)	.217 (5.51)	.445 (1.46)	.262 (6.65)	.276 (7.01)	103. (153.)
400R0311-4-*	4	133 x 25	.250 (6.35)	.274 (6.96)	.280 (.919)	.317 (8.05)	.333 (8.46)	158. (235.)
400R0311-2-*	2	665 x 30	.320 (8.13)	.340 (8.64)	.183 (.600)	.392 (9.96)	.416 (10.6)	252. (375.)
400R0311-0-*	0	1045 x 30	.405 (10.3)	.425 (10.8)	.116 (.381)	.478 (12.1)	.510 (13.0)	380. (566.)
400R0311-00-*	00	1330 x 30	.450 (11.4)	.475 (12.1)	.091 (.299)	.529 (13.4)	.561 (14.2)	459. (683.)

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) (mm) (± 3%)		WEIGHT (lb) (kg) (± 3%)	
	ACCELERATED AGING	COLD BEND	ACCELERATED AGING	COLD BEND
400R0311-26-*	.500 (12.7)	1.00 (25.4)	.625 (.283)	3.00 (1.36)
400R0311-24-*	.500 (12.7)	1.00 (25.4)	.625 (.283)	3.00 (1.36)
400R0311-22-*	.750 (19.1)	1.00 (25.4)	2.00 (.907)	3.00 (1.36)
400R0311-20-*	.750 (19.1)	1.00 (25.4)	2.50 (1.13)	4.00 (1.81)
400R0311-18-*	1.00 (25.4)	1.50 (38.1)	2.50 (1.13)	4.00 (1.81)
400R0311-16-*	1.00 (25.4)	1.50 (38.1)	2.50 (1.13)	5.00 (2.27)
400R0311-14-*	1.50 (38.1)	2.00 (50.8)	2.50 (1.13)	5.00 (2.27)
400R0311-12-*	2.00 (50.8)	2.00 (50.8)	3.00 (1.36)	5.00 (2.27)
400R0311-10-*	3.00 (76.2)	3.00 (76.2)	3.00 (1.36)	5.00 (2.27)
400R0311-8-*	3.00 (76.2)	4.00 (102.)	6.00 (2.72)	6.00 (2.72)
400R0311-6-*	4.00 (102.)	5.00 (127.)	6.00 (2.72)	10.0 (4.54)
400R0311-4-*	5.00 (127.)	6.00 (152.)	6.00 (2.72)	10.0 (4.54)
400R0311-2-*	6.00 (152.)	8.00 (203.)	6.00 (2.72)	15.0 (6.80)
400R0311-0-*	8.00 (203.)	10.0 (254.)	7.00 (3.18)	15.0 (6.80)
400R0311-00-*	9.00 (229.)	12.0 (305.)	7.00 (3.18)	15.0 (6.80)

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 125°C

Maximum continuous conductor temperature

VOLTAGE RATING: 2500 volts (rms) at sea level

ACCELERATED AGING: 300 ± 2°C for 6 hours

Identification legibility, 225 ± 2°C for 6 hours

BLOCKING: 150 ± 2°C for 24 hours

COLOR: White preferred

FLAMMABILITY: Char Length, 5 ft. (1.5 m) (maximum)

HUMIDITY RESISTANCE: Insulation Resistance,

5000 megohms for 1000 ft. (1524 megohms for 1 km) (minimum)

INSULATION ELONGATION AND TENSILE STRENGTH:

[1.5 inch (38.1 mm) jaw separation, 2.0 inch (50.8 mm)/minute crosshead speed]

Primary Insulation,

Elongation, 150% (minimum)

Tensile Strength, AWG 26-12: 2500 lbf/in² (17.2 MPa) (minimum)AWG 10-00: 2000 lbf/in² (13.8 MPa) (minimum)

INSULATION FLAWS:

Primary Insulation,

Spark Test, 5.0 kV (rms)

Impulse Dielectric Test, 6.0 kV (peak)

Finished Wire,

Spark Test, 8.0 kV (rms) at 3 kHz

Impulse Dielectric Test, 13.0 kV (peak)

INSULATION RESISTANCE:

5000 megohms for 1000 ft. (1524 megohms for 1 km) (minimum)

LOW TEMPERATURE-COLD BEND: -65 ± 2°C for 4 hours

SHRINKAGE: 300 ± 2°C

AWG 26-12: 0.125 in. (3.18 mm) (maximum) in 12 inches (305 mm)

AWG 10-00: 0.250 in. (6.35 mm) (maximum) in 12 inches (305 mm)

SMOKE TEST: D4, 50 (maximum); Dm, 300 (maximum)

TOXICITY: HCN: 100 ppm (maximum) SO₂: 100 ppm (maximum)

CO: 3500 ppm (maximum) HF: 100 ppm (maximum)

NO: 100 ppm (maximum) HCl: 500 ppm (maximum)

VOLTAGE WITHSTAND (Post Environmental): 5000 volts (rms), 60 Hz, 5 minutes

1/ PART NUMBER:

The *** in the part numbers in Tables I and II shall be replaced by a color code designator.

Example: AWG 20, white: 400R0311-20-9

AWG 20, white with a black stripe: 400R0311-20-90

PRODUCT IDENTIFICATION:

Outer surface of wire shall be marked in contrasting color as follows:

"RAYCHEM 400R0311-xx - 2500V Yr of Mfg" (xx = applicable AWG size)

1/ See footer section on page 1