

# SPECIFICATION CONTROL DRAWING

SCD

**SHF260-0813**

Title WIRE, MODIFIED PERFLUOROALKOXY COPOLYMER RESIN-INSULATED, 1000 VOLT

Date 7-10-17

Revision J

This specification sheet forms a part of the latest issue of Raychem Specification WCD 3111.

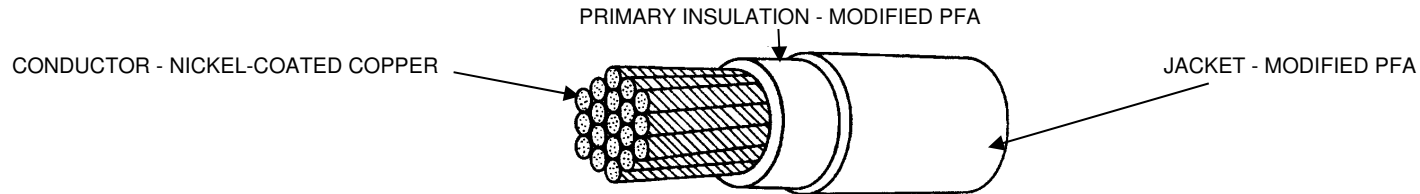


TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	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 DIAMETER (inch) (mm)			NOMINAL WEIGHT (lbs/1000 ft.) (kg/km)
			MINIMUM	MAXIMUM		MINIMUM	NOMINAL	MAXIMUM	
			SHF260-0813-24-*	24		105 x 44	.023 (.584)	.027 (.686)	
SHF260-0813-22-*	22	154 x 44	.029 (.737)	.033 (.838)	21.9 (71.8)	.058 (1.47)	.061 (1.55)	.064 (1.63)	4.23 (6.29)
SHF260-0813-20-*	20	154 x 42	.037 (.940)	.043 (1.09)	13.3 (43.6)	.069 (1.75)	.072 (1.83)	.075 (1.91)	5.96 (8.87)
SHF260-0813-18-*	18	259 x 42	.047 (1.19)	.053 (1.35)	8.67 (28.4)	.079 (2.01)	.082 (2.08)	.085 (2.16)	8.58 (12.8)
SHF260-0813-16-*	16	259 x 40	.061 (1.55)	.067 (1.70)	5.10 (16.7)	.093 (2.36)	.096 (2.44)	.099 (2.51)	12.2 (18.2)
SHF260-0813-14-*	14	665 x 42	.078 (1.98)	.086 (2.18)	3.32 (10.9)	.112 (2.84)	.116 (2.95)	.120 (3.05)	19.1 (28.4)
SHF260-0813-12-*	12	665 x 40	.096 (2.44)	.106 (2.69)	1.99 (6.53)	.131 (3.33)	.137 (3.48)	.143 (3.63)	27.3 (40.6)
SHF260-0813-10-*	10	665 x 38	.126 (3.20)	.140 (3.56)	1.14 (3.74)	.163 (4.14)	.171 (4.34)	.179 (4.55)	44.7 (66.5)
SHF260-0813-8-*	8	665 x 36	.157 (3.99)	.173 (4.39)	.714 (2.34)	.195 (4.95)	.205 (5.21)	.215 (5.46)	67.7 (101.)
SHF260-0813-6-*	6	1045 x 36	.192 (4.88)	.208 (5.28)	.490 (1.61)	.231 (5.87)	.242 (6.15)	.253 (6.43)	102. (152.)
SHF260-0813-4-*	4	1665 x 36	.265 (6.73)	.285 (7.24)	.326 (1.07)	.310 (7.87)	.323 (8.20)	.336 (8.53)	168. (250.)
SHF260-0813-2-*	2	1665 x 34	.325 (8.26)	.345 (8.76)	.193 (.633)	.373 (9.47)	.387 (9.83)	.401 (10.2)	250. (372.)
SHF260-0813-1-*	1	2109 x 34	.370 (9.40)	.400 (10.2)	.163 (.535)	.426 (10.8)	.441 (11.2)	.456 (11.6)	308. (458.)
SHF260-0813-0-*	0	2660 x 34	.435 (11.0)	.465 (11.8)	.133 (.436)	.494 (12.5)	.510 (13.0)	.526 (13.4)	395. (588.)
SHF260-0813-00-*	00	3325 x 34	.485 (12.3)	.515 (13.1)	.102 (.335)	.546 (13.9)	.564 (14.3)	.582 (14.8)	491. (731.)
SHF260-0813-000-*	000	4123 x 34	.540 (13.7)	.575 (14.6)	.073 (.239)	.606 (15.4)	.626 (15.9)	.646 (16.4)	604. (899.)
SHF260-0813-0000-*	0000	5320 x 34	.615 (15.6)	.655 (16.6)	.057 (.187)	.685 (17.4)	.707 (18.0)	.729 (18.5)	774. (1152.)

NOTE: Nominal values are for information only. Nominal values are not requirements.

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice. TE Connectivity 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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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%)		
	LIFE CYCLE	MINIMUM BEND RADIUS	WRAP TEST	COLD BEND	LIFE CYCLE	COLD BEND
SHF260-0813-24-*	.500 (12.7)	.500 (12.7)	.500 (12.7)	1.00 (25.4)	1.50 (.680)	3.00 (1.36)
SHF260-0813-22-*	.500 (12.7)	.750 (19.1)	.750 (19.1)	1.00 (25.4)	2.00 (.907)	3.00 (1.36)
SHF260-0813-20-*	.500 (12.7)	.750 (19.1)	.750 (19.1)	1.00 (25.4)	3.00 (1.36)	4.00 (1.81)
SHF260-0813-18-*	.750 (19.1)	1.00 (25.4)	1.00 (25.4)	1.50 (38.1)	4.00 (1.81)	4.00 (1.81)
SHF260-0813-16-*	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.50 (38.1)	4.00 (1.81)	5.00 (2.27)
SHF260-0813-14-*	1.00 (25.4)	1.25 (31.8)	1.25 (31.8)	2.00 (50.8)	6.00 (2.72)	5.00 (2.27)
SHF260-0813-12-*	1.50 (38.1)	1.50 (38.1)	1.50 (38.1)	2.00 (50.8)	6.00 (2.72)	5.00 (2.27)
SHF260-0813-10-*	2.00 (50.8)	2.00 (50.8)	2.00 (50.8)	3.00 (76.2)	6.00 (2.72)	5.00 (2.27)
SHF260-0813-8-*	3.00 (76.2)	2.25 (57.2)	2.25 (57.2)	4.00 (102.)	8.00 (3.63)	6.00 (2.72)
SHF260-0813-6-*	4.00 (102.)	2.75 (69.9)	2.75 (69.9)	5.00 (127.)	8.00 (3.63)	10.0 (4.54)
SHF260-0813-4-*	5.00 (127.)	3.75 (95.3)	3.75 (95.3)	6.00 (152.)	8.00 (3.63)	10.0 (4.54)
SHF260-0813-2-*	6.00 (152.)	4.50 (114.)	4.50 (114.)	8.00 (203.)	12.0 (5.44)	15.0 (6.80)
SHF260-0813-1-*	8.00 (203.)	5.00 (127.)	5.00 (127.)	10.0 (254.)	12.0 (5.44)	15.0 (6.80)
SHF260-0813-0-*	8.00 (203.)	6.00 (152.)	6.00 (152.)	10.0 (254.)	12.0 (5.44)	15.0 (6.80)
SHF260-0813-00-*	10.0 (254.)	6.00 (152.)	6.00 (152.)	12.0 (305.)	16.0 (7.26)	20.0 (9.07)
SHF260-0813-000-*	10.0 (254.)	7.50 (191.)	7.50 (191.)	12.0 (305.)	16.0 (7.26)	20.0 (9.07)
SHF260-0813-0000-*	10.0 (254.)	8.00 (203.)	8.00 (203.)	12.0 (305.)	16.0 (7.26)	20.0 (9.07)

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 260°C for 10,000 hours  
 VOLTAGE RATING: 1000 volts (rms) at sea level  
 COLOR: White preferred  
 CONCENTRICITY (each layer): 70% (minimum)  
 INSULATION ELONGATION AND TENSILE STRENGTH  
 (both layers pulled together):  
 Elongation, 150% (minimum)  
 Tensile Strength, 2000 lbf/in<sup>2</sup> (13.8 N/mm<sup>2</sup>) (minimum)  
 INSULATION FLAWS:  
 Primary Insulation,  
 Spark Test, 1.5 kV (rms)  
 Impulse Dielectric Test, 6.0 kV (peak)  
 Finished Wire,  
 Spark Test, 6.0 kV (rms)  
 Impulse Dielectric Test, 8.0 kV (peak)  
 LOW TEMPERATURE-COLD BEND: -65 ± 2°C for 4 hours  
 SHRINKAGE: 290 ± 2°C for 6 hours,  
 AWG 24-10: 0.125 in. (3.18 mm) (maximum) in 12 inches (305 mm)  
 AWG 8-00: 0.200 in. (5.08 mm) (maximum) in 12 inches (305 mm)  
 AWG 000-0000: 0.250 in. (6.35 mm) (maximum) in 12 inches (305 mm)

SMOKE TEST (Qualification):  
 Per WCD 3111, no visible smoke  
 Per SAE AS4373, Method 803 (Flaming Mode only),  
 0.02 Ds (nominal) after 16 minutes  
 THERMAL SHOCK RESISTANCE: 260 ± 2°C,  
 AWG 24-10: 0.125 in. (3.18 mm) (maximum)  
 AWG 8-00: 0.200 in. (5.08 mm) (maximum)  
 AWG 000-0000: 0.250 in. (6.35 mm) (maximum)  
 UV LASER MARKING (Per SAE AS4373, Method 1001):  
 AWG 24-2, white (-9) wire only:  
 Solid Laser, 50% (minimum)  
 Dot Matrix Laser, 50% (minimum)  
 VOLTAGE WITHSTAND (Post Environmental): 3000 volts (rms)  
 WRAP TEST: 290 ± 2°C for 2 hours

### 1/ PART NUMBER:

The "" in the part numbers in Tables I and II shall be replaced by a color code designator.  
 Example: AWG 0, white: SHF260-0813-0-9