## SPECIFICATION CONTROL DRAWING

55A0811

WIRE, RADIATION-CROSSLINKED, MODIFIED ETFE-INSULATED, NORMAL WEIGHT, GENERAL PURPOSE, 600 VOLT

4-27-15

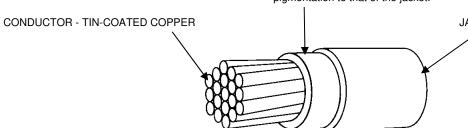
Date

Revision Z

This specification sheet forms a part of the latest issue of Raychem Specification 55A.

## PRIMARY INSULATION - RADIATION-CROSSLINKED, MODIFIED ETFE

Primary insulation shall be of a contrasting pigmentation to that of the jacket.



JACKET - RADIATION-CROSSLINKED, MODIFIED ETFE

TABLE I. CONSTRUCTION DETAILS									
	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (inch)		FINISHED WIRE				
PART NUMBER <u>1</u> /					MAXIMUM RESISTANCE AT 20°C	DIAMETER (inch)	MAXIMUM WEIGHT		
			MINIMUM	MAXIMUM	(ohms/1000 ft.)	(,	(lbs/1000 ft.)		
55A0811-28-*	28	7 x 36	.014	.016	68.6	.035 ± .002	1.3		
55A0811-26-*	26	19 x 38	.018	.020	41.3	.040 ± .002	1.7		
55A0811-24-*	24	19 x 36	.023	.025	26.2	.045 ± .002	2.3		
55A0811-22-*	22	19 x 34	.029	.031	16.2	.050 ± .002	3.2		
55A0811-20-*	20	19 x 32	.037	.039	9.88	.058 ± .002	4.7		
55A0811-18-*	18	19 x 30	.046	.049	6.23	.070 ± .003	7.2		
55A0811-16-*	16	19 x 29	.052	.055	4.81	.077 ± .003	9.0		
55A0811-14-*	14	19 x 27	.065	.069	3.06	.094 ± .003	13.8		
55A0811-12-*	12	37 x 28	.084	.089	2.02	.111 ± .003	20.5		
55A0811-10-*	10	37 x 26	.106	.113	1.26	.134 ± .004	32.4		
55A0811-8-*	8	133 x 29	.158	.173	.701	.195 ± .008	60.3		
55A0811-6-*	6	133 x 27	.198	.217	.445	.241 ± .010	94.5		
55A0811-4-*	4	133 x 25	.250	.274	.280	.310 ± .010	150.		
55A0811-2-*	2	665 x 30	.320	.340	.183	.408 ± .012	249.		
55A0811-1-*	1	817 x 30	.360	.380	.149	.470 ± .012	325.		
55A0811-0-*	0	1045 x 30	.395	.425	.116	.510 ± .016	383.		
55A0811-00-*	00	1330 x 30	.440	.475	.091	.570 ± .016	500.		
55A0811-000-*	000	1665 x 30	.500	.540	.071	.610 ± .016	596.		
55A0811-0000-*	0000	2109 x 30	.565	.605	.056	.675 ± .022	753.		

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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## **SPECIFICATION CONTROL DRAWING**

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TABLE II. PERFORMANCE DETAILS								
PART NUMBER <u>1</u> /	MANDREL DIAMETE (inch) (± 3%)	ER	WEIGHT (lb) (± 3%)					
	LIFE CYCLE, IMMERSION, AND ACCELERATED AGING	COLD BEND	LIFE CYCLE, IMMERSION, AND ACCELERATED AGING	COLD BEND				
55A0811-28-*	.375	.750	.250	2.00				
55A0811-26-*	.375	1.00	.500	3.00				
55A0811-24-*	.500	1.00	.750	3.00				
55A0811-22-*	.500	1.00	1.00	3.00				
55A0811-20-*	.500	1.00	1.50	4.00				
55A0811-18-*	.750	1.50	2.00	4.00				
55A0811-16-*	1.00	1.50	2.00	5.00				
55A0811-14-*	1.00	2.00	3.00	5.00				
55A0811-12-*	1.50	2.00	3.00	5.00				
55A0811-10-*	2.00	3.00	3.00	5.00				
55A0811-8-*	3.00	4.00	4.00	6.00				
55A0811-6-*	4.00	5.00	4.00	10.0				
55A0811-4-*	5.00	6.00	4.00	10.0				
55A0811-2-*	6.00	8.00	6.00	15.0				
55A0811-1-*	8.00	10.0	6.00	15.0				
55A0811-0-*	8.00	10.0	6.00	15.0				
55A0811-00-*	10.0	12.0	8.00	20.0				
55A0811-000-*	10.0	12.0	8.00	20.0				
55A0811-0000-*	10.0	12.0	8.00	20.0				

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 150°C

Maximum continuous conductor temperature VOLTAGE RATING: 600 volts (rms) at sea level ACCELERATED AGING (CROSSLINKING PROOF):

300 ± 3°C for 7 hours

BLOCKING: 200 ± 3°C for 24 hours

COLOR: White preferred

CONCENTRICITY: 70% (minimum) FLAMMABILITY: Procedure 1,

3 seconds (maximum), 3 inches (maximum);

no flaming of facial tissue

HUMIDITY RESISTANCE: Insulation Resistance, 5000 megohms for 1000 ft. (minimum), AWG 28-10 3000 megohms for 1000 ft. (minimum), AWG 8-0000

IDENTIFICATION, COLOR STRIPING, AND BAND DURABILITY:

125 cycles (250 strokes) (minimum), 500 g weight IMMERSION: Diameter increase 5% (maximum);

no cracking, no dielectric breakdown

INSULATION ELONGATION AND TENSILE STRENGTH:

Elongation.

125% (minimum) for primary insulation, AWG 28-10 only 75% (minimum) for total insulation (primary insulation & jacket) Tensile Strenath.

5000 lbf/in<sup>2</sup> (minimum) for primary insulation 5000 lbf/in<sup>2</sup> (minimum) for total insulation (primary insulation & jacket)

**INSULATION FLAWS:** 

Primary Insulation,

Spark Test, 1.5 kV (rms) at 60 Hz; 4.2 kV (rms) at 3 kHz Impulse Dielectric Test, 6.0 kV (peak)

Finished Wire,

Spark Test, 5.7 kV (rms) at 3 kHz Impulse Dielectric Test, 8.0 kV (peak) INSULATION RESISTANCE:

5000 megohms for 1000 ft. (minimum), AWG 28-10 3000 megohms for 1000 ft. (minimum), AWG 8-0000

**INSULATION THICKNESS:** 

0.003 in. (minimum) for primary insulation 0.004 in. (minimum) for outer jacket 0.009 in. (minimum) for total insulation LIFE CYCLE: 200 ± 3°C for 500 hours

LOW TEMPERATURE-COLD BEND: -65 ± 3°C for 4 hours

SHRINKAGE: 200 ± 3°C for 6 hours, 0.125 in. (maximum) in 12 inches SMOKE TEST: 200 ± 2°C, no visible smoke SOLDERABILITY (AWG 10 and smaller only):

Per MIL-STD-202, Method 208, except without steam aging

SURFACE RESISTANCE:

500 meghoms-in. (minimum), both readings THERMAL SHOCK RESISTANCE: 150 ± 3°C.

0.060 in. (maximum), AWG 28-12 0.100 in. (maximum), AWG 10-8 0.125 in. (maximum), AWG 6-0000

VOLTAGE WITHSTAND (Post Environmental):

2500 volts (rms), 60 Hz WICKING: 2.25 in. (maximum) WRAP TEST: 200 ± 3°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 22, white: 55A0811-22-9

AWG 22, white with a black stripe: 55A0811-22-90