

# SPECIFICATION CONTROL DRAWING

SCD

55A0116

Title WIRE, RADIATION-CROSSLINKED, MODIFIED ETFE-INSULATED,  
LIGHTWEIGHT, GENERAL PURPOSE, 600 VOLT

Date 5-28-15

Revision H

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

CONDUCTOR - NICKEL-COATED HIGH-STRENGTH  
COPPER ALLOY

INSULATION - RADIATION-CROSSLINKED,  
MODIFIED ETFE

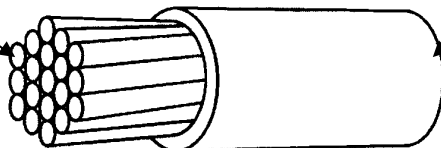


TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (inch)		FINISHED WIRE		
			MINIMUM	MAXIMUM	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.)	DIAMETER (inch)	MAXIMUM WEIGHT (lbs/1000 ft.)
55A0116-28-*	28	7 x 36	.014	.016	79.0	.027 ± .002	.91
55A0116-26-*	26	19 x 38	.018	.020	49.4	.032 ± .002	1.4
55A0116-24-*	24	19 x 36	.023	.025	30.1	.037 ± .002	2.0
55A0116-22-*	22	19 x 34	.029	.031	18.6	.043 ± .002	2.9
55A0116-20-*	20	19 x 32	.037	.039	11.4	.050 ± .002	4.4
55A0116-18-*	18	19 x 30	.046	.051	7.1	.060 ± .002	6.6

TABLE II. PERFORMANCE DETAILS

PART NUMBER 1/	BEND TESTING			
	MANDREL DIAMETER (inch) (± 3%)		WEIGHT (lb) (± 3%)	
	IMMERSION, LIFE CYCLE, AND ACCELERATED AGING	COLD BEND	IMMERSION, LIFE CYCLE, AND ACCELERATED AGING	COLD BEND
55A0116-28-*	.250	.375	.125	.500
55A0116-26-*	.375	.500	.125	.500
55A0116-24-*	.375	.500	.250	1.00
55A0116-22-*	.500	.750	.375	1.00
55A0116-20-*	.500	.750	.500	1.00
55A0116-18-*	.500	1.00	.500	1.00

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.

## WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 200°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

ACCELERATED AGING (CROSSLINKING PROOF): 300 ± 3°C for 7 hours

BLOCKING: 230 ± 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)

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, 75% (minimum)

Tensile Strength, 5000 lbf/in<sup>2</sup> (minimum)

INSULATION FLAWS:

Spark Test, 5.7 kV (rms) at 3 kHz

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION RESISTANCE:

5000 megohms for 1000 ft. (minimum)

INSULATION THICKNESS: 0.005 in. (minimum)

LIFE CYCLE: 230 ± 3°C for 500 hours

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

SHRINKAGE: 230 ± 3°C for 6 hours, 0.125 in. (maximum) in 12 inches

SMOKE TEST: 250 ± 5°C, no visible smoke

SURFACE RESISTANCE: 500 megohms-in. (minimum), both readings

THERMAL SHOCK RESISTANCE: 200 ± 3°C, 0.060 in. (maximum)

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

WRAP TEST: 313 ± 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: 55A0116-22-9

AWG 22, white with a black stripe: 55A0116-22-90

1/ See footer section on page 1