

# SPECIFICATION CONTROL DRAWING

SCD

55A7556

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

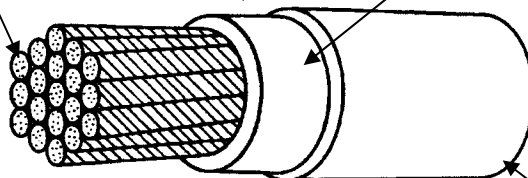
Date 8-19-14

Revision D

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

CONDUCTOR - SILVER-COATED HIGH-STRENGTH  
COPPER ALLOY

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

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (inch)		FINISHED WIRE			
			MINIMUM	MAXIMUM	MINIMUM CONDUCTOR BREAK STRENGTH (lbs)	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.)	DIAMETER (inch)	MAXIMUM WEIGHT (lbs/1000 ft.)
55A7556-22-*	22	154 x 44	.029	.033	24.0	23.5	.051 ± .002	3.4
55A7556-20-*	20	154 x 42	.037	.043	40.0	14.3	.060 ± .002	4.8
55A7556-18-*	18	259 x 42	.047	.053	70.3	8.47	.072 ± .003	7.6
55A7556-16-*	16	259 x 40	.061	.067	110.	5.41	.087 ± .003	11.0

TABLE II. PERFORMANCE DETAILS

PART NUMBER 1/	MANDREL DIAMETER (inch) (± 3%)		WEIGHT (lb) (± 3%)	
	ACCELERATED AGING, IMMERSION, AND LIFE CYCLE	COLD BEND	ACCELERATED AGING, IMMERSION, AND LIFE CYCLE	COLD BEND
55A7556-22-*	.500	1.00	1.00	3.00
55A7556-20-*	.500	1.00	1.50	4.00
55A7556-18-*	.750	1.50	2.00	4.00
55A7556-16-*	1.00	1.50	2.00	5.00

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):  $300 \pm 3^\circ\text{C}$  for 7 hours

BLOCKING:  $230 \pm 3^\circ\text{C}$  for 24 hours

COLOR: White preferred

CONCENTRICITY: 70% (minimum)

CONDUCTOR ELONGATION: 5% (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 AND COLOR STRIPING DURABILITY:

125 cycles (250 strokes) (minimum), 500 g weight

IMMERSION: Diameter increase 5% (maximum); no cracking, no dielectric breakdown

INSULATION ELONGATION AND TENSILE STRENGTH:

Total Insulation (primary insulation and jacket)

Elongation, 50% (minimum)

Tensile Strength, 5000 lbf/in<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, 3.0 kV (rms)

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION RESISTANCE:

5000 megohms for 1000 ft. (minimum)

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:  $230 \pm 3^\circ\text{C}$  for 500 hours

LOW TEMPERATURE-COLD BEND:  $-65 \pm 3^\circ\text{C}$  for 4 hours

SHRINKAGE:  $230 \pm 3^\circ\text{C}$  for 6 hours, 0.125 in. (maximum) in 12 inches

SMOKE TEST:  $250 \pm 5^\circ\text{C}$ , no visible smoke

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

THERMAL SHOCK RESISTANCE:  $200 \pm 3^\circ\text{C}$ , 0.060 in. (maximum)

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

1/ PART NUMBER:

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

Example: AWG 18, white: 55A7556-18-9

AWG 18, white with a black stripe: 55A7556-18-90