

# SPECIFICATION CONTROL DRAWING

55A0712

TITLE

WIRE, RADIATION-CROSSLINKED, MODIFIED, ETFE-INSULATED,  
HEAVY DUTY, GENERAL PURPOSE, 1000 VOLT

Date

10-26-04

Revision

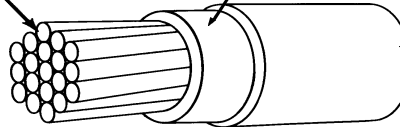
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This specification sheet forms a part of the latest issue of Raychem Specification 55A.

CONDUCTOR - SILVER-COATED COPPER

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

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PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (in.)		FINISHED WIRE		
			MINIMUM	MAXIMUM	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft)	DIAMETER (in.)	MAXIMUM WEIGHT (lbs/1000 ft)
55A0712-24-*	24	19 x 36	.023	.025	24.3	.056 ± .003	3.3
55A0712-22-*	22	19 x 34	.029	.031	15.1	.062 ± .003	4.4
55A0712-20-*	20	19 x 32	.037	.039	9.19	.070 ± .003	6.1
55A0712-18-*	18	19 x 30	.046	.048	5.79	.080 ± .004	8.7
55A0712-16-*	16	19 x 29	.052	.054	4.52	.087 ± .004	10.7
55A0712-14-*	14	19 x 27	.065	.068	2.88	.103 ± .004	15.7
55A0712-12-*	12	37 x 28	.084	.087	1.90	.120 ± .006	22.9
55A0712-10-*	10	37 x 26	.106	.112	1.19	.144 ± .006	35.3
55A0712- 8-*	8	133 x 29	.158	.169	.658	.205 ± .008	64.6
55A0712- 6-*	6	133 x 27	.198	.213	.418	.251 ± .010	100.
55A0712- 4-*	4	133 x 25	.250	.268	.264	.320 ± .010	158.
55A0712- 2-*	2	665 x 30	.320	.340	.170	.418 ± .012	263.

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
55A0712-24-*	1.00	1.25	2.00	4.00
55A0712-22-*	1.00	1.25	2.00	4.00
55A0712-20-*	1.00	1.25	3.00	5.00
55A0712-18-*	1.00	1.25	3.00	5.00
55A0712-16-*	1.25	1.50	3.50	5.50
55A0712-14-*	1.25	1.50	3.50	5.50
55A0712-12-*	2.00	3.00	4.00	6.00
55A0712-10-*	2.00	3.00	4.00	6.00
55A0712- 8-*	4.00	5.00	4.00	8.00
55A0712- 6-*	5.00	6.00	5.00	12.0
55A0712- 4-*	6.00	8.00	5.00	15.0
55A0712- 2-*	8.00	10.0	6.00	15.0

Users should evaluate the suitability of this product for their application. Specifications are subject to change without notice. Tyco Electronics 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.

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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WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 200°C

Maximum continuous conductor temperature

VOLTAGE RATING: 1000 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 in. (maximum); no flaming of facial tissue.

HUMIDITY RESISTANCE: Insulation Resistance,

5000 megohms for 1000 ft. (minimum) for AWG 24 -10,

3000 megohms for 1000 ft. (minimum) for AWG 8 - 2

IDENTIFICATION AND COLOR STRIPING DURABILITY:

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

INSULATION ELONGATION AND TENSILE STRENGTH:

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) for AWG 24 -10,

3000 megohms for 1000 ft. (minimum) for AWG 8 - 2

INSULATION THICKNESS: 0.014 in. (minimum) for total insulation

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 in.

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) for AWG 24 - 12

0.100 in. (maximum) for AWG 10 - 8

0.125 in. (maximum) for AWG 6 - 2

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

PART NUMBER:

The "\*" in the part numbers on page 1 shall be replaced by a color code designator.

1/ Example: AWG 22, white: 55A0712-22-9

AWG 22, white with black stripe: 55A0712-22-90

1/ See Footer section on page 1

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

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[55A0712-22-96](#) [55A0712-22-90](#) [55A0712-22-9](#) [55A0712-22-92](#)