

# SPECIFICATION CONTROL DRAWING

55FA0512

TITLE

CABLE, ELECTRIC, FILTER LINE - ELECTROLOSS™  
COMPONENT WIRE

Date

2-5-97

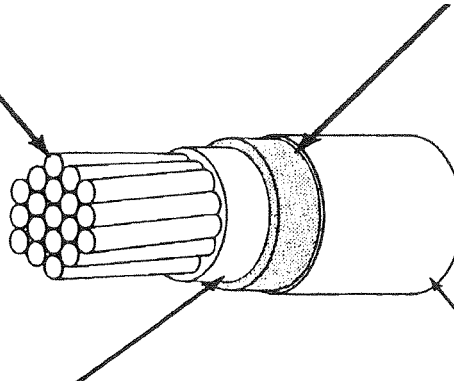
Revision

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

CONDUCTOR - SILVER-COATED COPPER

FILTER LAYER - RADIATION-MODIFIED,  
ABSORPTIVE COMPOUND



PRIMARY INSULATION - RADIATION-CROSSLINKED,  
MODIFIED PVF<sub>2</sub>  
COLOR - NATURAL

PRIMARY JACKET - RADIATION-CROSSLINKED,  
MODIFIED ETFE

TABLE I. CONSTRUCTION DETAILS

PART NUMBER	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 (lb/1000 ft)
55FA0512-22-*	22	19 x 34	.029	.032	15.1	.051 ± .003	4.0
55FA0512-20-*	20	19 x 32	.037	.040	9.19	.059 ± .003	5.8
55FA0512-18-*	18	19 x 30	.046	.050	5.79	.070 ± .003	8.7
55FA0512-16-*	16	19 x 29	.052	.057	4.52	.078 ± .004	11.2
55FA0512-14-*	14	19 x 27	.065	.072	2.88	.095 ± .004	16.1
55FA0512-12-*	12	37 x 28	.084	.089	1.90	.112 ± .004	24.0
55FA0512-10-*	10	37 x 26	.106	.112	1.19	.136 ± .005	37.0

TABLE II. PERFORMANCE DETAILS

PART NUMBER	BEND TESTING			
	MANDREL DIAMETER (inch) (± 3%)		WEIGHT (lb) (± 3%)	
	IMMERSION, LIFE CYCLE AND CROSSLINKING PROOF TEST	COLD BEND	IMMERSION, LIFE CYCLE AND CROSSLINKING PROOF TEST	COLD BEND
55FA0512-22-*	.500	2.00	.750	3.00
55FA0512-20-*	.750	2.50	1.25	4.00
55FA0512-18-*	1.00	3.00	1.75	4.00
55FA0512-16-*	1.00	3.00	2.00	5.00
55FA0512-14-*	1.00	5.00	2.00	5.00
55FA0512-12-*	1.50	6.00	2.50	5.00
55FA0512-10-*	1.50	8.00	2.50	5.00

COLORS AND COLOR CODE DESIGNATORS SHALL BE IN ACCORDANCE WITH MIL-STD-681.

DIMENSIONS ARE IN INCHES, AND UNLESS OTHERWISE DESIGNATED ARE NOMINAL.

**Raychem**

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## 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 TEST): 300 ± 3°C for 7 hours

ATTENUATION (INSERTION LOSS): See page 3

BLOCKING: 230 ± 3°C for 6 hours

COLOR: Light violet preferred

COLOR STRIPING DURABILITY: 125 Cycles (250 strokes) (minimum), 500 g weight

CONCENTRICITY: Primary Insulation - 50% (minimum); Finished Wire - 70% (minimum)

FLAMMABILITY: 3 seconds (maximum); 3 in. (maximum) no flaming of facial tissue

HUMIDITY RESISTANCE: Insulation Resistance, 5000 megohms for 1000 ft (minimum)

IDENTIFICATION DURABILITY: 125 cycles (250 strokes) (minimum), 500 g weight

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

INSULATION ELONGATION AND TENSILE STRENGTH: Primary Insulation,

Filter layer and Primary Jacket pulled together

Elongation, 50% (minimum)

Tensile Strength, 3000 lbf/in<sup>2</sup> (minimum)

INSULATION FLAWS: Primary Insulation only

Spark Test, 1.5 kV (rms), 60 Hz

Impulse Dielectric Test, 6.0 kV (peak)

Finished Wire,

Spark Test, 3.0 kV (rms), 60 Hz

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION RESISTANCE: 5000 megohms for 1000 ft (minimum)

INSULATION THICKNESS: Primary Insulation, .002 in. (minimum); Filter layer, average

.0025 in. (minimum); Primary Jacket, .0035 in. (minimum)

LIFE CYCLE: 230 ± 3°C for 500 hours

LOW TEMPERATURE-COLD BEND: -65 ± 2°C for 4 hours

SHRINKAGE: 200 ± 3°C for 6 hours, 0.125 in. (maximum)

SMOKE TEST: 200 ± 2°C, no visible smoke

SURFACE RESISTANCE: 500 megohms-in. (minimum), initial and final readings

THERMAL-SHOCK RESISTANCE: 200 ± 3°C, .060 in. (maximum)

VOLTAGE WITHSTAND (POST-ENVIRONMENTAL): (After Accelerated Aging,

Immersion, Life Cycle and Low Temperature-Cold Bend) 1500 volts (rms), 60 Hz

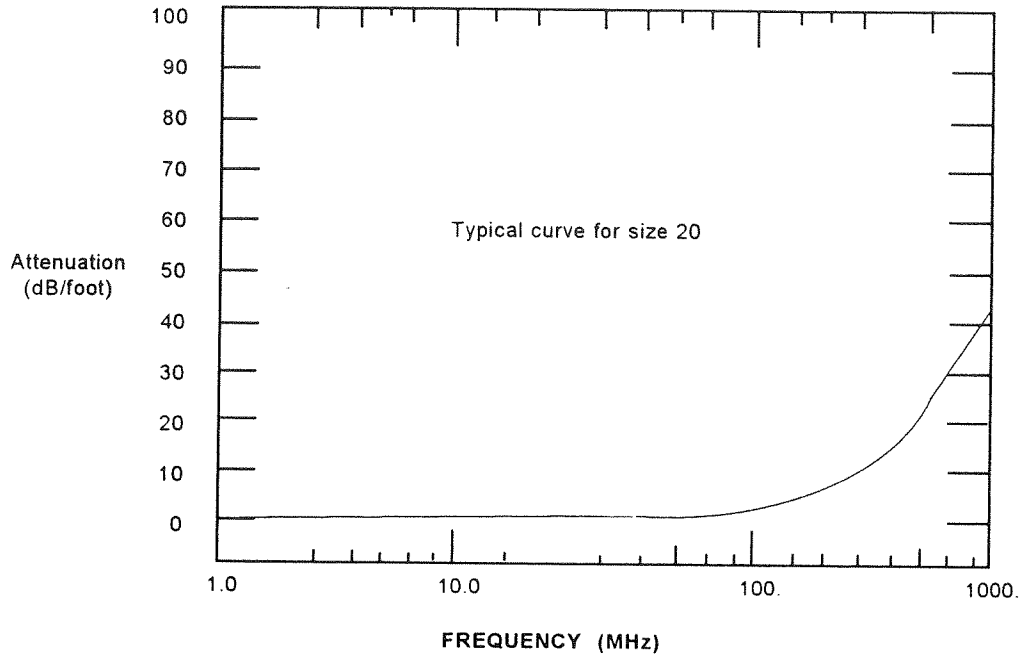
WRAP TEST: 200 ± 3°C for 6 hours, no cracking

PART NUMBER:

The "\*" in the part numbers on page 1 shall be replaced by color code designators, except that violet shall be light violet and designators shall be 7L.

Example: AWG 22, light violet: 55FA0512-22-7L

AWG 22, light violet with blue stripe: 55FA0512-22-7L6



Attenuation (insertion loss) \*

Attenuation (insertion loss) \*

PART NUMBER	PASS BAND (dB/ft)			TRANSITION BAND (dB/ft)			STOP BAND (dB/ft)
	1.0 MHz	10.0 MHz		100 MHz	500 MHz	1000 MHz	1 to 12 GHz
	(max)	(min)	(max)	(min)	(min)	(min)	(min)
55FA0512-22	.02	.06	0.20	1.3	12	30	30
55FA0512-20	.02	.06	0.20	1.3	12	30	30
55FA0512-18	.02	.06	0.20	1.3	13	33	33
55FA0512-16	.02	.06	0.20	1.3	13	33	33
55FA0512-14	.02	.06	0.20	1.3	13	33	33
55FA0512-12	.02	.04	0.20	1.3	12	30	30
55FA0512-10	.02	.04	0.20	1.3	12	30	30

\* THE PRIMARY WIRE OF THIS SPECIFICATION SHEET SHALL MEET THE ATTENUATION REQUIREMENTS SHOWN ABOVE ONLY WHEN USED AS A SINGLE COMPONENT IN A SHIELDED CABLE