

# SPECIFICATION CONTROL DRAWING

**FLTX\*0313**

TITLE HIGH TEMPERATURE HOOKUP WIRE, NICKEL-COATED COPPER, FLUOROPOLYMER INSULATED, 250°C, 600 VOLT

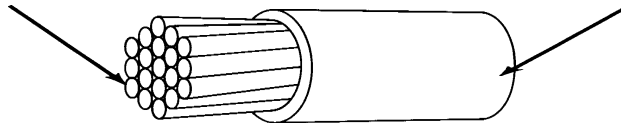
Date **06-05-01**

Revision **E**

The complete requirements for procuring the wire described herein shall consist of this document and the issue in effect of Raychem Specification WCD 3106 and UL subject 758, Style 10297, File 38136 and carries UL labels to this effect.

CONDUCTOR - NICKEL-COATED COPPER

INSULATION - FLUOROPOLYMER



### CONSTRUCTION DETAILS

PART NUMBER	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	CONDUCTOR DIAMETER (in.) (mm)			MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.) (ohms/km)	FINISHED WIRE DIAMETER (in.) (mm)			NOMINAL WEIGHT (lbs/1000ft.) (kg/km)
			LOWER SPEC LIMIT	TARGET VALUE	UPPER SPEC LIMIT		LOWER SPEC LIMIT	TARGET VALUE	UPPER SPEC LIMIT	
FLTXB0313-28-**	28	7 x 36	.0140 (.356)	.0145 (.368)	.0150 (.381)	68.2 (224.)	.037 (.940)	.039 (.991)	.041 (1.04)	1.47 (2.19)
FLTXC0313-26-**	26	19 x 38	.0180 (.457)	.0185 (.470)	.0190 (.483)	39.7 (130.)	.041 (1.04)	.043 (1.09)	.045 (1.14)	1.98 (2.95)
FLTXC0313-24-**	24	19 x 36	.0230 (.584)	.0235 (.597)	.0240 (.610)	25.4 (83.3)	.046 (1.17)	.048 (1.22)	.050 (1.27)	2.67 (3.97)
FLTXC0313-22-**	22	19 x 34	.0290 (.737)	.0295 (.749)	.0300 (.762)	15.9 (52.2)	.051 (1.30)	.054 (1.37)	.057 (1.45)	3.66 (5.45)
FLTXB0313-20-**	20	7 x 28	.0370 (.940)	.0380 (.965)	.0390 (.991)	10.0 (32.8)	.059 (1.50)	.062 (1.57)	.065 (1.65)	5.15 (7.66)
FLTXC0313-20-**	20	19 x 32	.0370 (.940)	.0375 (.953)	.0380 (.965)	9.76 (32.0)	.059 (1.50)	.062 (1.57)	.065 (1.65)	5.27 (7.84)
FLTXC0313-18-**	18	19 x 30	.0460 (1.17)	.0465 (1.18)	.0470 (1.19)	6.22 (20.4)	.068 (1.73)	.071 (1.80)	.074 (1.88)	7.59 (11.3)
FLTXC0313-16-**	16	19 x 29	.0520 (1.32)	.0525 (1.33)	.0530 (1.35)	4.82 (15.8)	.074 (1.88)	.077 (1.96)	.080 (2.03)	9.32 (13.9)
FLTXC0313-14-**	14	19 x 27	.0650 (1.65)	.0660 (1.68)	.0670 (1.70)	3.05 (10.0)	.086 (2.18)	.090 (2.29)	.094 (2.39)	13.8 (20.6)
FLTXD0313-12-**	12	37 x 28	.0840 (2.13)	.0850 (2.16)	.0860 (2.18)	1.97 (6.46)	.105 (2.67)	.109 (2.77)	.113 (2.87)	20.8 (30.9)
FLTXD0313-10-**	10	37 x 26	.106 (2.69)	.107 (2.72)	.108 (2.74)	1.26 (4.13)	.127 (3.23)	.131 (3.33)	.135 (3.43)	32.4 (48.2)
FLTXE0313-8-**	8	133 x 29	.158 (4.01)	.160 (4.06)	.162 (4.11)	.688 (2.26)	.196 (4.98)	.200 (5.08)	.204 (5.18)	61.3 (91.2)
FLTXE0313-6-**	6	133 x 27	.198 (5.03)	.201 (5.11)	.204 (5.18)	.436 (1.43)	.237 (6.02)	.241 (6.12)	.245 (6.22)	92.0 (136.9)

### WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 250°C  
VOLTAGE RATING: 600 volts (rms)

COLD BEND: No cracking or dielectric breakdown  
CONCENTRICITY: 70% (minimum)

IDENTIFICATION DURABILITY (UL 1581):  
No discontinuity of identification mark

INSULATION FLAWS:  
Spark Test, AWG 28 - 24, 4.0 kV (rms)  
AWG 22 - 20, 5.0 kV (rms)  
AWG 18 - 16, 6.0 kV (rms)  
AWG 14 - 6, 7.5 kV (rms)  
Impulse Dielectric Test, 8.0 kV (peak)

INSULATION ELONGATION AND TENSILE STRENGTH:  
Elongation, 200% (minimum)  
Tensile Strength, 2500 lbf/in<sup>2</sup> (minimum)

INSULATION RESISTANCE: 5000 megohms for 1000 ft. (min)  
INSULATION THICKNESS: .010 inch (min average)  
10 - 28 Awg .008 inch (min)  
6 - 8 Awg .015 inch (min)

REMOVABILITY OF INSULATION: Insulation shall not bunch or any strands break

SHRINKAGE: 250°C for 1 hour, 0.125 in. (max) per end,

THERMAL STABILITY: 287°C for 168 hours,  
85% (minimum) retention of Elongation  
85% (minimum) retention of Tensile Strength

VOLTAGE WITHSTAND TEST: 2500 volts (rms)  
(Post Environmental)

MARK: Mark in a contrasting color at 2 ft. (maximum) intervals between marks as follows:

" AWM STYLE 10297 600V 250C RAYCHEM E38136 "-" AWG"  
(Replace "-" with AWG size)

PART NUMBER:

The "\*" in the part numbers in the table shall be replaced by color code designators.

Example: AWG 18, white: FLTXC0313-18-9

The single "\*" in the part number in the upper right hand corner shall be replaced with a letter designator to define conductor stranding (see part numbers in table).

A = Solid B = 7 Strands C = 19 Strands D = 37 Strands E = Rope Lay

## Raychem

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