SPECIFICATION CONTROL DRAWING

FLHT+0311

TITLE	Date	Revision
HIGH TEMPERATURE HOOKUP WIRE, RADIATION-CROSSLINKED, MODIFIED ETFE-INSULATED, 600 VOLT	9-23-11	Y

The complete requirements for procuring the wire described herein shall consist of this document and the issue in effect of Raychem Specification WCD 3106, UL Subject 758, Style 3557, File E303150 and carries UL labels to this effect.

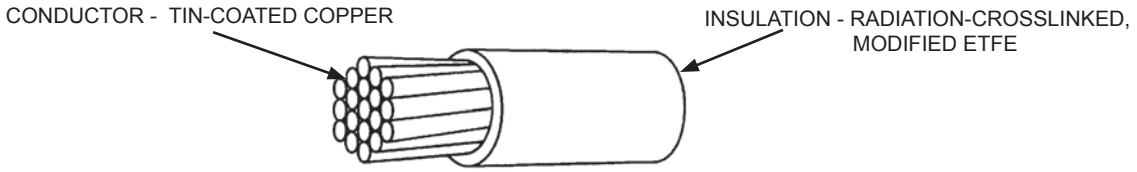

TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG) or (number x SEOD) (in.) (*mm*)	NOMINAL CONDUCTOR DIAMETER (in.) (*mm*)	FINISHED WIRE				
				MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.) (*ohms/km*)	DIAMETER (in.) (*mm*)			NOMINAL WEIGHT (lbs/1000 ft.) (*kg/km*)
					MINIMUM	NOMINAL	MAXIMUM	
FLHTB0311-28-*	28	7 x 36	.015 *(.381)*	72.8 *(239.)*	.0271 *(.688)*	.0285 *(.724)*	.0299 *(.759)*	.86 *(1.28)*
FLHTB0311-18-*	18	7 x 26	.047 *(1.19)*	7.06 *(23.2)*	.0584 *(1.48)*	.0601 *(1.53)*	.0618 *(1.57)*	5.95 *(8.85)*
FLHTB0311-16-*	16	7 x 24	.060 *(1.52)*	4.45 *(14.6)*	.0731 *(1.86)*	.0750 *(1.91)*	.0769 *(1.95)*	9.75 *(14.5)*
FLHTB0311-14-*	14	7 x .0242 *(.615)*	.073 *(1.85)*	2.90 *(9.51)*	.0865 *(2.20)*	.0886 *(2.25)*	.0907 *(2.30)*	14.6 *(21.7)*
FLHTC0311-26-*	26	19 x 38	.019 *(.483)*	45.8 *(150.)*	.0301 *(.765)*	.0315 *(.800)*	.0329 *(.836)*	1.27 *(1.89)*
FLHTC0311-24-*	24	19 x 36	.024 *(.610)*	28.7 *(94.2)*	.0351 *(.892)*	.0365 *(.927)*	.0379 *(.963)*	1.85 *(2.75)*
FLHTC0311-22-*	22	19 x 34	.030 *(.762)*	18.1 *(59.4)*	.0411 *(1.04)*	.0425 *(1.08)*	.0439 *(1.12)*	2.74 *(4.08)*
FLHTC0311-20-*	20	19 x 32	.038 *(.965)*	11.4 *(37.4)*	.0491 *(1.25)*	.0505 *(1.28)*	.0519 *(1.32)*	4.17 *(6.21)*
FLHTC0311-18-*	18	19 x 30	.047 *(1.19)*	7.15 *(23.5)*	.0583 *(1.48)*	.0600 *(1.52)*	.0617 *(1.57)*	6.34 *(9.43)*
FLHTC0311-16-*	16	19 x 29	.053 *(1.35)*	4.82 *(15.8)*	.0656 *(1.67)*	.0675 *(1.71)*	.0694 *(1.76)*	8.09 *(12.0)*
FLHTC0311-14-*	14	19 x 27	.066 *(1.68)*	3.05 *(10.0)*	.0799 *(2.03)*	.0820 *(2.08)*	.0841 *(2.14)*	12.5 *(18.6)*
FLHTC0311-12-*	12	19 x 25	.090 *(2.29)*	1.92 *(6.30)*	.1035 *(2.63)*	.1060 *(2.69)*	.1085 *(2.76)*	22.4 *(33.3)*
FLHTD0311-14-*	14	37 x 30	.068 *(1.73)*	3.22 *(10.6)*	.0819 *(2.08)*	.0840 *(2.13)*	.0861 *(2.19)*	14.5 *(21.6)*
FLHTD0311-12-*	12	37 x 28	.085 *(2.16)*	2.01 *(6.59)*	.0984 *(2.50)*	.1010 *(2.57)*	.1036 *(2.63)*	19.3 *(28.7)*
FLHTD0311-10-*	10	37 x 26	.107 *(2.72)*	1.26 *(4.13)*	.121 *(3.07)*	.125 *(3.18)*	.129 *(3.28)*	30.7 *(45.7)*
FLHTE0311-8-*	8	133 x 29	.160 *(4.06)*	.701 *(2.30)*	.175 *(4.45)*	.180 *(4.57)*	.185 *(4.70)*	54.9 *(81.7)*

Due to UL limitations on the usage of small strand bare and tin plated conductors, products with conductor strand diameters less than .015" (.381 mm) are intended for dry locations only. For wet locations, other UL recognized products are available.

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.

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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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TABLE II. PERFORMANCE DETAILS		
PART NUMBER 1/	BEND TESTING	
	MANDREL DIAMETER (inch) *(mm)* (± 3%)	WEIGHT (lb) *(kg)* (± 3%)
	CROSSLINK VERIFICATION	CROSSLINK VERIFICATION
FLHTB0311-28-*	.375 *(9.53)*	.125 *(.057)*
FLHTB0311-18-*	.500 *(12.7)*	1.00 *(.454)*
FLHTB0311-16-*	.750 *(19.1)*	1.50 *(.680)*
FLHTB0311-14-*	1.00 *(25.4)*	2.00 *(.907)*
FLHTC0311-26-*	.375 *(9.53)*	.125 *(.057)*
FLHTC0311-24-*	.375 *(9.53)*	.500 *(.227)*
FLHTC0311-22-*	.500 *(12.7)*	.750 *(.340)*
FLHTC0311-20-*	.500 *(12.7)*	1.00 *(.454)*
FLHTC0311-18-*	.500 *(12.7)*	1.00 *(.454)*
FLHTC0311-16-*	.750 *(19.1)*	1.50 *(.680)*
FLHTC0311-14-*	1.00 *(25.4)*	2.00 *(.907)*
FLHTC0311-12-*	1.50 *(38.1)*	3.00 *(1.36)*
FLHTD0311-14-*	1.00 *(25.4)*	2.00 *(.907)*
FLHTD0311-12-*	1.50 *(38.1)*	3.00 *(1.36)*
FLHTD0311-10-*	2.00 *(50.8)*	3.00 *(1.36)*
FLHTE0311-8-*	3.00 *(76.2)*	4.00 *(1.81)*

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

TEMPERATURE RATING: 200°C
VOLTAGE RATING: 600 volts (rms) at sea level
CROSSLINK VERIFICATION: 300 ± 3°C for 1 hour
FLAME RATING: VW-1
INSULATION ELONGATION AND TENSILE STRENGTH:
  Elongation, 100% (minimum)
  Tensile Strength, 5470 lbf/in^2 (minimum)
INSULATION FLAWS:
  Spark Test, 6.0 kV (rms)
  Impulse Dielectric Test, 8.0 kV (peak)
INSULATION THICKNESS:
  AWG 28 - 16: .0055 inch (minimum), .006 inch (minimum average)
  AWG 14: .006 inch (minimum), .0065 inch (minimum average)
  AWG 12: .0065 inch (minimum), .007 inch (minimum average)
  AWG 10: .007 inch (minimum), .0075 inch (minimum average)
  AWG 8: .0075 inch (minimum), .008 inch (minimum average)

1/ See footer section on page 1

SHRINKAGE: 200°C for 1 hour, 0.125 in. (maximum) per end
THERMAL STABILITY: 232°C for 168 hours,
  Elongation, 60% (minimum)
  Tensile Strength, 5000 lbf/in^2 (minimum)
VOLTAGE WITHSTAND (Post Environmental): 2500 volts (rms), 60 Hz, 5 minutes

SPOOL LABEL: All spool/reel labels containing conductor strand diameters less than .015" (.381 mm) shall include " For Dry Locations Only "

PART NUMBER:
  The "+" in the part number in the upper right hand corner of pages 1 and 2 shall be replaced with a letter designator to define conductor stranding (see part numbers in table).
  B = 7 Strands C = 19 Strands D = 37 Strands E = Rope Lay

The "*" in the part numbers in tables I and II shall be replaced by a color code designator.
1/ Example: AWG 18, 19 strands, white: FLHTC0311-18-9
  AWG 18, 19 strands, white with black stripe: FLHTC0311-18-90