SPECIFICATION CONTROL DRAWING

SCD **ATF+0311**

Title: AUTOMATIC TRANSMISSION CABLE, RADIATION-CROSSLINKED, MODIFIED FLUOROPOLYMER-INSULATED, 600 VOLT

Date: 1-29-15

Revision: H

This specification sheet forms a part of the latest issue of Raychem Specification 63.

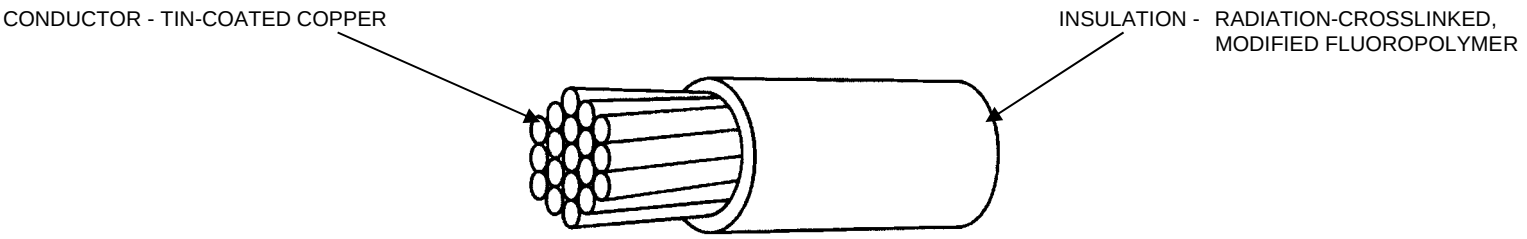


TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	CONDUCTOR DIAMETER (inch) *(mm)*		FINISHED CABLE				
					MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.) *(ohms/km)*	DIAMETER (inch) *(mm)*			NOMINAL WEIGHT (lbs/1000 ft.) *(kg/km)*
			LOWER SPEC LIMIT	UPPER SPEC LIMIT		LOWER SPEC LIMIT	TARGET VALUE	UPPER SPEC LIMIT	
ATFC0311-22-*	22	19 x 34	.029 *(.737)*	.031 *(.787)*	16.2 *(53.1)*	.044 *(1.12)*	.046 *(1.17)*	.048 *(1.22)*	3.0 *(4.46)*
ATFC0311-20-*	20	19 x 32	.037 *(.940)*	.039 *(.991)*	9.88 *(32.4)*	.052 *(1.32)*	.054 *(1.37)*	.056 *(1.42)*	4.4 *(6.55)*
ATFC0311-18-*	18	19 x 30	.046 *(1.17)*	.049 *(1.24)*	6.23 *(20.4)*	.061 *(1.55)*	.063 *(1.60)*	.065 *(1.65)*	6.6 *(9.82)*
ATFC0311-16-*	16	19 x 29	.052 *(1.32)*	.055 *(1.40)*	4.81 *(15.8)*	.066 *(1.68)*	.069 *(1.75)*	.072 *(1.83)*	8.3 *(12.4)*
ATFC0311-14-*	14	19 x 27	.065 *(1.65)*	.069 *(1.75)*	3.06 *(10.0)*	.083 *(2.11)*	.086 *(2.18)*	.089 *(2.26)*	12.9 *(19.2)*
ATFD0311-16-*	16	37 x 32	.051 *(1.30)*	.056 *(1.42)*	4.98 *(16.3)*	.067 *(1.70)*	.070 *(1.78)*	.073 *(1.85)*	8.5 *(12.6)*
ATFD0311-14-*	14	37 x 30	.067 *(1.70)*	.072 *(1.83)*	3.11 *(10.2)*	.089 *(2.26)*	.093 *(2.36)*	.097 *(2.46)*	15.5 *(23.1)*

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 SHALL BE IN ACCORDANCE WITH SAE J1128. COLOR CODE DESIGNATORS SHALL BE IN ACCORDANCE WITH SPEC 63.
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.

Raychem Wire & Cable
501 Oakside Avenue
Redwood City, CA 94063-3800
Phone: 1-800-227-8816
Fax: 1-650-361-6297

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TABLE II. PERFORMANCE DETAILS				
PART NUMBER 1/	HEAT RESISTANCE - BEND TESTING		DYNAMIC CUT-THROUGH (lb) *(kg)* (minimum)	
	MANDREL DIAMETER (inch) *(mm)* (± 3%)	WEIGHT (lb) *(kg)* (± 3%)	INITIAL	AFTER IMMERSION
ATFC0311-22-*	.750 *(19.1)*	.375 *(.170)*	TBD	TBD
ATFC0311-20-*	.750 *(19.1)*	.375 *(.170)*	20 *(9.07)*	20 *(9.07)*
ATFC0311-18-*	.750 *(19.1)*	.375 *(.170)*	TBD	TBD
ATFC0311-16-*	.750 *(19.1)*	.375 *(.170)*	TBD	TBD
ATFC0311-14-*	.750 *(19.1)*	.375 *(.170)*	TBD	TBD
ATFD0311-16-*	1.00 *(25.4)*	.500 *(.227)*	TBD	TBD
ATFD0311-14-*	1.00 *(25.4)*	.500 *(.227)*	TBD	TBD

CABLE RATINGS AND ADDITIONAL REQUIREMENTS

VOLTAGE RATING: 600 volts (dc) at sea level
CONCENTRICITY: 70% (minimum)
CROSSLINK PROOF TEST: Per QC/3/117
FLAMMABILITY: 70 seconds (maximum) afterburn
HEAT RESISTANCE: 150 ± 2°C for 1 hour
no cracking, no dielectric breakdown
INSULATION ELONGATION AND TENSILE STRENGTH:
(Pulled at 2 inches *(51 mm)* per minute)
Elongation, 150% (minimum)
Tensile Strength, 3000 lbf/in^2 *(20.7 N/mm^2)* (minimum)
INSULATION FLAWS:
Impulse Dielectric,
ATFC0311, 14 AWG and smaller, 5.0 kV (peak)
ATFD0311-16, 5.0 kV (peak)
ATFD0311-14, 6.0 kV (peak)
INSULATION RESISTANCE:
1000 kohms for 1000 ft. *(305 kohms for 1 km)* (minimum)
LOW TEMPERATURE-COLD BEND: -55 ± 3°C for 4 hours
SHRINKAGE: 0.050 inch *(1.27 mm)* (maximum)
STRIP FORCE: 4.5 lbs *(2.04 kg)* (minimum)
THERMAL STABILITY: Short Term, 200 ± 3°C for 168 hours
Elongation Retention, 80% (minimum)
Tensile Strength Retention, 80% (minimum)
TRANSMISSION FLUID RESISTANCE: Dexron VI, 150 ± 2°C for 720 hours
Diameter Swell, 5% (maximum)
Mandrel Wrap, 1x diameter mandrel, no dielectric breakdown
Dynamic Cut-Through, see Table II
VOLTAGE WITHSTAND (Post Environmental):
1000 volts (rms), 60 Hz, 1 minute

1/ 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).
C = 19 Strands D = 37 Strands

The "*" in the part numbers in Tables I and II shall be replaced by a color code designator.
Example: AWG 20, 19 strands, dark blue: ATFC0311-20-6D

1/ See footer section on page 1