

SPECIFICATION CONTROL DRAWING

SCD

22A0211

Title

WIRE, ETFE-INSULATED, TIN-COATED COPPER, MEDIUM WEIGHT

Date

9-30-20

Revision

A

CONDUCTOR – TIN-COATED COPPER

INSULATION – EXTRUDED ETFE

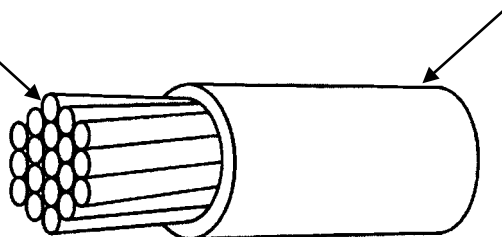


TABLE I. CONSTRUCTION DETAILS

PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (number x AWG)	DIAMETER OF STRANDED CONDUCTOR (inch)		FINISHED WIRE		
			MINIMUM	MAXIMUM	MAXIMUM RESISTANCE AT 20°C (ohms/1000 ft.)	DIAMETER (inch)	MAXIMUM WEIGHT (lbs/1000 ft.)
22A0211-24-*	24	19 x 36	.0225	.0244	26.2	.045 ± .002	2.57
22A0211-22-*	22	19 x 34	.0285	.0314	16.2	.052 ± .002	3.68
22A0211-20-*	20	19 x 32	.0365	.0394	9.88	.060 ± .002	5.36
22A0211-18-*	18	19 x 30	.0455	.0494	6.23	.071 ± .002	7.89
22A0211-16-*	16	19 x 29	.0515	.0554	4.81	.079 ± .002	9.95
22A0211-14-*	14	19 x 27	.0645	.0694	3.06	.093 ± .002	14.9
22A0211-12-*	12	37 x 28	.0835	.0894	2.02	.114 ± .003	22.6
22A0211-10-*	10	37 x 26	.106	.112	1.26	.139 ± .003	35.1
22A0211-8-*	8	133 x 29	.158	.169	.701	.199 ± .003	66.7
22A0211-6-*	6	133 x 27	.198	.212	.445	.250 ± .003	104
22A0211-4-*	4	133 x 25	.250	.268	.280	.312 ± .004	164
22A0211-2-*	2	665 x 30	.320	.340	.183	.388 ± .004	256
22A0211-1-*	1	817 x 30	.360	.380	.149	.431 ± .005	329
22A0211-0-*	0	1045 x 30	.395	.425	.116	.479 ± .006	410
22A0211-00-*	00	1330 x 30	.440	.475	.091	.546 ± .007	527

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.



Raychem Wire & Cable
501 Oakside Avenue
Redwood City, CA 94063-3800
Phone: 1-800-522-6752



TABLE II. PERFORMANCE DETAILS

WIRE SIZE (AWG)	BEND TESTING				
	MANDREL DIAMETER (inch) ($\pm 3\%$)			WEIGHT (lb) ($\pm 3\%$)	
	IMMERSION, LIFE CYCLE, AND SHORT-TERM THERMAL STABILITY	COLD BEND	WRAP TEST	IMMERSION, LIFE CYCLE, AND SHORT-TERM THERMAL STABILITY	COLD BEND
24	.50	1.00	—	.5	3.0
22	.75	1.00	—	1.5	3.0
20	.75	1.00	—	2.0	4.0
18	1.00	1.25	—	2.0	4.0
16	1.00	1.25	—	2.0	5.0
14	1.25	2.00	—	2.0	5.0
12	2.00	2.00	—	2.0	5.0
10	3.00	3.00	—	2.0	5.0
8	3.00	4.00	—	3.0	6.0
6	4.00	5.00	—	3.0	10.0
4	5.00	6.00	—	3.0	10.0
2	6.00	8.00	1.25	4.0	15.0
1	8.00	10.0	1.25	4.0	15.0
0	8.00	10.0	1.75	4.0	15.0
00	10.0	14.0	1.75	6.0	20.0

WIRE RATINGS AND ADDITIONAL REQUIREMENTS

(Test procedures per Raychem Specification 55A, unless otherwise specified)

TEMPERATURE RATING: 150°C

Maximum continuous conductor temperature

VOLTAGE RATING: 600 volts (rms) at sea level

BLOCKING: 200 \pm 2°C for 24 hours

COLOR: White preferred

CONCENTRICITY: 70% (minimum)

CONDUCTOR ELONGATION: Per AS22759

FLAMMABILITY: Procedure 1, 3 seconds (maximum), 3 inches (maximum); facial tissue not required

HUMIDITY RESISTANCE: Insulation Resistance,

5000 megohms for 1000 ft. (minimum), AWG 24–14

3000 megohms for 1000 ft. (minimum), AWG 12–6

2000 megohms for 1000 ft. (minimum), AWG 4–00

IDENTIFICATION, COLOR STRIPING, AND BAND DURABILITY:

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

IMMERSION (per AS22759): Diameter increase 5% (maximum);

no cracking, no dielectric breakdown

INSULATION ELONGATION AND TENSILE STRENGTH:

Elongation, 150% (minimum)

Tensile Strength, 5000 lbf/in² (minimum)

INSULATION FLAWS:

Spark Test, 5.7 kV (rms) at 3 kHz

Impulse Dielectric Test, 8.0 kV (peak)

INSULATION RESISTANCE:

5000 megohms for 1000 ft. (minimum), AWG 24–14

3000 megohms for 1000 ft. (minimum), AWG 12–6

2000 megohms for 1000 ft. (minimum), AWG 4–00

LIFE CYCLE: 200 \pm 2°C for 500 hoursLOW TEMPERATURE-COLD BEND: -65 \pm 2°C for 4 hours

REMOVABILITY OF INSULATION (STRIPPING): Per AS22759

SHORT-TERM THERMAL STABILITY: 230 \pm 2°C for 7 hoursSHRINKAGE: 200 \pm 2°C for 6 hours,

0.125 in. (maximum) in 12 inches

SMOKE TEST: 200 \pm 2°C, no visible smoke

SOLDERABILITY: Per MIL-STD-202, Method 208, except without steam aging

SURFACE RESISTANCE (AWG 24–12 only):

500 megohms-in. (minimum), both readings

THERMAL SHOCK RESISTANCE: 150 \pm 2°C,

0.060 in. (maximum), AWG 24–12

0.100 in. (maximum), AWG 10–8

0.125 in. (maximum), AWG 6–00

VOLTAGE WITHSTAND (Post Environmental):

2000 volts (rms), 60 Hz

WRAP TEST: 200 \pm 2°C for 2 hours; use mandrels in Table II for AWG 2 and larger.

1/ PART NUMBER:

The "" in the part numbers in Table I shall be replaced by a color code designator.

Example: AWG 22, white: 22A0211-22-9

AWG 22, white with a black stripe: 22A0211-22-90

1/ See footer section on page 1