	SPECIFI		ION CO	NTRO	L DRA	WING				RC	W5986
WIRE, ELECTRICAL, NORMAL WEIGHT, POLYTETRAFLUOROETHYLENE/POLYIMIDE-INSULATED, SILVER-COATED COPPER, 200°C, 600 VOLTS							Date	e Revision D			
		This	product meets all	requirements of	of SAE AS2275	59/86 for the part nu	imbers specified	d herein.			
CONDUCTOR – SILVER-COATED COPPER INSULATION – TAPE WRAPS (2 or more layers) (See Tables II and III for details)											
				TABLE I	. CONSTRUC	TION DETAILS					
								FINISHED \	WIRE		
RAYCHEM PART NUMBER 1/	SAE PART NUMBER 1/	WIRE SIZE (AWG)	CONDUCTOR STRANDING (no. x AWG)	CONDUCTOR DIAMETER (inch)		MAXIMUM RESISTANCE AT 20°C	DIAMETER (inch)		WEIGHT (lbs/1000 ft)		
				MINIMUM	MAXIMUM	(ohms/1000 ft.)	MINIMUM	MAXIMUM	MINIMUM	TARGET	MAXIMUM
RCW5986-26-*	M22759/86-26-*	26	19 x 38	.0175	.0194	38.4	.033	.037	1.29	1.42	1.55
RCW5986-24-*	M22759/86-24-*	24	19 x 36	.0225	.0244	24.3	.038	.042	1.87	2.04	2.20
RCW5986-22-*	M22759/86-22-*	22	19 x 34	.0285	.0304	15.1	.043	.047	2.70	2.90	3.10
RCW5986-20-*	M22759/86-20-*	20	19 x 32	.0365	.0384	9.19	.051	.055	4.25	4.48	4.70
RCW5986-18-*	M22759/86-18-*	18	19 x 30	.0455	.0484	5.79	.061	.065	6.40	6.65	6.90
RCW5986-16-*	M22759/86-16-*	16	19 x 29	.0515	.0544	4.52	.068	.073	8.20	8.50	8.80
RCW5986-14-*	M22759/86-14-*	14	19 x 27	.0645	.0684	2.88	.081	.086	12.4	12.9	13.4
RCW5986-12-*	M22759/86-12-*	12	37 x 28	.0835	.0874	1.90	.100	.105	18.9	19.7	20.4
RCW5986-10-	N22759/80-10-	10	37 X 20	.106	.110	1.19	.122	.127	29.3	30.8	51.0
RCW5960-0-	M22759/00-0-	0	133 X 29	.100	.100	0.030	.100	.100	04.7	30.0 96.5	00.0
RCW5986-4-*	M22759/86-4-*	4	133 x 25	250	.200	0.418	.219	288	136	140	144
RCW5986-6-*	M22759/86-6-* M22759/86-4-*	6 4	133 x 27 133 x 25	.198 .250	.208 .263	0.418 0.264	.219 .276	.229 .288	84.1 136.	86.5 140.	88.9 144.
10003300-4-	1/ PART NUMBER	R:		ropload	oolor codo de	aignator to india-t-	the wire color	(NOTE: Star	dord color is w	hito)	
NGW3300-4-	1/ PART NUMBER The "*" in the Example: A	R: e part numbe WG 20, whit	ers above shall be te wire: RCW5986	replaced with a 3-20-9; or M227	a color code de 759/86-20-9	signator to indicate	the wire color.	(<u>NOTE</u> : Stan	dard color is w	hite.)	
NGW3300-4-	<u>1</u> / PART NUMBEF The "*" in the Example: A <i>Tyco Electronics also</i>	R: e part numbe WG 20, whit Users should preserves the	ers above shall be te wire: RCW5986 d evaluate the suitable a right to make chang	replaced with a 5-20-9; or M227 lity of this produc es in materials of	a color code de 759/86-20-9 et for their applica r processing, whi	signator to indicate tion. Specifications a ch do not affect compl	the wire color. re subject to chan jance with any sp	(<u>NOTE</u> : Stan ge without notice ecification, without	dard color is w	hite.) Buyer	
1/ COLOR CODE DESIG	1/ PART NUMBEF The "*" in the Example: A <i>Tyco Electronics also</i>	R: part numbe WG 20, whith Users should preserves the -STD-681. OTH	ers above shall be te wire: RCW5986 d evaluate the suitable right to make chang ER CODES AND SUFFIXE	replaced with a 5-20-9; or M227 ility of this produc es in materials o ES MAY BE ADDED 1	a color code de 759/86-20-9 2t for their applica 7 processing, whi To THE RAYCHEM P	signator to indicate tion. Specifications at ch do not affect compl ART NUMBER, AS NECES	the wire color. re subject to chan jance with any sp SARY, TO CAPTURE	(NOTE: Stan ge without notice ecification, without ANY ADDITIONAL R	dard color is w	hite.) Buyer. DSED BY THE PUI	RCHASE ORDER.
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TABLE II. WIRE INSULATION MATERIALS							
TAPE CODE	NOMINAL THICKNESS (inch)	MATERIAL					
1	.0020	.0005 in. FP / .0010 in. Polyimide / .0005 in. FP					
2	.0010	FP (skived)					
3	.0020	FP (skived)					
4	.0020	FP (unsintered)					
5	.0025	FP (unsintered)					
6	.0030	FP (unsintered)					

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FP – fluorocarbon polymer, modified polytetrafluoroethylene (PTFE)

TABLE III. TAPE OVERLAP REQUIREMENTS													
WIRE	WIRE WRAP 1		WRAP 2			WRAP 3			WRAP 4			NOMINAL	
SIZE T. (AWG) C	TAPE	PE OVERLAP (%)		TAPE	OVERLAP (%)		TAPE	OVERLAP (%)		TAPE	OVERLAP (%)		WALL THICKNESS
	CODE	MINIMUM	MAXIMUM	CODE	MINIMUM	MAXIMUM	CODE	MINIMUM	MAXIMUM	CODE	MINIMUM	MAXIMUM	(inch)
26	1	50.5	54.0	4	50.5	54.0		_	_	_	_	_	.0074
24	1	50.5	54.0	4	50.5	54.0		_		_	_		.0074
22	1	50.5	54.0	4	50.5	54.0		_	_	_	_	_	.0074
20	1	50.5	54.0	4	50.5	54.0	_	—		_	_		.0074
18	1	50.5	54.0	4	50.5	54.0	_	_		_	_		.0074
16	1	50.5	54.0	5	50.5	54.0	_	_		_	_		.0083
14	1	50.5	54.0	5	50.5	54.0	_	_		_	_		.0083
12	1	50.5	54.0	6	50.5	54.0	_	_		_	_		.0091
10	1	50.5	54.0	6	50.5	54.0	_	_	_	_	_	_	.0091
8	2	20.5	35.0	1	50.5	55.0	6	67.0	71.0	_	_		.0132
6	2	20.5	35.0	1	50.5	55.0	6	67.0	71.0	_	_	_	.0132
4	3	20.5	35.0	1	50.5	55.0	6	50.5	54.0	6	50.5	54.0	.0162

Note: Wrap sequence is from innermost to outermost; with Wrap 1 being the innermost tape against the conductor, and Wraps 2, 3 and 4 progressively outward.

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TABLE IV. TEST MANDREL AND LOAD REQUIREMENTS									
WIRE SIZE (AWG)	MAN (DREL DIAMETER (inch) (± 3%)	TEST LOAD (lbs) (± 3%)						
	COLD BEND	LIFE CYCLE/ BEND TEST	WRAP	COLD BEND	LIFE CYCLE/ BEND TEST				
26	1.00	.375	.125	3.00	0.50				
24	1.00	.500	.125	3.00	0.75				
22	1.00	.500	.125	4.00	1.00				
20	1.00	.500	.125	4.00	1.50				
18	1.50	.750	.250	5.00	2.00				
16	1.50	1.00	.250	5.00	2.00				
14	2.00	1.00	.375	5.00	3.00				
12	2.00	1.50	.375	5.00	3.00				
10	3.00	2.00	.375	6.00	3.00				
8	4.00	3.00	.750	10.00	4.00				
6	5.00	4.00	1.00	10.00	4.00				
4	6.00	5.00	1.25	15.00	4.50				

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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 COLOR: Wire colors are per the UV laser markable color limits specified in SAE AS22759/86 CONDUCTOR STRAND ADHESION: AWG 26–14: 13 strands unbonded (minimum) AWG 12-10: 26 strands unbonded (minimum) AWG 8–4: 93 strands unbonded (minimum) IDENTIFICATION OF PRODUCT (not required for AWG 26): Per SAE AS22759/86: mark with SAE part number (less color code). Raychem CAGE code, and slash sheet revision as follows: Example: "M22759/86-20 06090 REV B" IDENTIFICATION, COLOR STRIPING OR BANDING DURABILITY: 125 cycles (250 strokes) (minimum), 250 grams weight INSULATION FLAWS (100% test one of the following): Spark Test: 5.7 kV (rms), 3 kHz Impulse Dielectric Test: 8.0 kV (peak) **INSULATION RESISTANCE:** AWG 26-10: 5000 megohms (minimum) for 1000 ft AWG 8-4: 3000 megohms (minimum) for 1000 ft

INSULATION STATE OF SINTER (AWG 10 and smaller only): 3 joules/gram (maximum) difference INSULATION STRIP FORCE (AWG 14 and smaller only): AWG 26-20: 0.25 lbf (minimum), 6.0 lbf (maximum) AWG 18-14: 0.50 lbf (minimum), 7.0 lbf (maximum) LAMINATION SEALING: 260°C for 6 hours; no tape separation or lifting LOW TEMPERATURE (COLD BEND): -65 ± 2°C for 4 hours; 2500 volts (rms), 60 Hz, for 5 minutes SHRINKAGE: 230 ± 2°C for 6 hours; AWG 26-10: 0.091 inch (maximum) in 12 inches AWG 8-4: 0.125 inch (maximum) in 12 inches SOLDERABILITY: 95% (minimum) continuous solder coating STRIPPABILITY (AWG 10 and smaller only): 0.031 inch (maximum) 'tail' fragment; conductor strands shall exhibit no base metal exposure, insulation residue. or splaving THERMAL SHOCK RESISTANCE: 200 ± 2°C; AWG 26-10: 0.091 inch (maximum) AWG 8-4: 0.125 inch (maximum) WRAP TEST (MANDREL): 2500 volts (rms), 60 Hz, for 5 minutes