

# Hook-Up and Lead Wire

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Hypalon and Teflon are DuPont trademarks.

Please refer to "Terms of Use of Master Catalog" on page 22.22

# Introduction

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Belden® hook-up and lead wire products are manufactured in a variety of materials, sizes and designs to meet rigid industry and government specifications. Manufactured in-house, our hook-up and lead wire manufacturing process begins with copper rod. Our rubber formulation and plastic mixing facilities give us complete control of the product from start to finish. As a result, consistent quality of these products is always assured.

Our hook-up and lead wire products can be used in a wealth of applications including inter-connection circuits, internal wiring of computer and data processing equipment, appliances, lighting, motor leads, heating and cooling equipment, harness fabrication and automotive.

Most of our hook-up and lead wire constructions are available from stock in a wide variety of colors and packages. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find hook-up or lead wire in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

### Special Ordering Information

#### Number Printed Wire

Thermosetting and thermoplastic constructions can be supplied with printed numbers. Price and delivery information is available upon request.

### Hypalon and Neoprene Constructions

These constructions may require a special topcoat to facilitate printing by customers. Minimum order is 5000' per AWG. Please order the standard item and specify "Top-Coated" and specify color. Orders must be in multiples of standard packages. Price and delivery information is available upon request.

### Manufacturer's Identification

Identification of the hook-up and lead wire is provided by our UL and CSA file numbers or printed name on the wire jacket.

UL/CSA	File Number	Style
UL	E-12683	1XXX, 2XXX, 3XXX, 4XXX, 5XXX
	E-9147	GTO 10
	E-6934	SF-1, SFF-1, SF-2, SFF-2
	E-3197	SIS
CSA	LL-7874	All Types

### Appliance Wiring Material (AWM)

Appliance Wiring Material is Underwriter Laboratories, Inc.'s recognized covering of insulated wire and cable intended for internal wiring of appliances and equipment. Each construction satisfies the requirements for use in particular applications. Wiring materials recognized under this classification bear the Underwriters' "Appliance Wiring Material Label."

## UL & CSA Type by Belden Series

UL Style*	CSA Type	Belden Series Number	Temp. Rating	Page No.
1007	TR-64	328, 99	80°C	3.4
1015	TEW	327, 99, 89	105°C	3.5
1028	TEW	99, 89	105°C	3.6
1061	AWM	99	80°C	3.3
1180	—	830	200°C	3.9
1213	—	830	105°C	3.10
1283	TEW	99	105°C	3.6
1371	—	830	105°C	3.11
1569	TRSR-64	99	105°C	3.4
1855	—	—	80°C	3.24
3044	CL902	315	90°C	3.18
3046	CL903	315, 325	90°C	3.18
3048	CL902	315	90°C	3.18
3049	CL902	315	90°C	3.18
3069	SEWF-2	308	150°C	3.21
3070	SEWF-2	308	150°C	3.21
3071	SEW-2	324	200°C	3.20
3074	SEW-2	324	200°C	3.20
3075	SEW-2	324	200°C	3.20
3101	SEWF-2	308	150°C	3.21
3123	—	340	150°C	3.21
3125	SEW-2	308	200°C	3.20
3126	SEW-2	308	200°C	3.20
3135	—	334	200°C	3.19
3173	CL1251	356	125°C	3.14
3190	CL1052	349	105°C	3.17
3191	CL1052	344	105°C	3.16
3192	CL1052	344	105°C	3.16
3193	CL1052	344	105°C	3.16
3195	CL1251	356	125°C	3.14
3196	CL1251	356	125°C	3.14
3199	CL1054	357	105°C	3.14
3212	AWM	333	150°C	3.19
3213	AWM	333	150°C	3.19
3214	AWM	333	150°C	3.19
3239	—	—	80°C	3.22
3321	AWM	354	150°C	3.15
3340	CL1254	371	150°C	3.12
3374	CL1254	371	150°C	3.12
3436	CL1251	354	150°C	3.15
3484	AWM	372	125°C	3.13
3499	—	375	150°C	3.13
GTO-10	GTO-10	390	105°C	3.24
SIS	—	310	90°C	3.15

\*These UL Styles are the Belden product which are listed in this catalog.

Hypalon and Teflon are DuPont trademarks.



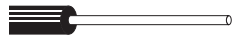
# PVC

## UL AWM Style 1061 300V, 80°C (CSA AWM)

### Product Description

Tinned copper, semi-rigid PVC insulation (solid conductors suitable for wire wrap applications).

#### Solid Conductor



#### Stranded Conductor



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>300V, 80°C (UL &amp; CSA)</b>										
<b>UL AWM Style 1061 • CSA AWM</b>										
9978	30 (solid)	.010	.25	.030	.76	100	30.5	.1	.05	1-5, 7-10, 13
						1000	304.8	1.0	.50	1-5, 7-10, 13
9987	30 (7x38)	.010	.25	.032	.81	100	30.5	.1	.05	2, 7-10
						1000	304.8	1.0	.50	2, 7-10
9977	28 (solid)	.010	.25	.033	.84	100	30.5	.1	.05	1-5, 7-10, 13
						1000	304.8	1.0	.50	1-5, 7-10, 13
9986	28 (7x36)	.010	.25	.035	.89	100	30.5	.1	.05	1-5, 7-10, 13
						1000*	304.8	2.0	1.00	1-5, 7-10, 13
						10000*	3048.0	10.0	4.50	2, 4, 10, 13
9976	26 (solid)	.010	.25	.036	.91	100	30.5	.2	.10	1-5, 7-10, 13
						1000*	304.8	2.0	.90	1-5, 7-10, 13
9985	26 (7x34)	.010	.25	.039	.99	100	30.5	.2	.10	1-5, 7-10, 13
						1000*	304.8	2.0	.90	1-5, 7-10, 13
						5000*	1524.0	10.0	4.50	4, 5, 10, 13
9975	24 (solid)	.010	.25	.040	1.02	100	30.5	.2	.10	1-5, 7-10, 13
						1000*	304.8	3.0	1.40	1-5, 7-10, 13
						5000*	1524.0	10.0	4.50	2, 10
9984	24 (7x32)	.010	.25	.044	1.12	100	30.5	.2	.10	1-5, 7-10, 13
						1000*	304.8	3.0	1.40	1-5, 7-10, 13
						5000*	1524.0	10.0	4.50	2, 3, 5, 10, 13
9979	22 (solid)	.010	.25	.047	1.19	1000*	304.8	4.0	1.80	1-5, 7-10, 13
						5000*	1524.0	15.0	6.80	9
9983	22 (7x30)	.010	.25	.050	1.27	100	30.5	.3	.10	1-5, 7-10, 13
						1000*	304.8	4.0	1.80	1-5, 7-10, 13
						5000*	1524.0	15.0	6.80	1, 9, 13
						10000*	3048.0	30.0	13.60	1-3, 9, 10
9982	20 (7x28)	.010	.25	.057	1.45	100	30.5	.5	.20	1-5, 7-10, 13
						1000*	304.8	5.0	2.30	1-5, 7-10, 13
						5000*	1524.0	20.0	9.07	9, 13
9917	20 (10x30)	.010	.25	.056	1.42	1000*	304.8	5.0	2.30	1-4, 7, 9, 10
9911	18 (16x30)	.010	.25	.067	1.70	1000	304.8	7.0	3.20	1-5, 7-10, 13
9981	18 (19x30)	.010	.25	.066	1.68	100	30.5	.8	.40	1-5, 7-10, 13
						1000*	304.8	7.0	3.20	1-5, 7-10, 13
9980	16 (19x28)	.010	.25	.078	1.98	100	30.5	1.3	.60	1-5, 7-10, 13
						1000*	304.8	11.0	5.00	1-5, 7-10, 13
9909	16 (26x30)	.010	.25	.080	2.03	100*	30.5	1.2	.50	3, 7
						1000*	304.8	11.0	5.00	2-5, 7, 9, 10

\*Stripe colors on stock solid colors. Striping adder of \$8.00/1000 ft. for one or two stripes. 10,000 ft. minimum order for color combination. Put-up will be subject to two pieces ±10% per spool with a minimum length of 100 ft.

# PVC

## UL AWM Style 1007 300V, 80°C

(JQA-F-)  
VW-1

### Product Description

Tinned copper, PVC insulation. Rated 80°C, 300V. Rated 600V peak for electronic circuits, and internal wiring of electronic and electrical equipment.



## UL and CSA Dual-Rated Wire

UL AWM Style 1007 — 300V, 80°C  
(CSA Type TR-64, 90°C)

UL AWM Style 1569 — 300V, 105°C  
(CSA Type TRSR-64, 105°C)

(JQA-F- [except 9989])  
VW-1

### Product Description

Tinned copper, PVC insulation. Rated 105°C, 300V. Rated 600V peak for electronic circuits, and internal wiring of electronic and electrical equipment.



## UL AWM Style 1007 300V, 80°C

(CSA Type TR-64, 90°C)  
(JQA-F-)

VW-1

Recommended maximum baking cycles:  
24 hours @ 300°F (149°C)



Stranded tinned copper conductor  
(Uni-Strand®)

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 300V, 80°C (UL)

UL AWM Style 1007 • JQA-F-										
9930	30 (7x38)	.015	.38	.044	1.12	100	30.5	.2	.1	1-5, 7-10, 13
						1000*	304.8	2.0	.9	1-5, 7-10, 13

### Dual-Rated • 300V, 80°C and 300V, 105°C (UL & CSA)

UL AWM Style 1007 and 1569 • CSA Types TR-64 and TRSR-64 • JQA-F-										
9928	28 (7x36)	.015	.38	.047	1.19	100	30.5	.2	.1	1-5, 7, 9, 10, 13
						1000*	304.8	2.0	.9	1-5, 7-10, 13
						5000*	1524.0	10.0	4.5	4, 10
9926	26 (7x34)	.015	.38	.051	1.30	100	30.5	.2	.1	1-5, 7-10, 13
						1000*	304.8	3.0	1.4	1-5, 7-10, 13
						5000*	1524.0	10.0	4.5	2, 5, 9, 10, 13
9923	24 (7x32)	.015	.38	.056	1.42	100	30.5	.3	.1	1, 2, 4, 5, 9, 10
						1000*	304.8	4.0	1.8	1-5, 7-10, 13
						5000*	1524.0	15.0	6.8	1-5, 7-10, 13
9921	22 (7x30)	.015	.38	.062	1.57	100	30.5	.4	.2	1-10, 13
						1000*	304.8	5.0	2.3	1-10, 13
						5000*	1524.0	20.0	9.1	1-6, 8-10, 13
9919	20 (7x28)	.015	.38	.069	1.75	100	30.5	.7	.3	1-5, 7-10, 13
						1000*	304.8	6.0	2.7	1-5, 7-10, 13
9920	20 (10x30)	.015	.38	.067	1.70	1000*	304.8	6.0	2.7	1-10, 13
						5000*	1524.0	25.0	11.4	2, 6, 9, 10, 13
9918	18 (16x30)	.015	.38	.079	2.01	100	30.5	.9	.4	1-10, 13
						1000*	304.8	8.0	3.6	1-10, 13
						5000*	1524.0	35.0	15.9	1-5, 7-10, 13
9916	16 (26x30)	.015	.38	.092	2.34	100	30.5	1.3	.6	1-5, 7-10, 13
						1000*	304.8	12.0	5.5	1-5, 7-10, 13
						5000*	1524.0	55.0	25.0	1-3, 5, 9, 10

UL AWM Style 1569 • CSA Type TR-64 and TRSR-64										
9989	14 (41x30)	.015	.38	.110	2.79	1000*	304.8	17.0	7.7	1-5, 7, 9, 10, 13

### 300V, 80°C (UL) • 300V, 90°C (CSA)

UL AWM Style 1007 • CSA Type TR-64 • JQA-F-										
32822	22 (7x30) [.36 (7x.25)]	.015	.38	.062	1.58	5000 <sup>†</sup>	1524.0	20.0	9.1	1-5, 7-10, 13
						32820	20 (7x28) [.56 (7x.32)]	.015	.38	.068

\*Stripe colors on stock solid colors. Striping adder of \$8.00/1000 ft. for one or two stripes. 10,000 ft. minimum order for color combination. Put-up will be subject to two pieces ±10% per spool with a minimum length of 100 ft.

†May contain more than one piece. Minimum length of any one piece is 200 ft.

# PVC

**UL AWM Style 1015  
600V, 105°C**  
(CSA Type TEW)  
(JQA-F-)

VW-1

**Product Description**

Tinned copper, PVC insulation. Rated 105°C, 600V. Rated 2500V peak for electronic circuits, and internal wiring of electronic and electrical equipment.



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>600V, 105°C (UL &amp; CSA)</b>										
<b>UL AWM Style 1015 • CSA Type TEW • JQA-F-</b>										
9924	24 (7x32)	.030	.76	.088	2.24	100	30.5	.7	.3	1-5, 9, 10, 13
						1000*	304.8	5.0	2.3	1-5, 7-10, 13
						5000	1524.0	25.0	11.4	9, 10
8920	22 (7x30)	.030	.76	.093	2.36	100	30.5	.8	.4	1-5, 9, 10, 13
						1000*	304.8	7.0	3.2	1-5, 7-10, 13
						5000*	1524.0	30.0	13.6	1, 2, 4, 5, 10, 13
8919	20 (10x30)	.030	.76	.100	2.54	100	30.5	.9	.4	1-5, 9, 10, 13
						1000*	304.8	8.0	3.6	1-5, 7-10, 13
						5000*	1524.0	40.0	18.2	2, 4, 9, 10, 13
8918	18 (16x30)	.030	.76	.110	2.79	100	30.5	1.2	.5	1-5, 9, 10, 13, 189
						1000*	304.8	10.0	4.5	1-5, 7-10, 13, 189
						5000*	1524.0	50.0	22.7	1, 2, 4, 5, 7-10, 13
8915	18 (solid)	.030	.76	.105	2.67	1000*	304.8	10.0	4.5	2-5, 8-10, 13
						5000*	1524.0	50.0	22.7	2, 10
8917	16 (26x30)	.030	.76	.123	3.12	100	30.5	2.2	1.0	1-5, 9, 10, 13, 189
						500	152.4	7.5	3.4	1-5, 9, 10, 13
						1000*	304.8	13.0	6.0	1-5, 7-10, 13, 189
						4000	1219.2	56.0	25.4	189
8916	14 (41x30)	.030	.76	.138	3.51	5000*	1524.0	70.0	31.8	1, 2, 5, 9, 10, 13
						100	30.5	2.8	1.3	1-5, 7-10, 13, 189
						500	152.4	10.5	4.8	1-5, 7-10, 13, 189
9912	12 (65x30)	.030	.76	.158	4.01	4000*	1219.2	80.0	36.4	1-5, 7-10, 13
						100	30.5	3.7	1.7	1-5, 7-10, 13
						250	76.2	7.8	3.5	1-5, 8-10, 13
9910	10 (65x28)	.030	.76	.180	4.57	2000	609.6	60.0	27.3	1-5, 9, 10, 13
						100	30.5	5.2	2.4	2, 4, 9, 10
						250	76.2	11.3	5.1	2, 4, 9, 10
8910	10 (105x30)	.030	.76	.186	4.72	2000	609.6	86.0	39.1	2, 9, 10
						500	152.4	22.0	10.0	1-5, 7-10, 13
						2000	609.6	92.0	41.8	1, 3, 4, 8, 10, 13

**UL AWM Style 1015  
600V, 105°C**  
(CSA Type TEW)  
(JQA-F-)

VW-1

**Product Description**

Uni-Strand® conductors.

**Recommended maximum baking cycles:**  
48 hours @ 275°F (135°C) • 24 hours @ 300°F (149°C)



Stranded tinned copper conductor (Uni-Strand®)

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>600V, 105°C (UL &amp; CSA)</b>										
<b>UL AWM Style 1015 • CSA Type TEW • JQA-F-</b>										
32722	22 (7x30) [.36 (7x.25)]	.030	.76	.093	2.36	5000 <sup>†</sup>	1524.0	35.0	13.9	2, 8, 9, 10
32720	20 (7x28) [.56 (7x.32)]	.030	.76	.099	2.52	4000 <sup>†</sup>	1219.2	28.0	12.7	1-5, 9, 10, 13
32718	18 (7x26) [.90 (7x.40)]	.032	.80	.108	2.74	4000 <sup>†</sup>	1219.2	40.0	18.2	2-5, 7, 9, 10, 13

\*Stripe colors on stock solid colors. Striping adder of \$8.00/1000 ft. for one or two stripes. 10,000 ft. minimum order for color combination. Put-up will be subject to two pieces ±10% per spool with a minimum length of 100 ft.

<sup>†</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

3 • Hook-Up and Lead Wire



# PVC

## UL AWM Style 1028 and 1015 600V, 105°C

(CSA Type TEW)

VW-1

### Product Description

Tinned copper, PVC insulation.



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 600V, 105°C (UL & CSA)

UL AWM Style 1028 and 1015 • CSA Type TEW										
9908	8 (84x27)	.045	1.14	.250	6.35	100	30.5	8.0	3.6	2, 4, 9, 10
						250	76.2	19.0	8.7	2, 9, 10
8908	8 (133x29)	.045	1.14	.262	6.65	250	76.2	18.5	8.4	1-5, 7-10, 13
						1500	457.2	115.5	52.4	2, 4, 5, 7, 8, 10

### 600V, 105°C (UL & CSA)

UL AWM Style 1283 and 1015 • CSA Type TEW										
9906	6 (133x27)	.060	1.52	.331	8.41	100	30.5	11.7	5.3	1-5, 7-10, 13
						1000	304.8	122.0	55.5	1-5, 8-10, 13
9904	4 (133x25)	.060	1.52	.392	9.96	50	15.2	11.2	5.1	1-5, 7-10, 13
						500	152.4	100.5	45.7	1, 2, 4, 9, 10

## UL AWM Style 1283 and 1015 600V, 105°C

(CSA Type TEW)

VW-1

### Product Description

Tinned copper, PVC insulation.



# PVC

## (Type MW) MIL-W-76C-PVC 1000V, 80°C\*\*

### Product Description

Tinned copper, PVC insulation, medium wall. The extruded PVC insulation is flame and ozone resistant and inert to most chemicals, oils, and solvents. Covers single conductor, PVC insulation hook-up wire for internal wiring of electrical and electronic equipment.

### Solid Conductor



### Stranded Conductor



## (Type B) MIL-W-16878/1-PVC 600V, 105°C\*\*

### Product Description

Tinned copper, PVC insulation. Covers insulated wire for internal wiring of meters, panels, and electrical or electronic equipment. Temperatures to 105°C. For high-temperature MIL-Spec hook-up wire, see pages 3.9 to 3.11.



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>1000V, 80°C (MIL-Spec)</b>										
<b>(Type MW) MIL-W-76C-PVC</b>										
8538	24 (solid)	.017	0.43	.055	1.40	100	30.5	.3	.1	1-10
	MW-C24 (1) A					1000*	304.8	4.0	1.8	1-10
8525	24 (7x32)	.017	0.43	.058	1.47	100	30.5	.3	.1	1-21
	MW-C24 (7) A					1000	304.8	4.0	1.8	1-13,* 14-21
8530	22 (solid)	.017	0.43	.059	1.50	100	30.5	.4	.2	1-13
	MW-C22 (1) A					1000*	304.8	4.0	1.8	1-13
8524	22 (7x30)	.017	0.43	.064	1.63	100	30.5	.4	.2	1-30
	MW-C22 (7) A					1000	304.8	5.0	2.3	1-13,* 14-30
8529	20 (solid)	.017	0.43	.066	1.68	100	30.5	.7	.3	1-10, 13
	MW-C20 (1) A					1000*	304.8	6.0	2.7	1-10, 13
8523	20 (10x30)	.017	0.43	.070	1.78	100	30.5	.7	.3	1-24, 27, 29, 30
	MW-C20 (10) A					1000	304.8	6.0	2.7	1-13,* 14-24, 30
8522	18 (16x30)	.017	0.43	.080	2.03	100	30.5	.9	.4	1-30
	MW-C18 (16) A					1000	304.8	8.0	3.6	1-13,* 14-24, 26, 28, 30
8521	16 (26x30)	.019	0.48	.098	2.49	100	30.5	1.4	.6	1-22
	MW-C16 (26) A					1000	304.8	12.0	5.5	1-13,* 14-22
8520	14 (41x30)	.018	0.46	.111	2.82	100	30.5	1.9	.9	1-11, 13-16, 18, 19
	MW-C14 (41) A					1000	304.8	17.0	7.7	1-10,* 13,* 14-17, 18, 20
8527	12 (65x30)	.018	0.46	.128	3.25	100	30.5	3.3	1.5	1-7, 9, 10
	MW-C12 (65) A					1000*	304.8	24.0	10.9	1-10

\*Stripe colors on stock solid colors. Striping adder of \$8.00/1000 ft. for one or two stripes. 10,000 ft. minimum order for color combination. Put-up will be subject to two pieces ±10% per spool with a minimum length of 100 ft.

\*\*Certification available upon special request.

### 600V, 105°C (MIL-Spec)

<b>(Type B) MIL-W-16878/1-PVC</b>										
8597	28 (7x36)	.010	.25	.035	.89	100	30.5	.1	.1	1-10
	B-28					1000	304.8	1.0	.5	1-10
8505	26 (7x34)	.010	.25	.039	.99	100	30.5	.2	.1	1-10, 14-22
	B-26					1000	304.8	1.0	.5	1-10,* 14-18, 20
8504	24 (7x32)	.010	.25	.044	1.12	100	30.5	.2	.1	1-10, 14-22
	B-24					1000	304.8	2.0	.9	1-10,* 14-20, 22
8503	22 (7x30)	.010	.25	.050	1.27	100	30.5	.3	.1	1-10, 14-22
	B-22					1000	304.8	3.0	1.4	1-10,* 14-22
8502	20 (7x28)	.010	.25	.058	1.47	100	30.5	.5	.2	1-10, 14-16, 18-20
	B-20					1000	304.8	4.0	1.8	1-10,* 14-16, 18-20
8501	18 (7x26)	.010	.25	.068	1.73	100	30.5	.9	.4	1-10, 14-18, 20-22
	B-18					1000	304.8	7.0	3.2	1-10,* 14-18, 20-22
8500	16 (19x29)	.010	.25	.079	2.01	100	30.5	1.2	.5	1-10, 14-22
	B-16					1000	304.8	10.0	4.5	1-10,* 14-22

\*Stripe colors on stock solid colors. Striping adder of \$8.00/1000 ft. for one or two stripes. 10,000 ft. minimum order for color combination. Put-up will be subject to two pieces ±10% per spool with a minimum length of 100 ft.

\*\*Certification available upon special request.

# PVC

## Hook-Up Wire on Racks

### Wire Dispenser Kits

#### Product Description

Great for R and D labs, engineers, servicemen and hobbyists.

Specify Part No. 8800 for Rack only.



Part No.	No. of Spools	Type of Wire (Part No.)	Temp. Rating	AWG (stranding)	Spool Lengths		Standard Unit Weight		Colors in Kits (See Color Codes Chart on Page 3.29)
					Ft.	m	Lbs.	kg	
<b>Wire Dispenser Kits</b>									
<b>Hook-Up Wire on Racks</b>									
8816	8	Tinned PVC (8522)	80°C	18 (16x30)	25	7.6	2.5	1.1	1,2,3,4,5,6,9,10
8824	8	Tinned PVC (8523)	80°C	20 (10x30)	25	7.6	2.1	1.0	1,2,3,4,5,6,9,10
8825	5	Tinned PVC (8502)	105°C	20 (7x28)	100	30.5	3.1	1.4	2,4,5,9,10
9531	5	Tinned PVC (8524)	80°C	22 (7x30)	100	30.5	2.7	1.2	2,5,6,9,10



# Teflon® High-Temperature

**UL AWM Style 1180**  
**300V, 200°C**  
(Type EE) MIL-W-16878/5  
Teflon — 1000V, 200°C  
VW-1

### Product Description

Stranded silver-coated copper conductor insulation with extruded TFE Teflon.



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>300V, 200°C (UL) • 1000V, 200°C (MIL-Spec)</b>										
<b>UL AWM Style 1180 • (Type EE) MIL-W-16878/5 — Teflon</b>										
83023*	24 (19x36)	.015	.38	.053	1.35	100 <sup>†</sup>	30.5	.4	.2	1-10
						500 <sup>▲</sup>	152.4	2.5	1.1	2, 4, 5, 9, 10
						1000 <sup>▲</sup>	304.8	4.0	1.8	1-10
83025	22 (7x30)	.015	.38	.060	1.52	100 <sup>†</sup>	30.5	.5	.2	1-7, 9, 10
						500 <sup>▲</sup>	152.4	3.0	1.4	2, 9, 10
						1000 <sup>▲</sup>	304.8	5.0	2.3	1-7, 9, 10
83026*	22 (19x34)	.015	.38	.059	1.50	100 <sup>†</sup>	30.5	.5	.2	1-10
						500 <sup>▲</sup>	152.4	3.0	1.4	2, 9, 10
						1000 <sup>▲</sup>	304.8	5.0	2.3	1-10
83027*	20 (19x32)	.015	.38	.068	1.73	100 <sup>††</sup>	30.5	.8	.4	1-10
						500 <sup>▲</sup>	152.4	4.0	1.8	2, 9, 10
						1000 <sup>▲</sup>	304.8	7.0	3.2	1-10
83028	20 (7x28)	.015	.38	.068	1.73	100 <sup>††</sup>	30.5	.8	.4	1-10
						500 <sup>▲</sup>	152.4	4.0	1.8	2, 9, 10
						1000 <sup>▲</sup>	304.8	7.0	3.2	1-10
83029*	18 (19x30)	.015	.38	.077	1.96	100 <sup>††</sup>	30.5	1.1	.5	1-10
						500 <sup>▲</sup>	152.4	5.5	2.5	2, 5, 6, 9, 10
						1000 <sup>▲</sup>	304.8	9.0	4.1	1-10
83030*	16 (19x29)	.015	.38	.088	2.24	100 <sup>††</sup>	30.5	1.3	.6	1-10
						500 <sup>▲</sup>	152.4	6.5	3.0	2, 9, 10
						1000 <sup>▲</sup>	304.8	12.0	5.4	1-10

\*Complies with MIL-W-16878 except stranding.  
<sup>†</sup>100 ft. put-ups are exact, but may contain 2 pieces max.  
<sup>††</sup>100 ft. put-ups are exact, one piece.  
<sup>▲</sup>May contain more than one piece. Minimum length of any one piece is 25 ft.

Teflon is a DuPont trademark.



# Teflon® High-Temperature

## UL AWM Style 1213 — 105°C

(Type E) MIL-W-16878/4

Teflon — 600V, 200°C

VW-1

### Product Description

Stranded silver-coated copper conductor insulation with extruded TFE Teflon.



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 105°C (UL) • 600V, 200°C (MIL-Spec)

#### UL AWM Style 1213 • (Type E) MIL-W-16878/4 — Teflon

83000	30 (7x38)	.010	.25	.032	.81	100 †	30.5	.1	.05	1-10
						1000 ▲	304.8	1.0	.50	1-10
83001*	28 (7x36)	.010	.25	.035	.89	100 †	30.5	.2	.10	1-10
						1000 ▲	304.8	2.0	.90	1-10
83002	26 (7x34)	.010	.25	.039	.99	100 †	30.5	.2	.10	1-10
						500 ▲	152.4	1.0	.50	9
						1000 ▲	304.8	3.0	1.40	1-10
83003*	24 (19x36)	.010	.25	.043	1.09	100 †	30.5	.3	.10	1-10
						500 ▲	152.4	1.5	.70	1-10
						1000 ▲	304.8	3.0	1.40	1-10
83004	24 (7x32)	.010	.25	.043	1.09	100 †	30.5	.3	.10	1-10
						500 ▲	152.4	1.5	.70	2, 10
						1000 ▲	304.8	3.0	1.40	1-10
83005	22 (7x30)	.010	.25	.049	1.24	100 †	30.5	.4	.20	1-10
						500 ▲	152.4	2.5	1.10	2, 9, 10
						1000 ▲	304.8	4.0	1.80	1-10
83006*	22 (19x34)	.010	.25	.048	1.22	100 †	30.5	.4	.20	1-10
						500 ▲	152.4	2.5	1.10	1-10
						1000 ▲	304.8	4.0	1.80	1-10
83007*	20 (19x32)	.010	.25	.056	1.42	100 ††	30.5	.5	.20	1-10
						500 ▲	152.4	3.5	1.60	2, 6, 9, 10
						1000 ▲	304.8	6.0	2.70	1-10
83008	20 (7x28)	.010	.25	.058	1.47	100 †	30.5	.5	.20	1-10
						500 ▲	152.4	3.5	1.60	1-10
						1000 ▲	304.8	6.0	2.70	1-10

\*Complies with MIL-W-16878 except stranding.

†100 ft. put-ups are exact, but may contain 2 pieces max. Minimum length of any one piece is 25 ft.

††100 ft. put-ups are exact, one piece.

▲May contain more than one piece. Length may vary ±10% from length shown.

Teflon is a DuPont trademark.



For more information, contact Belden Technical Support: 1-800-BELDEN-1 • www.belden.com

# Teflon® High-Temperature

## UL AWM Style 1371 — 105°C

(Type E) MIL-W-16878/4  
Teflon — 600V, 200°C

VW-1

### Product Description

Stranded silver-coated copper conductor insulation with extruded TFE Teflon.



## UL AWM Style 1371 — 105°C

(Type ET) MIL-W-16878/6  
Teflon — 250V, 200°C

VW-1

### Product Description

Stranded silver-coated copper conductor insulation with extruded TFE Teflon.



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 105°C (UL) • 600V, 200°C (MIL-Spec)

UL AWM Style 1371 • (Type E) MIL-W-16878/4 — Teflon										
83009*	18 (19x30)	.011	.28	.068	1.73	100 <sup>†</sup>	30.5	1.0	.5	1-10
						500 <sup>▲</sup>	152.4	4.5	2.0	1-10
						1000 <sup>▲</sup>	304.8	8.0	3.6	1-10
83010*	16 (19x29)	.012	.30	.076	1.93	100 <sup>†</sup>	30.5	1.2	.5	1-10
						500 <sup>▲</sup>	152.4	6.0	2.7	1-10
						1000 <sup>▲</sup>	304.8	11.0	5.0	1-10

\*Complies with MIL-W-16878 except stranding.

<sup>†</sup>100 ft. put-ups are exact, one piece.

<sup>▲</sup>May contain more than one piece. Length may vary ±10% from length shown.

### 105°C (UL) • 250V, 200°C (MIL-Spec)

UL AWM Style 1371 • (Type ET) MIL-W-16878/6 — Teflon										
83041	32 (7x40)	.006	.15	.022	.56	100 <sup>††</sup>	30.5	.1	.05	6, 7, 10
						1000 <sup>▲</sup>	304.8	1.0	.50	6, 7, 10
83043	30 (7x38)	.006	.15	.024	.61	100 <sup>††</sup>	30.5	.1	.05	2, 5, 7-10
						1000 <sup>▲</sup>	304.8	1.0	.50	2, 5, 7, 9, 10
83045	28 (7x36)	.006	.15	.027	.69	100 <sup>††</sup>	30.5	.1	.051, 2, 5, 6, 9, 10	
						1000 <sup>▲</sup>	304.8	1.0	.501, 2, 5, 6, 9, 10	
83046	26 (7x34)	.006	.15	.031	.79	100 <sup>††</sup>	30.5	.2	.10	1-4, 6-9
						1000 <sup>▲</sup>	304.8	2.0	.90	1-4, 6-10
83047	24 (7x32)	.006	.15	.036	.91	100 <sup>††</sup>	30.5	.2	.10	6, 8-10
						1000 <sup>▲</sup>	304.8	2.0	.90	2, 6, 8-10
83048	24 (19x36)	.006	.15	.036	.91	100 <sup>††</sup>	30.5	.2	.101-3, 5, 7, 8, 10	
						1000 <sup>▲</sup>	304.8	2.0	.901-3, 5, 7, 8, 10	
83049	22 (7x30)	.006	.15	.042	1.07	100 <sup>††</sup>	30.5	.3	.10	1-10
						1000 <sup>▲</sup>	304.8	4.0	1.80	1-10
83050	22 (19x34)	.006	.15	.042	1.07	100 <sup>††</sup>	30.5	.3	.10	1-3, 5-9
						1000 <sup>▲</sup>	304.8	4.0	1.80	1-3, 5-9

<sup>††</sup>100 ft. put-ups are exact, max. 2 pieces. Minimum length of any one piece is 25 ft.

<sup>▲</sup>May contain more than one piece. Length may vary ±10% from length shown.

Teflon is a DuPont trademark.



For more information, contact Belden Technical Support: 1-800-BELDEN-1 • www.belden.com

# EPDM

## High-Temperature

### UL AWM Style 3340 and 3374 600V, 125°C Flex/150°C No Flex (CSA Type CL1254)

#### Product Description

The insulation used for this High-Temperature lead wire is a chemically cross-linked ethylene-propylene diene elastomer. Never before could you find many of the characteristics that are found in Silicone and Hypalon® combined into one insulation. This 150°C EPDM wire offers more abrasion resistance than Hypalon... has the temperature rating of Silicone... at a price less than Silicone. EPDM has exceptional qualities that help you achieve new levels of economy and quality. 150°C EPDM wire is recommended for Class 130(B), 155(F) and also in some 180(H) systems. It's UL Recognized under Style 3374 as a 150°C—600V Appliance Wiring Material. The CSA Listing, as a coil lead, is 125°C, 600V. For additional technical information, see Technical Information pages at the end of this section.

**Recommended maximum baking cycles:**  
24 hours @ 350°F (177°C) • 4 hours @ 375°F (190°C)

#### Stranded Conductor



Stranded tinned copper conductor

#### Separator Over Conductor



Separator

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>600V, 125°C Flex/150°C No Flex (UL) • 600V, 125°C (CSA)</b>										
<b>UL AWM Style 3340 and 3374 • CSA Type CL1254</b>										
37118	18 (16x30) [.82 (16x.25)]	.045	1.14	.142	3.61	500 <sup>†</sup>	152.4	7.5	3.4	2, 4, 5, 9, 10, 13
						5000 <sup>††</sup>	1524.0	70.0	31.8	2, 9, 10, 13
37116	16 (26x30) [1.32 (26x.25)]	.045	1.14	.154	3.91	500 <sup>†</sup>	152.4	9.5	4.3	2, 4, 5, 9, 10, 13
						4000 <sup>††</sup>	1219.2	72.0	32.7	10
						5000 <sup>††</sup>	1524.0	90.0	40.9	10
37114	14 (41x30) [2.08 (41x.25)]	.045	1.14	.169	4.29	500 <sup>†</sup>	152.4	12.5	5.7	2, 10
						4000 <sup>††</sup>	1219.2	96.0	43.6	2, 10
						5000 <sup>††</sup>	1524.0	125.0	56.8	10
37112	12 (65x30) [3.29 (65x.25)]	.045	1.14	.190	4.83	500 <sup>†</sup>	152.4	16.5	7.5	2, 10
						3000 <sup>††</sup>	914.4	105.0	47.7	10
						5000 <sup>††</sup>	1524.0	175.0	79.5	10
37110	10 (65x28) [5.23 (65x.32)]	.060	1.52	.240	6.10	500 <sup>†</sup>	152.4	26.0	11.8	10
						2000 <sup>††</sup>	609.6	108.0	49.2	10
						5000 <sup>††</sup>	1524.0	275.0	125.0	10
37108*	8 (84x27) [8.60 (84x.36)]	.080	2.03	.327	8.31	250 <sup>**</sup>	76.2	22.5	10.2	10
						500 <sup>†</sup>	152.4	48.0	21.8	10
						2500	762.0	235.0	106.8	10
37106*	6 (84x25) [13.66 (84x.46)]	.080	2.03	.383	9.73	100 <sup>*</sup>	30.5	14.2	6.5	10
						250 <sup>**</sup>	76.2	33.0	15.0	10
						500 <sup>†</sup>	152.4	69.0	31.3	10
						2500	762.0	345.0	156.8	10
37104*	4 (105x24) [21.53 (105x.51)]	.080	2.03	.432	10.97	100 <sup>*</sup>	30.5	18.7	8.5	10
						250 <sup>**</sup>	76.2	50.0	22.7	10
						500 <sup>†</sup>	152.4	98.5	44.8	10
1000	304.8	196.0	89.1	10						
37103*	3 (133x24) [27.28 (133x.51)]	.080	2.03	.453	11.51	100 <sup>*</sup>	30.5	22.7	10.3	10
						250 <sup>**</sup>	76.2	61.8	28.1	10
37102*	2 (163x24) [33.43 (163x.51)]	.080	2.03	.494	12.55	100 <sup>*</sup>	30.5	31.1	14.1	10
						250 <sup>**</sup>	76.2	72.3	32.8	10
						1000	304.8	286.0	130.0	10
37101*	1 (210x24) [43.07 (210x.51)]	.095	2.41	.583	14.81	100 <sup>*</sup>	30.5	41.0	18.6	10
						250 <sup>**</sup>	76.2	95.0	43.2	10
						1000	304.8	376.0	170.9	10
37190*	1/0 (262x24) [53.73 (262x.51)]	.095	2.41	.633	16.08	50	15.2	24.7	11.2	10
						100 <sup>*</sup>	30.5	48.3	22.0	10
						250 <sup>**</sup>	76.2	115.5	52.5	10
500	152.4	223.5	101.6	10						
37100*	2/0 (504x26) [67.85 (504x.41)]	.095	2.41	.698	17.73	50	15.2	30.9	14.0	10
						100 <sup>*</sup>	30.5	58.8	26.7	10
						250 <sup>**</sup>	76.2	141.8	64.4	10
500	152.4	279.5	127.0	10						
37130*	3/0 (630x26) [84.81 (630x.41)]	.095	2.41	.758	19.25	50	15.2	38.5	17.5	10
						250 <sup>**</sup>	76.2	174.0	79.1	10
						500	152.4	346.0	157.3	10
37140*	4/0 (805x26) [108.37 (805x.41)]	.095	2.41	.849	21.57	50	15.2	44.6	20.2	10
						250 <sup>**</sup>	76.2	215.8	98.1	10
						500	152.4	449.0	203.7	10

\*Separator over conductor.  
<sup>†</sup>May contain more than one piece. Length may vary ±10% from length shown.  
<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.  
<sup>\*</sup>100 ft. put-ups are exact, one piece.  
<sup>\*\*</sup>200 ft. put-ups are exact, but may contain 2 pieces max. Minimum length of any one piece is 50 ft.



# EPDM

## High-Temperature

### UL AWM Style 3484 600V, 125°C (CSA Type AWM)

#### Product Description

This series of EPDM (ethylene-propylene diene elastomer) will provide you with a lead wire which possesses excellent characteristics. The reduced wall thickness results in a UL and CSA Rating of 600V, 125°C. For additional technical information, see Technical Information pages at the end of this section.



Stranded tinned copper conductor

### UL AWM Style 3499 7500V, 150°C High-Voltage EPDM

#### Product Description

The insulation used for this High-Voltage wire is a chemically cross-linked ethylene-propylene diene elastomer with a separator for improved strippability. EPDM is naturally corona resistant and more heat resistant than many other rubber compounds and is able to take the longer bake cycles frequently needed for the big jobs. EPDM has superior weather resistance and low temperature pliability. EPDM is used in many high voltage applications. For additional technical information, see Technical Information pages at the end of this section.

**Recommended maximum baking cycles:**  
24 hours @ 350°F (177°C) • 4 hours @ 375°F (190°C)



Separator  
Stranded tinned copper conductor

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

#### 600V, 125°C (UL & CSA)

UL AWM Style 3484 • CSA Type AWM										
37222	22 (7x30) [.36 (7x.25)]	.030	.76	.093	2.36	*	*	*	*	Special Order*
37220	20 (10x30) [.51 (10x.25)]	.030	.76	.102	2.59	*	*	*	*	Special Order*
37218	18 (16x30) [.81 (16x.25)]	.030	.76	.109	2.77	*	*	*	*	Special Order*
37216	16 (26x30) [1.32 (26x.25)]	.030	.76	.123	3.12	*	*	*	*	Special Order*
37214	14 (41x30) [2.08 (41x.25)]	.030	.76	.138	3.51	*	*	*	*	Special Order*
37212	12 (65x30) [3.29 (65x.25)]	.030	.76	.158	4.01	*	*	*	*	Special Order*

\*Contact Belden's Customer Service Department for order requirements. 1-800-BELDEN-1.

#### 7500V, 150°C (UL)

UL AWM Style 3499										
37508	8 (84x27) [8.60 (84x.36)]	.125	3.18	.423	10.74	50 *	15.2	9.6	4.4	10
						500 ††	152.4	66.0	30.0	10
						1000 ††	304.8	130.0	59.1	10
37506	6 (84x25) [13.66 (84x.46)]	.125	3.18	.470	11.94	50 *	15.2	11.8	5.3	10
						500 ††	152.4	90.0	40.9	10
						1000 ††	304.8	176.0	80.0	10
37504	4 (105x24) [21.53 (105x.51)]	.125	3.18	.526	13.36	50 *	15.2	15.0	6.8	10
						500 ††	152.4	122.0	55.5	10
						1000 ††	304.8	240.0	109.1	10
37502	2 (163x24) [33.43 (163x.51)]	.125	3.18	.581	14.76	50 *	15.2	19.4	8.8	10
						500 ††	152.4	167.5	76.0	10
						1000 ††	304.8	333.0	151.4	10
37501	1 (210x24) [43.07 (210x.51)]	.125	3.18	.638	16.21	50 *	15.2	23.1	10.5	10
						500 ††	152.4	206.0	93.6	10
						37590	1/0 (262x24) [53.73 (262x.51)]	.125	3.18	.688
250 †	76.2	123.5	56.1	10						
500 ††	152.4	243.0	110.5	10						
37500	2/0 (504x26) [67.85 (504x.41)]	.125	3.18	.753	19.13	50 *	15.2	34.2	15.5	10
						250 †	76.2	150.5	68.4	10
						500 ††	152.4	302.5	137.5	10
37530	3/0 (630x26) [84.81 (630x.41)]	.125	3.18	.813	20.65	50 *	15.2	40.5	18.4	10
						250 †	76.2	184.0	83.6	10
						37540	4/0 (805x26) [108.37 (805x.41)]	.125	3.18	.909
250 †	76.2	228.8	104.0	10						
500 ††	152.4	472.0	214.5	10						

\*50 ft. put-ups are one piece, exact.

†250 ft. put-ups are exact, but may contain 2 pieces max. Minimum length of any one piece is 50 ft.

††May contain more than one piece. Length may vary ±10% from length shown.

# XL-Dur®

## UL AWM Style 3199 300V, 105°C (CSA Type CL1054)

### Product Description

This insulation is a chemically cross-linked polyethylene applied in a single extrusion. This construction has excellent thermal aging characteristics, moisture resistance, and solvent resistance. It provides an economic alternative to Hypalon® where extreme flexibility is not required. The insulation resists deformation when subjected to momentary high temperatures in customer assembly processes.

#### Recommended maximum baking cycles:

24 hours @ 300°F (149°C) • 12 hours @ 325°F (163°C)  
8 hours @ 350°F (177°C)



Stranded tinned copper conductor

## UL AWM Style 3173, 3195, 3196 600V, 125°C (CSA Type CL1251)

### Product Description

This insulation is a chemically cross-linked polyethylene applied in a single extrusion. This construction has excellent thermal aging characteristics, moisture resistance, and solvent resistance. It provides an economic alternative to Hypalon where extreme flexibility is not required. The insulation resists deformation when subjected to momentary high temperatures in customer assembly processes. The 356-series of XL-DUR is recommended for Class 130(B) as motor leads.

#### Recommended maximum baking cycles:

24 hours @ 300°F (149°C) • 12 hours @ 325°F (163°C)  
8 hours @ 350°F (177°C)

#### Stranded Conductor



Stranded tinned copper conductor

#### Separator Over Conductor



Separator

Hypalon is a DuPont trademark.

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 300V, 105°C (UL & CSA)

UL AWM Style 3199 • CSA Type CL1054										
35722	22 (7x30) [.36 (7x.25)]	.015	.38	.062	1.58	*	*	*	*	Special Order*
35720	20 (10x30) [.51 (10x.25)]	.015	.38	.073	1.85	*	*	*	*	Special Order*
35718	18 (19x30.5) [.83 (19x.24)]	.015	.38	.078	1.98	5000 <sup>††</sup>	1524.0	40.0	18.2	1, 5, 6, 9, 10
35716	16 (19x29) [1.23 (19x.29)]	.015	.38	.091	2.31	*	*	*	*	Special Order*

\*Contact Belden's Customer Service Department for order requirements. 1-800-BELDEN-1.

<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

### 600V, 125°C (UL & CSA)

UL AWM Style 3173 • CSA Type CL1251										
35622	22 (7x30) [.36 (7x.25)]	.030	.76	.093	2.36	5000 <sup>††</sup>	1524.0	30.0	13.6	2, 9, 10
35620	20 (10x30) [.51 (10x.25)]	.030	.76	.101	2.57	500 <sup>†</sup>	152.4	4.5	2.0	10
						5000 <sup>††</sup>	1524.0	40.0	18.2	2, 6, 9, 10
35618	18 (16x30) [.81 (16x.25)]	.030	.76	.109	2.77	500 <sup>†</sup>	152.4	5.5	2.5	2, 4, 5, 10, 13
						5000 <sup>††</sup>	1524.0	50.0	22.7	1-10, 12, 13
35616	16 (26x30) [1.32 (26x.25)]	.030	.76	.122	3.10	500 <sup>†</sup>	152.4	7.5	3.4	2, 4, 5, 9, 10
						5000 <sup>††</sup>	1524.0	75.0	34.1	1-6, 8-10, B02
35614	14 (41x30) [2.08 (41x.25)]	.030	.76	.137	3.48	500 <sup>†</sup>	152.4	10.5	4.8	10
						5000 <sup>††</sup>	1524.0	100.0	45.4	2, 5, 6, 9, 10
35612	12 (65x30) [3.29 (65x.25)]	.030	.76	.153	3.89	500 <sup>†</sup>	152.4	15.0	6.8	10
						3000 <sup>††</sup>	914.4	87.0	39.5	9, 10
35610	10 (65x28) [5.23 (65x.32)]	.030	.76	.177	4.50	2000 <sup>†</sup>	609.6	86.0	39.1	9, 10
UL AWM Style 3195 • CSA Type CL1251										
35608**	8 (133x29) [8.60 (133x.29)]	.045	1.14	.263	6.68	2000 <sup>†</sup>	609.6	152.0	69.0	9, 10
UL AWM Style 3196 • CSA Type CL1251										
35606**	6 (133x27) [13.61 (133x.36)]	.060	1.52	.333	8.46	2000 <sup>†</sup>	609.6	244.0	110.7	9, 10

\*\*Separator over conductor.

<sup>†</sup>May contain more than one piece. Minimum length of any one piece is 50 ft.

<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

# XL-Dur® (High-Temperature) and SIS (Switchboard) Wire

## UL AWM Style 3436 and 3321 XL-Dur — 600V, 150°C (CSA Type CL1251 and AWM)

### Product Description

This series of chemically cross-linked polyethylene lead wire is available for higher temperature applications. It is UL Recognized to 600V, 150°C. As with other cross-linked lead wire, it has excellent heat aging characteristics in combination with excellent electrical and physical properties.



Stranded tinned copper conductor

## UL Type SIS — 600V, 90°C (UL)

### Product Description

For wiring switchboards, panelboards, distribution boards, including instrument and control wiring in these applications. The wire is covered by a separator for improved strippability.



Separator  
Stranded tinned copper conductor

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 600V, 150°C (UL & CSA)

UL AWM Style 3436 and 3321 • CSA Type CL1251 and AWM										
35420	20 (10x30) [.51 (10x.25)]	.030	.76	.102	2.59	500 <sup>†</sup>	152.4	4.5	2.0	9
35418	18 (16x30) [.81 (16x.25)]	.030	.76	.110	2.79	500 <sup>†</sup>	152.4	5.5	2.5	9, 10
						5000 <sup>†</sup>	1524.0	50.0	22.7	10
35416	16 (26x30) [1.32 (26x.25)]	.030	.76	.123	3.12	500 <sup>†</sup>	152.4	7.5	3.4	9, 10
						5000 <sup>†</sup>	1524.0	70.0	31.8	9, 10
35414	14 (41x30) [2.08 (41x.25)]	.030	.76	.138	3.51	500 <sup>†</sup>	152.4	10.0	4.5	9, 10
						5000 <sup>†</sup>	1524.0	95.0	43.2	9, 10
35412	12 (65x30) [3.29 (65x.25)]	.030	.76	.153	3.89	500 <sup>†</sup>	152.4	14.5	6.6	9, 10
						5000 <sup>†</sup>	1524.0	140.0	63.6	9, 10
35410	10 (65x28) [5.23 (65x.32)]	.030	.76	.177	4.50	500 <sup>†</sup>	152.4	20.0	9.1	9, 10
						5000 <sup>†</sup>	1524.0	210.0	95.5	9, 10

<sup>†</sup>Spools may contain more than one piece. Length may vary ±10% from length shown.

### 600V, 90°C (UL)

UL Type SIS • VW-1										
31014	14 (41x30) [2.08 (41x.25)]	.030	.76	.144	3.66	2500 <sup>†</sup>	762.2	50.0	22.7	8
						5000 <sup>††</sup>	1524.0	105.0	47.7	8
31012	12 (65x30) [3.29 (65x.25)]	.030	.76	.167	4.24	3000 <sup>††</sup>	914.4	93.0	42.3	8
31010	10 (65x28) [5.23 (65x.32)]	.030	.76	.184	4.67	2500 <sup>†</sup>	762.2	105.0	47.7	8
31008	8 (133x29) [8.60 (133x.29)]	.045	1.14	.268	6.75	2500 <sup>†</sup>	762.2	190.0	86.4	8
UL Type SIS										
31014N	14 (41x30) [2.08 (41x.25)]	.030	.76	.144	3.66	2500 <sup>†</sup>	762.2	52.5	23.9	8
31012N	12 (65x30) [3.29 (65x.25)]	.030	.76	.167	4.24	2500 <sup>†</sup>	762.2	77.5	35.2	8
31010N	10 (65x28) [5.23 (65x.32)]	.030	.76	.184	4.67	2500 <sup>†</sup>	762.2	107.5	48.9	8
31008N	8 (133x29) [8.60 (133x.29)]	.045	1.14	.268	6.75	2500 <sup>†</sup>	762.2	192.5	87.3	8

<sup>†</sup>Spools may contain more than one piece. Length may vary ±10% from length shown.

<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

# Hypalon®

## UL AWM Style 3191 600V, 105°C (CSA Type CL1053)

### Product Description

This insulation is chlorosulfonated polyethylene. Hypalon insulation has excellent heat resistance, color stability and electrical properties. Hypalon is recommended for motor leads for Class 130(B) insulation systems. It may be considered as an alternative to Silicone rubber to withstand 155°C varnish baking temperatures, but is not suitable for operating temperatures above Class 130(B).

**Recommended maximum baking cycles:**  
24 hours @ 300°F (149°C)



Stranded tinned copper conductor

## UL AWM Style 3191, 3192, 3193 600V, 105°C (CSA Type CL1052, 300V)

### Product Description

This insulation is chlorosulfonated polyethylene. Hypalon insulation has excellent heat resistance, color stability and electrical properties. Hypalon is recommended for motor leads for Class 130(B) insulation systems. It may be considered as an alternative to Silicone rubber to withstand 155°C varnish baking temperatures, but is not suitable for operating temperatures above Class 130(B).

**Recommended maximum baking cycles:**  
24 hours @ 300°F (149°C)

### Stranded Conductor



Stranded tinned copper conductor

### Separator Over Conductor



Separator

Hypalon is a DuPont trademark.

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 600V, 105°C (UL & CSA)

UL AWM Style 3191 • CSA Type CL1053										
34418	18 (16x30) [.81 (16x.25)]	.045	1.14	.142	3.61	100 <sup>†</sup>	30.5	2.3	1.0	2, 10
						500 <sup>††</sup>	152.4	8.0	3.6	2, 4, 5, 8-10, 13
						5000 <sup>▼</sup>	1524.0	75.0	34.1	2, 5, 8, 10
34416	16 (26x30) [1.32 (26x.25)]	.045	1.14	.155	3.94	100 <sup>†</sup>	30.5	2.8	1.3	2, 10
						500 <sup>††</sup>	152.4	10.5	4.8	2, 4, 5, 8-10, 13
						4000 <sup>▼</sup>	1219.2	84.0	38.1	8, 10
34414	14 (41x30) [2.08 (41x.25)]	.045	1.14	.170	4.32	100 <sup>†</sup>	30.5	3.7	1.7	2, 8, 10
						500 <sup>††</sup>	152.4	14.0	6.4	2, 5, 8, 10
						4000 <sup>▼</sup>	1219.2	108.0	49.1	8, 10
34412	12 (65x30) [3.29 (65x.25)]	.045	1.14	.190	4.83	100 <sup>†</sup>	30.5	4.6	2.1	2, 8, 10
						500 <sup>††</sup>	152.4	17.5	7.9	2, 5, 8, 10, 13
						3000 <sup>▼</sup>	914.4	114.0	51.8	10

<sup>†</sup>100 ft. put-ups are one piece, exact. <sup>††</sup>250 ft. and 500 ft. put-ups are exact, may contain 2 pieces max. Min. length 50 ft.  
\*May contain more than one piece. Minimum length of any one piece is 200 ft.

### 600V, 105°C (UL) • 300V, 105°C (CSA)

UL AWM Style 3191 • CSA Type CL1052**										
34410	10 (65x28) [5.23 (65x.32)]	.045	1.14	.209	5.31	100 <sup>†</sup>	30.5	6.0	2.7	8, 10
						500 <sup>††</sup>	152.4	24.5	11.2	8, 10
						2000 <sup>▼</sup>	609.6	102.0	46.3	8, 10
UL AWM Style 3192 • CSA Type CL1052**										
34408*	8 (84x27) [8.60 (84x.36)]	.060	1.52	.290	7.37	100 <sup>†</sup>	30.5	9.4	4.3	8, 10
						250 <sup>††</sup>	76.2	24.8	11.2	8, 10
						1000 <sup>▲</sup>	304.8	136.0	61.8	10
34406*	6 (84x25) [13.66 (84x.46)]	.060	1.52	.343	8.71	100 <sup>†</sup>	30.5	13.7	6.2	8, 10
						250 <sup>††</sup>	76.2	32.3	14.7	10
						1000 <sup>▲</sup>	304.8	136.0	61.8	10
34404*	4 (105x24) [21.53 (105x.51)]	.060	1.52	.399	10.14	100 <sup>†</sup>	30.5	19.1	8.7	8, 10
						250 <sup>††</sup>	76.2	51.0	23.2	10
						500 <sup>††</sup>	152.4	97.0	44.1	10
34403*	3 (133x24) [27.28 (133x.51)]	.060	1.52	.420	10.69	500 <sup>††</sup>	152.4	118.0	53.6	10
						100 <sup>†</sup>	30.5	30.3	13.8	8, 10
						250 <sup>††</sup>	76.2	70.8	32.2	10
34402*	2 (163x24) [33.43 (163x.51)]	.060	1.52	.454	11.53	500 <sup>††</sup>	152.4	139.0	63.2	10
						100 <sup>†</sup>	30.5	30.3	13.8	8, 10
						250 <sup>††</sup>	76.2	70.8	32.2	10
UL AWM Style 3193 • CSA Type CL1052**										
34401*	1 (210x24) [43.07 (210x.51)]	.080	2.03	.557	14.15	50 <sup>†</sup>	15.2	18.4	8.4	10
						100 <sup>†</sup>	30.5	43.0	19.5	8, 10
						250 <sup>††</sup>	76.2	97.0	44.1	10
34490*	1/0 (262x24) [53.73 (262x.51)]	.080	2.03	.607	15.42	50 <sup>†</sup>	15.2	22.5	10.3	8, 10
						100 <sup>†</sup>	30.5	48.9	22.2	10
						250 <sup>††</sup>	76.2	114.8	52.2	10
34400*	2/0 (504x26) [67.85 (504x.41)]	.080	2.03	.668	16.97	50 <sup>†</sup>	15.2	27.6	12.6	8
						100 <sup>†</sup>	30.5	57.9	26.3	10
						250 <sup>††</sup>	76.2	139.5	63.4	10
34430*	3/0 (630x26) [84.81 (630x.41)]	.080	2.03	.732	18.59	50 <sup>†</sup>	15.2	38.5	17.5	10
						250 <sup>††</sup>	76.2	175.8	79.9	10
34440*	4/0 (805x26) [108.37 (805x.41)]	.080	2.03	.819	20.80	50 <sup>†</sup>	15.2	47.5	21.5	8, 10
						250 <sup>††</sup>	76.2	215.0	97.7	10

\*Separator over conductor. \*\*CSA requires additional wall thickness in sizes 10 AWG and larger to meet CL1053 requirements.

<sup>†</sup>50 and 100 ft. put-ups are one piece, exact. <sup>††</sup>250 and 500 ft. put-ups are exact, may contain 2 pieces max. Min. length 50 ft.

<sup>▲</sup>1000 ft. put-ups exact, may contain 3 pieces max. Minimum length of any one piece is 50 ft.

<sup>▼</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.



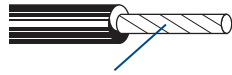


# Hypalon®

## UL AWM Style 3190 300V, 105°C (CSA Type CL1052)

### Product Description

This insulation is chlorosulfonated polyethylene. Hypalon insulation has excellent heat resistance, color stability and electrical properties. Hypalon is recommended for motor leads for Class 130(B) insulation systems. It may be considered as an alternative to Silicone rubber to withstand 155°C varnish baking temperatures, but is not suitable for operating temperatures above Class 130(B).

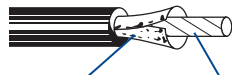


Stranded tinned copper conductor

## 5000V High-Voltage Hypalon

### Product Description

This insulation is chlorosulfonated polyethylene. Hypalon insulation has excellent heat resistance, color stability and electrical properties.



Separator  
Stranded tinned copper conductor

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 300V, 105°C (UL & CSA)

UL AWM Style 3190 • CSA Type CL1052										
34922	22 (7x30) [.36 (7x.25)]	.030	.76	.093	2.36	5000 <sup>††</sup>	1524.0	35.0	15.9	10
34920	20 (10x30) [.51 (10x.25)]	.030	.76	.100	2.54	5000 <sup>††</sup>	1524.0	45.0	20.5	8, 10
34918	18 (16x30) [.81 (16x.25)]	.030	.76	.110	2.79	500 <sup>†</sup>	152.4	6.0	2.7	2, 4, 10
						5000 <sup>††</sup>	1524.0	55.0	25.0	2, 10
34916	16 (26x30) [1.32 (26x.25)]	.030	.76	.123	3.12	500 <sup>†</sup>	152.4	8.0	3.6	2, 9, 10
						5000 <sup>††</sup>	1524.0	80.0	36.4	10
34914	14 (41x30) [2.08 (41x.25)]	.030	.76	.138	3.51	*	*	*	*	Special Order*

\*Contact Belden's Customer Service Department for order requirements. 1-800-BELDEN-1.

<sup>†</sup>May contain more than one piece. Minimum length of any one piece is 50 ft.

<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

### 5000V

High-Voltage										
36108	8 (84x27) [8.60 (84x.36)]	.150	3.81	.480	12.19	50 <sup>▲</sup>	15.2	7.9	3.6	10
						500 <sup>◆</sup>	152.4	86.5	39.3	10
36106	6 (84x25) [13.66 (84x.46)]	.150	3.81	.532	13.51	50 <sup>▲</sup>	15.2	10.5	4.8	10
						500 <sup>◆</sup>	152.4	113.5	51.6	10
36104	4 (105x24) [21.53 (105x.51)]	.150	3.81	.588	14.94	50 <sup>▲</sup>	15.2	13.9	6.3	10
						500 <sup>◆</sup>	152.4	148.0	67.3	10
36102	2 (163x24) [33.43 (163x.51)]	.150	3.81	.643	16.33	50 <sup>▲</sup>	15.2	22.4	10.2	10
						500 <sup>◆</sup>	152.4	194.0	88.2	10
36101	1 (210x24) [43.07 (210x.51)]	.150	3.81	.700	17.78	50 <sup>▲</sup>	15.2	26.4	12.0	10
						250 <sup>◆</sup>	76.2	121.8	55.3	10
36190	1/0 (262x24) [53.73 (262x.51)]	.150	3.81	.750	19.05	50 <sup>▲</sup>	15.2	32.4	14.7	10
						500 <sup>◆</sup>	152.4	287.5	130.7	10
36100	2/0 (504x26) [67.85 (504x.41)]	.150	3.81	.815	20.70	50 <sup>▲</sup>	15.2	37.5	17.0	10
						250 <sup>◆</sup>	76.2	247.5	112.5	10
36140	4/0 (805x26) [108.37 (805x.41)]	.150	3.81	.959	24.36	50 <sup>▲</sup>	15.2	52.5	23.8	10
						250 <sup>◆</sup>	76.2	247.5	112.5	10

<sup>▲</sup>50 ft. put-ups are one piece, exact.

<sup>◆</sup>250 ft. and 500 ft. put-ups are exact, but may contain 2 pieces max. Minimum length of any one piece is 50 ft.

Hypalon is a DuPont trademark.



For more information, contact Belden Technical Support: 1-800-BELDEN-1 • www.belden.com

# Neoprene

## UL AWM Style 3044 300V, 90°C (CSA Type CL902)

### Product Description

Neoprene insulation has good heat aging characteristics and is an excellent low-cost motor lead wire. It may be considered for use in hazardous locations and is being used in explosion-proof motors recognized by UL. 12 AWG and smaller sizes are dual labeled UL and CSA.

**Recommended maximum baking cycles:**  
24 hours @ 300°F (149°C) • 8 hours @ 325°F (163°C)  
15 minutes @ 450°F (232°C)



Stranded tinned copper conductor

## UL AWM Style 3046, 3048, 3049 600V, 90°C (CSA Type CL903 available as shown)

### Product Description

Neoprene insulation has good heat aging characteristics and is an excellent low-cost motor lead wire. It may be considered for use in hazardous locations and is being used in explosion-proof motors recognized by UL. 12 AWG and smaller sizes are dual labeled UL and CSA.

**Recommended maximum baking cycles:**  
24 hours @ 300°F (149°C) • 8 hours @ 325°F (163°C)  
15 minutes @ 450°F (232°C)

### Stranded Conductor



Stranded tinned copper conductor

### Separator Over Conductor



Separator

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 300V, 90°C (UL & CSA)

UL AWM Style 3044 • CSA Type CL902										
31520	20 (10x30) [.51 (10x.25)]	.030	.76	.100	2.54	500 <sup>†</sup>	152.4	5.0	2.3	10
						5000 <sup>††</sup>	1524.0	40.0	18.2	10
31518	18 (16x30) [.81 (16x.25)]	.030	.76	.109	2.77	500 <sup>†</sup>	152.4	6.0	2.7	2, 4, 5, 6, 9, 10
						2000 <sup>††</sup>	609.6	22.0	10.0	1-3, 5, 6, 9, 10
						5000 <sup>††</sup>	1524.0	55.0	25.0	1-6, 9, 10, B02
31516	16 (26x30) [1.32 (26x.25)]	.030	.76	.122	3.10	500 <sup>†</sup>	152.4	8.0	3.6	2-6, 9, 10
						5000 <sup>††</sup>	1524.0	75.0	34.1	2, 4, 5, 9, 10

<sup>†</sup>May contain more than one piece. Minimum length of any one piece is 50 ft.  
<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

### 600V, 90°C (UL)

UL AWM Style 3046 • CSA Type CL903										
32518	18 (16x30) [.81 (16x.25)]	.045	1.14	.142	3.61	500 <sup>†</sup>	152.4	8.5	3.9	9, 10
						5000 <sup>††</sup>	1524.0	80.0	36.4	9, 10
32516	16 (26x30) [1.32 (26x.25)]	.045	1.14	.155	3.94	500 <sup>†</sup>	152.4	11.0	5.0	2-6, 9, 10
						5000 <sup>††</sup>	1524.0	105.0	47.7	10
31514	14 (41x30) [2.08 (41x.25)]	.045	1.14	.169	4.29	500 <sup>†</sup>	152.4	13.5	6.1	2, 4, 5, 9, 10
						4000 <sup>††</sup>	1219.2	108.0	49.1	2, 4, 5, 9, 10
31512	12 (65x30) [3.29 (65x.25)]	.045	1.14	.190	4.83	250 <sup>†</sup>	76.2	10.0	4.5	10
						3000 <sup>††</sup>	914.4	117.0	53.2	10
UL AWM Style 3046**										
31510	10 (65x28) [5.29 (65x.32)]	.045	1.14	.209	5.31	250 <sup>†</sup>	76.2	13.0	5.9	10
						2000 <sup>††</sup>	609.6	106.0	48.2	10
UL AWM Style 3048**										
31508*	8 (84x27) [8.60 (84x.36)]	.060	1.52	.285	7.24	500 <sup>†</sup>	152.4	47.5	21.6	2, 10
31506*	6 (84x25) [13.66 (84x.46)]	.060	1.52	.343	8.71	500 <sup>†</sup>	152.4	66.5	30.2	10
31504*	4 (105x24) [21.53 (105x.51)]	.060	1.52	.399	10.14	250 <sup>†</sup>	76.2	52.0	23.6	10
31502*	2 (163x24) [33.43 (163x.51)]	.060	1.52	.454	11.53	250 <sup>†</sup>	76.2	69.3	31.4	10
UL AWM Style 3049**										
31501*	1 (210x24) [43.07 (210x.51)]	.080	2.03	.557	14.15	250 <sup>†</sup>	76.2	98.5	44.8	10
31590*	1/0 (262x24) [53.73 (262x.51)]	.080	2.03	.607	15.42	250 <sup>†</sup>	76.2	116.8	53.1	10
31500*	2/0 (504x26) [67.85 (504x.41)]	.080	2.03	.668	16.97	250 <sup>†</sup>	76.2	141.5	64.3	10

\*Separator over conductor.  
\*\*CSA requires additional wall thickness in sizes 10 AWG and larger to meet CL903 requirements.  
<sup>†</sup>May contain more than one piece. Minimum length of any one piece is 50 ft.  
<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

# Silicone Rubber Braidless

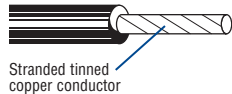
## UL AWM Style 3212, 3213, 3214 600V, 150°C (CSA Type AWM)

### Product Description

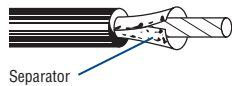
The 333 series of braidless Silicone 150°C lead wire features easy and clean stripping without the problems associated with glass braid wire. It has excellent physical and mechanical strength properties. Braidless Silicone lead wire is also recommended for consideration in applications requiring Class 155(F) or Class 180(H) materials. Recommended for high-temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices. It is recommended that varnish compatibility be checked before production. Some rigid varnishes may cause cracking when the wire is severely bent.

**Recommended maximum baking cycles:**  
24 hours @ 410°F (210°C)

#### Stranded Conductor



#### Separator Over Conductor

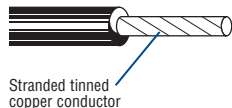


## UL AWM Style 3135 600V, 200°C

### Product Description

The 334 Series is for use only in totally enclosed systems.

**Recommended maximum baking cycles:**  
24 hours @ 410°F (210°C)



Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 600V, 150°C (UL & CSA)

#### UL AWM Style 3212 • CSA Type AWM

<b>33322</b>	22 (7x30) [.36 (7x.25)]	.045	1.14	.125	3.18	*	*	*	*	Special Order*
<b>33320</b>	20 (10x30) [.51 (10x.25)]	.045	1.14	.132	3.53	*	*	*	*	Special Order*
<b>33318</b>	18 (16x30) [.81 (16x.25)]	.045	1.14	.142	3.61	500 <sup>†</sup>	152.4	7.0	3.2	9, 10
<b>33316</b>	16 (26x30) [1.32 (26x.25)]	.045	1.14	.155	3.94	500 <sup>†</sup>	152.4	9.5	4.3	9, 10
<b>33314</b>	14 (41x30) [2.08 (41x.25)]	.045	1.14	.170	4.32	500 <sup>†</sup>	152.4	12.0	5.5	9, 10
<b>33312</b>	12 (65x30) [3.29 (65x.25)]	.045	1.14	.190	4.83	500 <sup>†</sup>	152.4	16.5	7.5	9, 10
<b>33310<sup>†</sup></b>	10 (65x28) [5.23 (65x.32)]	.045	1.14	.209	5.31	500 <sup>†</sup>	152.4	22.5	10.3	10

#### UL AWM Style 3213 • CSA Type AWM

<b>33308<sup>†</sup></b>	8 (84x27) [8.60 (84x.36)]	.060	1.52	.283	7.19	500	152.4	38.5	17.6	10
<b>33306<sup>†</sup></b>	6 (84x25) [13.66 (84x.46)]	.060	1.52	.334	8.48	500 <sup>†</sup>	152.4	61.5	28.0	10
<b>33304<sup>†</sup></b>	4 (105x24) [21.53 (105x.51)]	.060	1.52	.390	9.91	250 <sup>*</sup>	76.2	48.8	22.2	10
<b>33302<sup>†</sup></b>	2 (163x24) [33.43 (163x.51)]	.060	1.52	.457	11.61	250 <sup>*</sup>	76.2	67.0	30.4	10

#### UL AWM Style 3214 • CSA Type AWM

<b>33390<sup>†</sup></b>	1/0 (262x24) [53.73 (262x.51)]	.080	2.03	.594	15.09	250 <sup>*</sup>	76.2	108.3	49.2	10
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<sup>\*</sup>Contact Belden's Customer Service Department for order requirements. **1-800-BELDEN-1.**  
<sup>†</sup>Separator over conductor.

<sup>\*</sup>250 ft. put-ups are exact, but may contain 2 pieces max. Minimum length of any one piece is 50 ft.  
<sup>†</sup>May contain more than one piece. Length may vary ±10% from length shown.

### 600V, 200°C (UL)

#### UL AWM Style 3135

<b>33418</b>	18 (7x26) [.94 (7x.41)]	.030	.76	.111	2.82	*	*	*	*	Special Order*
<b>33416</b>	16 (7x24) [1.44 (7x.51)]	.030	.76	.123	3.12	*	*	*	*	Special Order*
<b>33414</b>	14 (7x22) [2.27 (7x.64)]	.030	.76	.139	3.53	*	*	*	*	Special Order*

<sup>\*</sup>Contact Belden's Customer Service Department for order requirements. **1-800-BELDEN-1.**

# Silicone Rubber Glass Braid

**UL AWM Style 3071, 3074,  
3075, 3125 and 3126**  
**600V, 200°C**  
(CSA Type SEW-2)

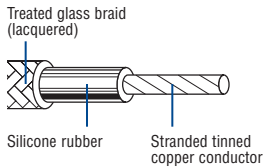
VW-1

### Product Description

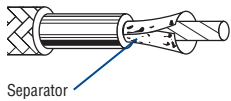
UL recognizes finer strands on the 150°C rated wire. The Silicone insulation strips clean and easy. The glass braid provides additional abrasion resistance and is treated to prevent fraying. Recommended for high-temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices. These wires can be used with Class 130(B), 155(F) or 180(H) insulation systems.

**Recommended maximum baking cycles:**  
24 hours @ 410°F (210°C)

### Stranded Conductor



### Separator Over Conductor



Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 600V, 200°C (UL & CSA)

#### UL AWM Style 3071 • CSA Type SEW-2

32418	18 (7x26) [.94 (7x.41)]	.030	.76	.133	3.38	500 <sup>†</sup>	152.4	6.5	3.4	9, 10
						6000 <sup>††</sup>	1829.3	78.0	35.5	9, 10
32416	16 (7x24) [1.44 (7x.51)]	.030	.76	.145	3.68	500 <sup>†</sup>	152.4	9.5	4.3	9, 10
						6000 <sup>††</sup>	1829.3	108.0	49.1	10
32414	14 (7x22) [2.27 (7x.64)]	.030	.76	.167	4.24	500 <sup>†</sup>	152.4	12.0	5.5	9, 10
						4000 <sup>††</sup>	1219.2	100.0	45.5	9, 10

#### UL AWM Style 3074 • CSA Type SEW-2

32412	12 (19x24.5) [3.30 (19x.47)]	.030	.76	.190	4.83	500 <sup>†</sup>	152.4	17.5	8.0	9, 10
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#### UL AWM Style 3075 • CSA Type SEW-2

32410	10 (19x22.5) [5.27 (19x.59)]	.045	1.14	.238	6.05	500 <sup>†</sup>	152.4	26.5	12.1	9, 10
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#### UL AWM Style 3125 • CSA Type SEW-2

30808*	8 (54x25) [8.78 (54x.46)]	.060	1.52	.313	7.95	100 <sup>▲</sup>	30.5	9.8	4.5	9, 10
						500 <sup>†</sup>	152.4	48.0	21.8	9, 10
						3000 <sup>†</sup>	914.4	285.0	129.5	9, 10
30806* <sup>†</sup>	6 (84x25) [13.66 (84x.46)]	.060	1.52	.368	9.35	100 <sup>▲</sup>	30.5	14.2	6.5	9, 10
						500 <sup>†</sup>	152.4	69.5	31.5	9, 10
						2000 <sup>†</sup>	609.6	284.0	129.1	9, 10
30804*	4 (105x24) [21.53 (105x.51)]	.060	1.52	.424	10.77	250 <sup>●</sup>	76.2	50.5	22.9	9, 10
30802*	2 (163x24) [33.43 (163x.51)]	.060	1.52	.496	12.60	250 <sup>●</sup>	76.2	72.8	33.0	9, 10

#### UL AWM Style 3126 • CSA Type SEW-2

30801*	1 (210x24) [43.07 (210x.51)]	.080	2.03	.622	15.80	100 <sup>▲</sup>	30.5	43.2	19.6	9, 10
						250 <sup>●</sup>	76.2	100.5	45.7	9, 10
30890*	1/0 (262x24) [53.73 (262x.51)]	.080	2.03	.670	17.02	100 <sup>▲</sup>	30.5	51.5	23.4	9, 10
						250 <sup>●</sup>	76.2	123.5	56.1	9, 10
30800*	2/0 (504x26) [67.85 (504x.41)]	.080	2.03	.727	18.47	50 <sup>▲</sup>	15.2	31.1	14.1	9
						100 <sup>▲</sup>	30.5	60.5	27.5	9
						250 <sup>●</sup>	76.2	146.0	66.4	9
30830*	3/0 (630x26) [84.81 (630x.41)]	.080	2.03	.795	20.19	250 <sup>●</sup>	76.2	181.3	82.7	9
30840*	4/0 (266x21) [109.51 (266x.72)]	.080	2.03	.779	19.79	50 <sup>▲</sup>	15.2	47.9	21.8	9
						250 <sup>●</sup>	76.2	221.0	100.8	9

\*Separator over conductor.

<sup>†</sup>May contain more than one piece. Length may vary ±10% from length shown.

<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.

<sup>▲</sup>50 ft. and 100 ft. put-ups are one piece, exact.

<sup>●</sup>250 ft. put-ups are exact, but may contain 2 pieces max. Minimum length of any one piece is 50 ft.

# Silicone Rubber

## Glass Braid and Mercury Switch Wire

### Glass Braid

#### UL AWM Style 3069, 3070, 3101

#### 600V, 150°C

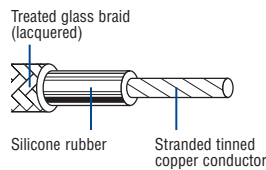
(CSA Type SEWF-2)

VW-1

#### Product Description

UL recognizes finer strands on the 150°C rated wire. The Silicone insulation strips clean and easy. The glass braid provides additional abrasion resistance and is treated to prevent fraying. Recommended for high-temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices. These wires can be used with Class 130(B), 155(F) or 180(H) insulation systems.

**Recommended maximum baking cycles:**  
24 hours @ 410°F (210°C)



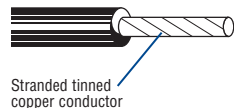
### Mercury Switch

#### UL AWM Style 3123

#### 600V, 150°C

#### Product Description

Suitable for mercury switches when protected against mechanical abuse. This wire has a tough, flexible Silicone insulation that remains flexible over a wide temperature range: +150°C to -55°C.



Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

#### 600V, 150°C (UL & CSA)

##### UL AWM Style 3069 • CSA Type SEWF-2

<b>30820</b>	20 (10x30) [.51 (10x.25)]	.030	.76	.122	3.10	500 <sup>†</sup>	152.4	5.0	2.3	9, 10
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##### UL AWM Style 3070 • CSA Type SEWF-2

<b>30818</b>	18 (16x30) [.81 (16x.25)]	.030	.76	.132	3.35	100* 500 <sup>†</sup>	30.5 152.4	2.0 6.5	.9 2.9	9, 10 9, 10
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<b>30816</b>	16 (26x30) [1.32 (26x.25)]	.030	.76	.145	3.68	500 <sup>†</sup>	152.4	9.0	4.1	9, 10
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<b>30814</b>	14 (41x30) [2.08 (41x.25)]	.030	.76	.164	4.17	500 <sup>†</sup>	152.4	12.0	5.5	9, 10
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<b>30812</b>	12 (65x30) [3.29 (65x.25)]	.030	.76	.186	4.72	500 <sup>†</sup>	152.4	17.0	7.7	9, 10
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##### UL AWM Style 3101 • CSA Type SEWF-2

<b>30810</b>	10 (65x28) [5.23 (65x.32)]	.045	1.14	.239	6.07	100* 500 <sup>†</sup>	30.5 152.4	5.8 25.0	2.6 11.4	9, 10 9, 10
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\*100 ft. put-ups are one piece, exact.

†May contain more than one piece. Length may vary ±10% from length shown.

#### 600V, 150°C (UL)

##### UL AWM Style 3123

<b>34020</b>	20 (105x40) [.52 (105x.08)]	.030	.76	.110	2.79	2000 <sup>††</sup>	609.6	16.0	7.3	8
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<b>34017</b>	17 (210x40) [1.03 (210x.08)]	.030	.76	.118	3.00	2000 <sup>††</sup>	609.6	24.0	10.9	8
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††May contain more than one piece. Minimum length of any one piece is 200 ft.

# High-Voltage Leads

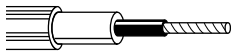
## 22 AWG Stranded Conductor (7x30)

### Product Description

Tinned copper, conductive polyethylene (Korona-Guard) over inner conductor provides uniform distribution of voltage stresses, polyethylene insulation. PVC jacket in Red (8868) or Black (8869).

**Suggested Working Voltage:** 24,000 DC (8868)  
17,000 DC (8869)

**Breakdown Voltage:** 48,000 DC (8868)  
35,000 DC (8869)



Part No.	Insulation Thickness		Jacket Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
	Inch	mm	Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 22 AWG Stranded Conductor (7x30)

80°C											
8868	.044	1.12	.015	.38	.150	3.81	100	30.5	1.9	.9	2
							U-500	U-152.4	6.0	2.7	2
							500	152.4	6.0	2.7	2
8869	.027	.69	.015	.38	.120	3.05	100	30.5	1.6	.7	10
							500	152.4	4.5	2.0	10

## 20 AWG Stranded Conductor (7x28)

UL AWM Style 3239 (80°C)

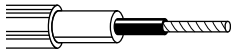
VW-1

### Product Description

Tinned copper, conductive polyethylene (Korona-Guard) over inner conductor provides uniform distribution of voltage stresses, polyethylene insulation. Red PVC jacket.

**Suggested Working Voltage:** 30,000 DC

**Breakdown Voltage:** 60,000 DC



### 20 AWG Stranded Conductor (7x28)

UL AWM Style 3239 • 80°C											
9867	.046	1.17	.028	.71	.191	4.85	100	30.5	3.0	1.4	2
							500	152.4	10.5	4.8	2

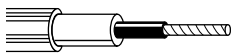
## 18 AWG Stranded Conductor (16x30)

### Product Description

Tinned copper, conductive polyethylene (Korona-Guard) over inner conductor provides uniform distribution of voltage stresses, polyethylene insulation. Red PVC jacket.

**Suggested Working Voltage:** 40,000 DC

**Breakdown Voltage:** 80,000 DC



### 18 AWG Stranded Conductor (16x30)

80°C											
8866	.057	1.45	.015	.38	.208	5.28	100	30.5	3.0	1.4	2
							U-500	U-152.4	11.5	5.2	2
							500	152.4	10.0	4.6	2

# Test Prod Wire

## 18 AWG Rubber Insulation 5000V, 90°C

### Product Description

Tinned copper, rubber insulation.

Suggested Working Voltage: 5000V

Breakdown Voltage: 20,000V



## 18 AWG PVC Insulation UL AWM Style 1855 (5000V, 80°C)

### Product Description

Tinned copper, PVC insulation. Use test probe leads for electrical and electronic measuring for test equipment.

Suggested Working Voltage: 5000V



## 18 AWG Rubber Insulation 5000V, 80°C

### Product Description

Tinned copper, separator, rubber insulation. Manufactured for MIL-W-13169B.

Suggested Working Voltage: 5000V

Breakdown Voltage: 20,000V



Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 18 AWG Rubber Insulation

#### 5000V, 90°C

8899	18 (65x36)	.045	1.14	.144	3.66	10	3.0	.2	.1	2, 10
						14	4.3	.5	.2	2&10*
						25	7.6	.6	.3	2, 4, 5, 6, 8, 9, 10
						100	30.5	2.3	1.0	2, 4, 5, 6, 8, 9, 10
						U-500	U-152.4	8.5	3.9	2, 10
						500	152.4	8.5	3.9	2, 4, 5, 6, 8, 9, 10
						U-1000	U-304.8	16.0	7.3	2, 10
						1000	304.8	15.0	6.8	2, 10

\*Includes both Red & Black cable in one put-up.

### 18 AWG PVC Insulation (UL)

#### UL AWM Style 1855 • 5000V, 80°C

9899	18 (65x36)	.048	1.22	.144	3.66	100	30.5	2.2	1.0	2, 10
						500	152.4	7.5	3.4	2, 5, 9, 10
						1000	304.8	13.0	5.9	2, 10

### 18 AWG Rubber Insulation

#### 5000V, 80°C

8897	18 (65x36)	.045	1.14	.144	3.66	U-500	U-152.4	8.5	3.9	2, 10
						500	152.4	8.5	3.9	2, 10

# Test Prod Wire and Gas Tube Sign and Ignition Cable

## 18 AWG Rubber Insulation 10,000V, 90°C

### Product Description

Tinned copper, rubber insulation.

Suggested Working Voltage: 10,000V

Breakdown Voltage: 29,000V



## 24 AWG Rubber Insulation 1000V, 90°C • Miniature

### Product Description

Tinned copper, separator, rubber insulation.

Suggested Working Voltage: 1000V

Breakdown Voltage: 10,000V



## Gas Tube Sign and Ignition UL GTO-10 — 10kV, 105°C (CSA Type GTO-10 — 10kV)

### Product Description

GTO cables are single conductors for use with gas-tube systems for signs, outline lighting or interior lights and for use with oil-burning equipment in accordance with the National Electrical Code. GTO-10 lead wire has an 18 AWG stranded tinned copper conductor and is insulated with a chemically cross-linked ethylene-propylene diene elastomer. Unshielded, it is available with either a flat black (color code 10) or dark gray (color code 876) exterior.



Stranded tinned copper conductor

Part No.	AWG (stranding)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 18 AWG Rubber Insulation

10,000V, 90°C										
8898	18 (65x36)	.088	2.24	.229	5.82	25	7.6	1.7	.8	2, 10
						100	30.5	3.9	1.8	2, 10
						500	152.4	16.0	7.3	2, 10

### 24 AWG Rubber Insulation

1000V, 90°C • Miniature										
8890	24 (45x40)	.019	.48	.066	1.68	25	7.6	.1	.05	2, 10
						100	30.5	.4	.20	2, 10
						500	152.4	2.5	1.10	2, 10

Part No.	AWG (stranding) [sq. mm] (stranding in mm)	Insulation Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors (See Color Codes Chart on Page 3.29)
		Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	

### 10kV, 105°C (UL) • 10kV (CSA)

UL and CSA Type GTO-10										
39018	18 (19x30) [.96 (19x.25)]	.100	2.54	.247	6.27	500 <sup>†</sup>	152.4	16.5	7.5	10, 876
						1000 <sup>††</sup>	304.8	37.0	16.8	10, 876
						1500 <sup>††</sup>	457.3	54.0	24.5	10

<sup>†</sup>May contain more than one piece. Minimum length of any one piece is 50 ft.  
<sup>††</sup>May contain more than one piece. Minimum length of any one piece is 200 ft.



# Magnet Wire

## Class 200 One Pound Spool

### Product Description

Belden® high-temperature Class 200 Magnet Wire is dual coated. Its base coat is a cross-linked, modified polyester. Its top coat is an amide-imide polymer. Rated for 200°C usage, Belden Class 200 Magnet Wire has exceptional ability to resist solvents and abuse in difficult windings.



## Single Beldsol Solderable Half Pound Spool

### Product Description

Beldsol Magnet Wire is a dual insulated Magnet Wire that combines the excellent dielectric characteristics of polyurethane and the known toughness and solvent resistance of a nylon overcoat. This wire is rated by IEEE tests for 270°F usage and will solder without insulation removal at 750°F.



Part No.	AWG	Approximate Length		Standard Unit Weight		Turns per Linear Inch	Turns per Square Inch
		Ft.	m	Lbs.	kg		

### Class 200

J-W-1177/14 • MW 35-C (Heavy) or MW 74-C (Heavy)							
8073	14	80	24.4	1.1	.5	14.9	222
8074	16	126	38.4	1.1	.5	18.6	346
8075	18	199	60.7	1.1	.5	23.2	538
8076	20	315	96.0	1.1	.5	28.9	835
8077	22	501	152.7	1.1	.5	36.0	1296
8078	24	793	241.7	1.1	.5	44.7	1998
8079	26	1260	384.1	1.1	.5	55.7	3102
8080	28	1990	606.6	1.1	.5	69.4	4816
8081	30	3140	957.1	1.1	.5	86.2	7430
8083	34	7860	2395.8	1.1	.5	133.1	17716
8085*	38	19300	5882.7	1.1	.5	206.0	42436

\*8085 is a single coat of modified polyester insulation and made to NEMA MW 74-C (Heavy).

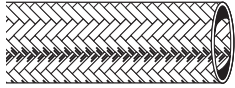
### Single Beldsol Solderable

J-W-1177/9 • MW 28-C (Single)							
8049	18	100	30.5	.5	.2	23.9	571
8050	20	160	48.8	.5	.2	29.9	894
8051	22	254	77.4	.5	.2	37.5	1406
8052	24	404	123.1	.5	.2	46.9	2200
8053	26	645	196.6	.5	.2	59.0	3481
8054	28	1020	310.9	.5	.2	73.8	5446
8055	30	1615	492.3	.5	.2	91.7	8409
8056	32	2515	766.6	.5	.2	114.0	12996
8057	34	4060	1237.5	.5	.2	144.0	20736
8058	36	6400	1950.7	.5	.2	180.0	32400

# Shielding and Bonding Cable and Direct Burial Cable

## Roadway Loop Cables

### Braided Wire



Part No.	Approx. AWG (stranding)	Standard Lengths		Standard Unit Weight		Recommended Current (Amps)	Approximate Circular Area		Nominal ID Tubular		
		Ft.	m	Lbs.	kg		CMA	mm <sup>2</sup>	Inch	mm	
<b>Braided Wire</b>											
8660	14.3 (96x34) tinned	50	15.2	.7	.3	27.0	3800	1.92	.125	3.18	
		250	76.2	3.8	1.7						
8668	13.3 (120x34) tinned	50	15.2	1.1	.5	36.0	4800	2.43	.172	4.37	
		250	76.2	5.0	2.3						
8663	11.9 (168x34) tinned	50	15.2	2.1	.9	38.0	6700	3.40	.219	5.56	
		250	76.2	6.8	3.1						
8661	11.3 (192x34) tinned	50	15.2	2.2	1.0	46.0	7600	3.85	.203	5.16	
		250 *	76.2	7.3	3.3						
8669	8.9 (336x34) tinned	50	15.2	3.4	1.5	62.0	13300	6.74	.500	12.70	
		250 *	76.2	11.5	5.2						
8662	6.6 (576x34) tinned	50	15.2	4.7	2.1	80.0	22900	11.60	.781	19.84	
		250 *	76.2	20.0	9.1						
8670	3.4 (480x30) tinned	10	3.0	1.9	.9	145.0	48000	24.32	.750	19.05 (Flat Width)	
		50	15.2	9.0	4.1						
		250 *	76.2	41.3	18.8						

Note: Dimensions shown are approximate, due to pliable nature of braided cables.  
\*May contain more than one piece. Minimum length of any one piece is 25 ft.

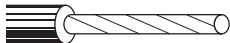
### Direct Burial

**14 AWG** Stranded Conductor (104x34)

#### Product Description

Tinned copper conductor. Black high-density polyethylene insulation.

Suggested Working Voltage: 600V



Part No.	Insulation Thickness		Jacket Thickness		Nominal OD		Standard Lengths		Standard Unit Weight		Stock Colors
	Inch	mm	Inch	mm	Inch	mm	Ft.	m	Lbs.	kg	
<b>14 AWG</b> Stranded Conductor (104x34)											
<b>80°C</b>											
9438	.032	.81	—	—	.139	3.53	1000	304.8	18.0	8.2	Black

# Bus Bar, Antenna and Aluminum Ground Wire

## Bus Bar Wire

### Product Description

Made in accordance with the performance requirements of Federal Spec. QQ-W-343G. Solid tinned copper. Belden® can certify upon special request compliance to the performance requirements of QQ-W-343S\_S1T.



Part No.	AWG	Standard Lengths		Standard Unit Weight		Nominal OD		Circular Area	
		Ft.	m	Lbs.	kg	Inch	mm	CMA	mm <sup>2</sup>
<b>Bus Bar Wire</b>									
8025	30	100	30.5	.1	.05	.010	.26	102	.05
		1000	304.8	1.0	.50				
8024	28	100	30.5	.1	.05	.013	.33	164	.08
		1000	304.8	1.0	.50				
8023	26	100	30.5	.1	.05	.016	.41	262	.13
		1000	304.8	1.0	.50				
8022	24	100	30.5	.2	.10	.021	.52	424	.22
		1000	304.8	1.0	.50				
8021	22	100	30.5	.2	.10	.026	.65	650	.33
		1000	304.8	2.0	.90				
8020	20	100	30.5	.4	.20	.033	.83	1056	.54
		1000	304.8	3.0	1.40				
8019	18	100	30.5	.5	.20	.041	1.03	1648	.84
		1000	304.8	6.0	2.70				
8013	16	100	30.5	.8	.40	.052	1.31	2673	1.35
		1000	304.8	9.0	4.10				
8012	14	100	30.5	1.5	.70	.065	1.66	4251	2.15
		1000	304.8	14.0	6.40				
8011	12	100	30.5	2.3	1.00	.083	2.11	6872	3.48

## Antenna Wire

### Product Description

Stranded bare copper-covered steel.



Part No.	AWG	Standard Package Lengths		Standard Unit Weight		Nominal OD	
		Ft.	m	Lbs.	kg	Inch	mm
<b>Antenna Wire</b>							
8002	16 (7x24)	100	30.5	.8	.4	.060	1.52
		1000	304.8	13.0	5.9		
8000	14 (7x22)	100	30.5	1.3	.6	.076	1.93
		1000	304.8	13.0	5.9		

## Aluminum Ground Wire

### Product Description

8 AWG solid, soft annealed aluminum. Packaged in ten 50-foot connected coils or spools of 500 feet. Spools are marked every 100 feet for easy measuring.



<b>Aluminum Ground Wire</b>							
8018	8 (solid)	50	15.2	.9	.4	.128	3.25
		500	152.4	8.5	3.9		

## Technical Information

### Conductor and Insulation Materials

The technical information provided in this section has been expanded to include additional graphs and supplementary data as an aid in specifying the hook-up and lead wire best suited to the needs of a particular application. If you require additional technical information, contact Belden Technical Support at **1-800-BELDEN-1**.

The tables on the following pages are offered as a guide to assist users in selecting the correct lead wire for their application.

#### Conductors

##### Uni-Strand®

*Uni-Strand tinned copper conductor.* In this type of construction, the bare copper wires are stranded, then tinned to coat the strands and also to fill in the interstices between strands. This allows for easier wire stripping with no re-twisting operation.

#### Insulation Materials

##### PVC

Vinyl plastic insulation is fast stripping, resists oil, solvents, and ozone. The colors are bright and remain distinct after processing. Applications include motors, transformers, fluorescent ballasts and fixtures, switchboards, panels, controls, rectifiers and electronic circuits. Meets VW-1 Vertical Wire Flame Test in many cases.

##### Teflon®

Teflon is a fluorinated thermoplastic with outstanding thermal, physical, and electrical properties. Teflon is generally restricted to applications requiring its special characteristics because its basic resin and processing costs are relatively high.

Belden Teflon wire products are highly recommended for miniature cable applications because of their superior thermal and electrical properties. Teflon is especially suitable for internal wiring-soldering applications where insulation melt back is a specific problem. Belden wiring products insulated with Teflon are outstanding in their resistance to oil, oxidation, heat, sunlight and flame; and also in their ability to remain flexible at low temperatures. They have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic hydrocarbons and solvents.

##### EPDM

EPDM (ethylene-propylene diene elastomer) is a chemically cross-linked elastomer with excellent flexibility at high and low temperatures (+150°C to -60°C). It has good insulation and dielectric strength, as well as excellent abrasion resistance and mechanical properties. EPDM also has better cut-through resistance than Silicone rubber, which it replaces in some applications.

EPDM is compatible with most varnishes. After the dip and bake cycle, however, the varnish tends to adhere to the insulation because EPDM, unlike some rubber insulations, does not exude oils or waxes. As the lead wires are pulled apart for termination or flexed, the varnish cracks, sometimes tearing the insulation.

To help this problem, a stearic solution is applied to the lead wire during the manufacturing process. However, many varnishes may still bond to the insulation unless other special coatings are applied. (Other slip coats are available at additional cost.) **Because most cleaning processes will remove these coatings from the EPDM lead wire, cleaning EPDM lead wire before using in the process is not recommended.**

***Due to the above, it is recommended that the compatibility between the individual lead wire size, the bake/varnish process and varnish used always be checked; and if possible, do not allow any varnish to extend beyond a point where the lead wire will be flexed or bent.***

##### XL-Dur®

XL-Dur is a lead wire insulation utilizing thermoset, chemically cross-linked polyethylene. Because of its excellent physical and electrical properties, XL-Dur is highly desirable for a wide variety of applications.

##### Hypalon®

This insulation is chlorosulfonated polyethylene. Hypalon insulation has excellent heat resistance, color stability and electrical properties.

##### Neoprene

Neoprene insulation has good heat aging characteristics and is an excellent low-cost motor lead wire. It may be considered for use in hazardous locations and is being used in explosion-proof motors recognized by UL.

##### Silicone Rubber

Braidless Silicone lead wire features easy and clean stripping without the problems associated with glass braid lead wire. It has excellent physical and mechanical strength properties.

Recommended for high-temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic, and electronic devices. It is recommended that varnish compatibility be checked before production. Some rigid varnishes may cause cracking when the wire is severely bent.

##### Silicone Rubber — Glass Braid

The Silicone insulation strips clean and easy. The glass braid provides additional abrasion resistance and is treated to prevent fraying.

Recommended for high-temperature applications in motors, lighting fixtures, clothes dryers, stoves, therapeutic and electronic devices.

Hypalon and Teflon are DuPont trademarks.

## Technical Information

### Insulation Characteristics and Color Codes

**Table 1: Insulation Characteristics**

Insulation	Temperature Rating	UL Voltage Rating (Volts)	Oil Resistance	Ozone Resistance	Abrasion	Flame Resistance
Neoprene	90°C	300/600	Good	Good	Good	Good
PVC	80°C	300	Good-Excellent	Good-Excellent	Good	Excellent
	105°C	600	Good-Excellent	Good-Excellent	Good	Excellent
Hypalon®	105°C	300/600	Good	Excellent	Good	Good
XL-Dur®	105°C	300	Good	Good	Excellent	Fair-Good
Cross-Linked Polyethylene	125°C	600	Good	Good	Excellent	Fair-Good
	150°C	600	Good	Good	Excellent	Fair-Good
EPDM	125°C	600	Fair-Poor	Good	Good	Fair
	150°C	600	Fair-Poor	Good	Good	Fair
Silicone Rubber	150°C	300	Fair	Good	Poor	Good
	200°C	600	Fair	Good	Poor	Good
Silicone Rubber Glass Braid	150°C	600	Fair	Excellent	Excellent	Good
	200°C	600	Fair	Excellent	Excellent	Good
Teflon®	150°C	300	Excellent	Excellent	Excellent	Excellent
	200°C	300	Excellent	Excellent	Excellent	Excellent
	260°C	300	Excellent	Excellent	Excellent	Excellent

**Table 2: Lead Wire Color Code Chart**

Color No.	Color Combination	Color No.	Color Combination	Color No.	Color Combination
1	Brown	13	Dark Blue	25	White/Black/Yellow
2	Red	14	White/Black	26	White/Black/Blue
3	Orange	15	White/Red	27	White/Black/Brown
4	Yellow	16	White/Green	28	White/Black/Orange
5	Green	17	White/Yellow	29	White/Black/Gray
6	Light Blue	18	White/Blue	30	White/Black/Purple
7	Purple	19	White/Brown	189	Green/Yellow
8	Gray	20	White/Orange	620	Green/min. 30% Yellow
9	White	21	White/Gray	876	Nickel Gray
10	Black	22	White/Purple	B02	Purple
11	Tan	23	White/Black/Red		
12	Pink	24	White/Black/Green		

**Non-Stock Colors:** Non-stock colors and stripes of catalog items are available in minimum quantities. Price and delivery information is available upon request. Orders must be in multiples of standard packages.

Hypalon and Teflon are DuPont trademarks.



# Technical Information

## Current Carrying Capacity

**Table 3: Lead Wire Current Carrying Capacity**

AWG	90°C Neoprene, SIS	105°C Vinyl, Hypalon®	125°C XL-Dur,® Hermetic	150°C EPDM, XL-Dur, Silicone	200°C Silicone
22	10	11	12	14	16
20	13	14	15	18	21
18	18	20	22	24	28
16	24	26	28	31	35
14	35	39	42	46	54
12	40	51	55	60	68
10	55	67	72	80	90
8	80	90	97	106	124
6	105	121	131	155	165
4	140	160	172	109	220
3	165	180	194	214	252
2	190	215	232	255	293
1	220	247	266	293	344
1/0	260	286	309	339	399
2/0	300	329	355	390	467
3/0	350	380	410	451	546
4/0	405	446	481	529	629

Values (amperes) shown in this table are maximum for a single conductor in free air with an assumed ambient room temperature of 30°C (86°F).

**Table 4: Current Carrying Capacity of 2 or 3 Conductors**

AWG	90°C Neoprene, SIS	105°C Vinyl, Hypalon	125°C XL-Dur, Hermetic	150°C EPDM, XL-Dur, Silicone	200°C Silicone
22	6	7	8	9	10
20	8	9	10	13	15
18	14	15	16	17	20
16	18	19	20	22	25
14	25	29	31	34	36
12	30	36	39	43	45
10	40	46	50	55	60
8	55	64	69	76	83
6	75	81	87	96	110
4	95	109	118	120	125
3	110	129	139	143	152
2	130	143	154	160	171
1	150	168	181	186	197
1/0	170	193	208	215	229
2/0	195	229	247	251	260
3/0	225	263	284	288	297
4/0	260	301	325	332	346

Current carrying capacity of not more than three (3) conductors in a raceway, conduit or cable. The values (amperes) shown in this table are maximum at an assumed ambient room temperature of 30°C (86°F).

Hypalon is a trademark of DuPont.

### How to Use

The choice of an appropriate conductor, with respect to current carrying capacity, usually depends on one or more factors which vary according to application. These factors include the temperature in which the lead wire operates, temperature rise of equipment, limitations of insulation, voltage drop, and location of wires as in free air or enclosed, such as formed by a compartment, tubing, or a bundle of wires.

For these reasons it is not practical to provide a general chart showing the current carrying capacity of Lead Wire for all conditions. Accordingly, the values shown in Table 3 are MAXIMUM for a single conductor in free air, based on ambient temperature of 30°C. For actual use temperatures above an ambient temperature of 30°C, reduce the maximum ampacity by use of correction factor in Table 5 to correct the values in Table 3 and Table 4.

**Table 5: Correction Factors for Tables 3 & 4**

Ambient Temperature (°C)	Insulation Temperature Rating				
	90°C	105°C	125°C	150°C	200°C
31 – 35	.96	1.00	1.00	1.00	1.00
36 – 40	.91	1.00	1.00	1.00	1.00
41 – 45	.87	.93	.94	.95	.97
46 – 50	.82	.93	.94	.95	.97
51 – 55	.76	.85	.87	.90	.94
56 – 60	.71	.85	.87	.90	.94
61 – 70	.58	.76	.80	.85	.90
71 – 80	.41	.65	.73	.80	.87
81 – 90	—	.53	.64	.74	.83
91 – 100	—	.38	.54	.67	.79
101 – 120	—	—	.24	.52	.71
121 – 140	—	—	—	.30	.61
141 – 160	—	—	—	—	.50
161 – 180	—	—	—	—	.35

For ambient temperatures over 30°C, multiply the ampacities shown in Table 3 or Table 4 by the appropriate correction factor to determine the maximum allowable load current.

### Correction Factors for Table 4

Number of Conductors	Reduction Percentage
4 thru 6	80%
7 thru 9	70%
10 thru 20	50%
21 thru 30	45%
31 thru 40	40%
41 and above	35%

If more than three (3) conductors are in a raceway, conduit or cable, the values given in Table 4 must be reduced using the above percentages.

(Example: The ampacity for 7 through 9 conductors = 70% of the value(s) shown in Table 4.)



# Technical Information

## Temperature Ranges and Classifications

### Conductor Configurations

**Table 6: Nominal Temperature Operating Ranges (°C)**

-100°	-80°	-60°	-40°	-20°	0	20°	40°	60°	80°	100°	120°	140°	160°	180°	200°	220°	240°	
				-30°	Neoprene					90°C								
				-30°	Hypalon®					105°C								
			-60°	EPDM					150°C									
			-75°	Silicone Braidless					200°C									
			-75°	Silicone Braided					200°C									
				-55°	Cross-Linked Polyethylene					150°C								
				-35°	PVC					105°C								
-100°	Teflon®															260°C		

**Table 7: Temperature Classification**

Insulation System Class	Minimum Acceptable Lead Wire Temperature Rating	
	°C	°F
<b>130(B)</b>	90	194
<b>155(F)</b>	125	257
<b>180(H)</b>	150	302
<b>220(R)</b>	200	392

Systems of Insulating Materials — UL Standard 1446

This is a guide intended for UL approved insulation systems connected to branch circuits of 600V or less. Approval required by Underwriters Laboratories when using lead wire with a temperature rating more than 5°C under the system temperature rating.

**Table 8: Conductor Configurations**

Typical Application	American Wire Gage							
	12	14	16	18	20	22	24	26
<b>Fixed Services</b>	19x25	solid	solid	solid	solid	solid	solid	solid
Hook-Up Wire		or	or	or	or	or	or	or
Cable in Raceway		19x27	19x29	7x26	7x28	7x30	7x32	7x34
				or	or			
				16x30	10x30			
<b>Moderate Flexing</b>	65x30	19x27	19x29	16x30	7x28,	7x30	7x34	7x34
Frequently Disturbed		or	or	or	10x30,	or	or	
For Maintenance		41x30	26x30	41x34	19x32,	19x34	10x34	
					or			
					26x34			
<b>Severe Flexing</b>	165x34	104x34	65x34	41x34	26x34	19x34	19x36	7x34
Microphone			or	or	or	or	or	or
Test Prods			104x36	65x36	42x36	26x36	45x40	10x36
<b>Most Severe Duty</b>	259x36	168x36	105x36	63x36	105x40			
Mercury Switches	(7x37	(7x24	(7x15	(7x9	(3x35	(Consider Braid or Tinsel)		
	Rope Lay)*	Rope Lay)*	Rope Lay)*	Rope Lay)*	Rope Lay)*			

Note: For a given AWG wire size (based on equal cross-sectional area of conductor), limpness and flex life are increased by use of a large number of fine strands. The finer stranding does result in higher costs.

\*Rope Lay is several stranded groups cabled together. For example: #12 AWG, 259x36 is 7 cords each consisting of 37 strands of #36 AWG

Hypalon and Teflon are DuPont trademarks.



# Technical Information

## Packaging

### Drums

Conductor is available in three drum pack sizes:

- The #15 Beldpak® is 15" high and 23" in diameter.
- The #31 Beldpak is 30½" high and 23" in diameter.
- The #42 Beldpak (pictured) is 42" high and 23" in diameter.



Price and delivery information is available upon request.

OD of Wire		#15 Beldpak		#31 Beldpak		#42 Beldpak	
Inch	mm	1000'	km	1000'	km	1000'	km
.070	1.78	35	10.7	70	21.3	85	25.9
.080	2.03	27	8.2	55	16.8	70	21.3
.090	2.29	21	6.4	43	13.1	55	16.8
.100	2.54	17	5.2	35	10.7	48	14.6
.110	2.79	12	3.7	25	7.6	40	12.2
.120	3.05	10	3.0	20	6.1	34	10.4
.130	3.30	9	2.7	18	5.5	30	9.1
.140	3.56	8	2.4	15	4.6	20	6.1
.150	3.81	7	2.1	14	4.3	18	5.5
.160	4.06	6	1.8	12	3.7	16	4.9
.170	4.32	5	1.5	10	3.0	14	4.3

### Reels

Reel dimensions will vary by size, determined by AWG of wire.



OD of Wire		Quantity		Crate Reels*	Head Diameter		Barrel Diameter		Height Transverse	
Inch	mm	1000'	km		Inch	mm	Inch	mm	Inch	mm
.080	2.03	10.0	3.05	1748	15¾	400	8	203	8	203
.090	2.29	8.0	2.44	1748	15¾	400	8	203	8	203
.100	2.54	6.5	1.98	1748	15¾	400	8	203	8	203
.110	2.79	5.0	1.52	1748	15¾	400	8	203	8	203
.120	3.05	6.0	1.83	1747	15¾	400	8	203	10½	267
.130	3.30	5.0	1.52	1747	15¾	400	8	203	10½	267
.140	3.56	6.0	1.83	1746	17¾	451	8	203	10½	267
.150	3.81	5.0	1.52	1746	17¾	451	8	203	10½	267
.160	4.06	4.5	1.37	1746	17¾	451	8	203	10½	267
.170	4.32	7.0	2.13	1744	22	559	10	254	14¼	362
.180	4.57	6.0	1.83	1744	22	559	10	254	14¼	362
.190	4.83	5.5	1.68	1744	22	559	10	254	14¼	362
.200	5.08	5.0	1.52	1744	22	559	10	254	14¼	362
.250	6.35	5.0	1.52	1743	26	660	10	254	14¼	362
.300	7.62	3.5	1.07	1743	26	660	10	254	14¼	362
.350	8.89	2.5	.76	1743	26	660	10	254	14¼	362
.400	10.16	2.0	.61	1743	26	660	10	254	14¼	362
.450	11.43	1.5	.46	1743	26	660	10	254	14¼	362
.500	12.70	1.2	.37	1743	26	660	10	254	14¼	362
.550	13.97	1.0	.31	1743	26	660	10	254	14¼	362
.600	15.24	1.2	.37	1733	30	762	10	254	14¼	362

\*Crate Reel numbers are Belden's internal numbers. They are representative only to the extent of the dimensions shown. Weight of the wire may require another reel with dimensions identical to those shown.

### Special Orders

Orders for special packages must be placed for footage mentioned or for multiples for these quantities per color.



# Mouser Electronics

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