

# High-Temperature

## Unshielded

### Control and Instrumentation Cables

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD	
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm

**20 AWG** Stranded (7x28) Tinned Copper Conductors • Conductors Cabled

**Tefzel® Insulation • Clear Tefzel Jacket**

300V RMS 150°C VW-1	<b>85220</b>	—	2	Black, Red	100	30.5	3.8	1.7	.015	.38	.020	.51	.185	4.70
					1000 <sup>†</sup>	304.8	23.0	10.4						



**16 AWG** Stranded (19x29) Tinned Copper Conductors • Conductors Cabled

**Tefzel Insulation • Clear Tefzel Jacket**

300V RMS 150°C VW-1	<b>85221</b>	—	2	Black, Red	500 <sup>†</sup>	152.4	15.0	6.8	.015	.38	.019	.48	.211	5.36
					1000 <sup>†</sup>	304.8	34.0	15.4						



<b>85102</b>	—	2	See Chart 2 (Tech Info Section)	500 <sup>†</sup>	152.4	14.0	6.4	.015	.38	.019	.48	.211	5.36
				1000 <sup>†</sup>	304.8	32.0	14.5						

<b>85103</b>	—	3	See Chart 2 (Tech Info Section)	500 <sup>†</sup>	152.4	20.0	9.1	.015	.38	.019	.48	.223	5.66
				1000 <sup>†</sup>	304.8	43.0	19.5						

<b>85105</b>	—	5	See Chart 2 (Tech Info Section)	500 <sup>†</sup>	152.4	35.0	15.9	.015	.38	.019	.48	.268	6.81
				1000 <sup>†</sup>	304.8	68.0	30.9						

<b>85107</b>	—	7	See Chart 2 (Tech Info Section)	100	30.5	11.5	5.2	.015	.38	.024	.61	.303	7.70
				1000 <sup>†</sup>	304.8	105.0	47.7						

<b>85109</b>	—	9	See Chart 2 (Tech Info Section)	500 <sup>†</sup>	152.4	59.0	26.8	.015	.38	.024	.61	.354	8.99
				1000 <sup>†</sup>	304.8	119.0	54.0						

<sup>†</sup> Spools are one piece, but length may vary ±10% from length shown.

Tefzel insulated and jacketed cables are particularly well suited for harsh environments due to outstanding mechanical toughness of the material, as well as its high-temperature and radiation resistant characteristics.

Tefzel cables are used extensively in chemical plants, nuclear plants, and fossil fuel power plants. Typical applications are data recording, communication, telemetering, and monitoring pressure or material flow.

Tefzel is a DuPont trademark.



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

# High-Temperature Overall Beldfoil® Shield Control and Instrumentation Cables

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m

**22 AWG** Stranded (7x30) TC Conductors • Conductors Cabled • Special Beldfoil Shield (100% Coverage) • 22 AWG (7x30) Stranded TC Drain Wire

**FEP Insulation • Red Silicone Rubber Jacket • Noise Reducing Tape**

Jacket working voltage 2000V DC, shield to ground VW-1	<b>83394</b>	AWM 4516	2	Black, White	100	30.5	3.6	1.6	.015	.38	.030	.76	.199	5.05	22	72	40	131
					U-500 <sup>†</sup> 500 <sup>†</sup>	U-152.4 152.4	14.5 13.0	6.6 5.9										



70°C (min.) to 150°C (max.) operating temperature.

Jacket working voltage 2000V DC, shield to ground VW-1	<b>83395</b>	AWM 4516	3	Black, Red, White	100	30.5	3.9	1.8	.015	.38	.031	.79	.208	5.28	22	72	40	131
					U-500 <sup>†</sup>	U-152.4	14.0	6.4										



70°C (min.) to 150°C (max.) operating temperature.

Jacket working voltage 2000V DC, shield to ground VW-1	<b>83396</b>	AWM 4516	4	Black, White, Red, Green	100	30.5	3.9	1.8	.015	.38	.030	.76	.217	5.51	22	72	40	131
					U-500 <sup>†</sup>	U-152.4	16.0	7.3										

**20 AWG** Stranded (7x28) TC Conductors • Twisted Pair • Special Beldfoil Shield (100% Coverage) • 20 AWG (7x28) Stranded TC Drain Wire

**FEP Insulation • Yellow Silicone Rubber Jacket • Noise Reducing Tape**

Jacket working voltage 2000V DC, shield to ground VW-1	<b>83393</b>	AWM 4516	2	Black, Red	100 <sup>††</sup>	30.5	4.2	1.9	.020	.51	.030	.76	.242	6.15	22	72	40	131
					U-500 <sup>†</sup>	U-152.4	18.5	8.4										



70°C (min.) to 150°C (max.) operating temperature.

**20 AWG** Stranded (7x28) TC Conductors • Conductors Cabled • Overall Beldfoil Shield (100% Coverage) • Drain Wire

**Tefzel® Insulation • Clear Tefzel Jacket**

300V RMS 150°C VW-1	<b>85230</b>	—	2	Black, Red	500 <sup>†</sup>	152.4	12.5	5.7	.015	.38	.020	.51	.182	4.62	31	102	59	194
					1000 <sup>†</sup>	304.8	29.0	13.2										



300V RMS 150°C VW-1	<b>85240</b>	—	3	Black, Red, Green	100	30.5	4.6	2.1	.015	.38	.020	.51	.193	4.90	27	87	48	157
					1000 <sup>†</sup>	304.8	30.0	13.6										



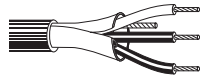
**16 AWG** Stranded (19x29) TC Conductors • Conductors Cabled • Overall Beldfoil Shield (100% Coverage) • Drain Wire

**Tefzel Insulation • Clear Tefzel Jacket**

300V RMS 150°C VW-1	<b>85231</b>	—	2	Black, Red	100	30.5	5.6	2.5	.020	.51	.020	.51	.210	5.33	44	144	79	259
					500 <sup>†</sup>	152.4	17.0	7.8										



300V RMS 150°C VW-1	<b>85241</b>	—	3	Black, Red, Green	500 <sup>†</sup>	152.4	22.5	10.3	.020	.51	.020	.51	.223	5.66	34	112	61	201
					1000 <sup>†</sup>	304.8	49.0	22.3										



TC = Tinned Copper

\*Capacitance between conductors. \*\*Capacitance between one conductor and other conductors connected to shield.  
<sup>†</sup>Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel from length shown.  
<sup>††</sup>100 ft. put-up one piece, exact length.

Tefzel and Kapton are DuPont trademarks.



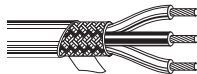
# High-Temperature

## Overall Braid Shield — Control and Instrumentation Cables MIL-W-16878/4 (Type E) — Individual Conductors

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	pF/ Ft.	pF/ m	** pF/ Ft.	** pF/ m

**26 AWG** Stranded (7x34) Silver-plated Copper Conductors • Cabled and Color-coded • Silver-plated Copper Braid Shield (85% Coverage)

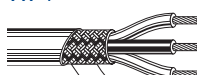
**Extruded TFE Teflon® Insulation • White TFE Teflon Tape-wrapped Jacket**

600V RMS -65°C to 200°C VW-1 	<b>83303E</b>	—	1	White	500 <sup>††</sup>	152.4	3.5	1.6	.010	.25	.010	.25	.076	1.93	—	—	44.6	146
					1000 <sup>▲</sup>	304.8	6.0	2.7										
	<b>83317E</b>	—	2	White, Black	100 <sup>†</sup>	30.5	1.4	0.6	.010	.25	.011	.28	.121	3.07	20.8	68	35.5	116
					500 <sup>††</sup>	152.4	6.5	3.0										
1000 <sup>▲</sup>					304.8	14.0	6.4											
<b>83332E</b>	—	3	White, Black, Red	100 <sup>†</sup>	30.5	1.7	0.8	.010	.25	.011	.28	.127	3.23	18.8	62	31.4	103	
				1000 <sup>▲</sup>	304.8	17.0	7.7											
<b>83347E</b>	—	4	White, Black, Red, Green	100 <sup>†</sup>	30.5	1.9	0.9	.010	.25	.011	.28	.137	3.48	18.5	61	30.5	100	
				500 <sup>††</sup>	152.4	10.0	4.5											
				1000 <sup>▲</sup>	304.8	19.0	8.6											

MIL-Spec MIL-W-16878/4 (Type E).

**24 AWG** Stranded (19x36) Silver-plated Copper Conductors • Cabled and Color-coded • Silver-plated Copper Braid Shield (85% Coverage)

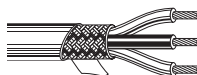
**Extruded TFE Teflon Insulation • White TFE Teflon Tape-wrapped Jacket**

600V RMS -65°C to 200°C VW-1 	<b>83304E</b>	—	1	White	500 <sup>††</sup>	152.4	4.5	2.0	.010	.25	.010	.25	.085	2.16	—	—	46	151
					1000 <sup>▲</sup>	304.8	8.0	3.6										
	<b>83318E</b>	—	2	White, Black	100 <sup>†</sup>	30.5	1.6	0.7	.010	.25	.011	.28	.131	3.33	26.5	87	42.4	139
					500 <sup>††</sup>	152.4	7.5	3.4										
1000 <sup>▲</sup>					304.8	16.0	7.3											
<b>83333E</b>	—	3	White, Black, Red	100 <sup>†</sup>	30.5	1.9	0.9	.010	.25	.011	.28	.137	3.48	21.9	72	36.8	121	
				500 <sup>††</sup>	304.8	10.0	4.5											
				1000 <sup>▲</sup>	304.8	19.0	8.6											
<b>83348E</b>	—	4	White, Black, Red, Green	100 <sup>†</sup>	30.5	2.3	1.0	.010	.25	.011	.28	.149	3.79	21.9	72	36.8	121	
				500 <sup>††</sup>	152.4	12.0	5.4											
				1000 <sup>▲</sup>	304.8	23.0	10.4											

Complies with MIL-W-16878/4 (Type E) except stranding.

**22 AWG** Stranded (19x34) Silver-plated Copper Conductors • Cabled and Color-coded • Silver-plated Copper Braid Shield (85% Coverage)

**Extruded TFE Teflon Insulation • White TFE Teflon Tape-wrapped Jacket**

600V RMS -65°C to 200°C VW-1 	<b>83305E</b>	—	1	White	100 <sup>†</sup>	30.5	1.1	0.5	.010	.25	.010	.25	.091	2.31	—	—	57.9	190
					500 <sup>††</sup>	152.4	5.0	2.3										
					1000 <sup>▲</sup>	304.8	9.0	4.1										
	<b>83319E</b>	—	2	White, Black	100 <sup>†</sup>	30.5	1.9	0.9	.010	.25	.011	.28	.143	3.63	29.9	98	49.2	161
500 <sup>††</sup>					152.4	10.0	4.5											
1000 <sup>▲</sup>					304.8	19.0	8.6											
<b>83334E</b>	—	3	White, Black, Red	100 <sup>†</sup>	30.5	2.7	1.2	.010	.25	.011	.28	.150	3.81	27.4	90	45.7	150	
				500 <sup>††</sup>	152.4	12.5	5.7											
				1000 <sup>▲</sup>	304.8	24.0	10.9											
<b>83349E</b>	—	4	White, Black, Red, Green	100 <sup>†</sup>	30.5	3.1	1.4	.010	.25	.011	.28	.163	4.14	27.4	90	45.7	150	
				500 <sup>††</sup>	152.4	14.5	6.6											
				1000 <sup>▲</sup>	304.8	28.0	12.7											

Complies with MIL-W-16878/4 (Type E) except stranding.

\*Capacitance between conductors.  
\*\*Capacitance between one conductor and other conductors connected to shield.

<sup>†</sup> 100 ft. put-up one piece, exact length.  
<sup>††</sup> 500 ft. put-up exact, but may contain up to 3 pieces. Minimum length of any one piece is 25 ft.  
<sup>▲</sup> Spools may contain more than one piece. Length may vary ±10% from length shown.

Teflon is a DuPont trademark.



# High-Temperature

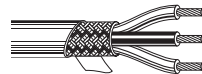
## Overall Braid Shield — Control and Instrumentation Cables

### MIL-W-16878/4 (Type E) — Individual Conductors

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	pF/ Ft.	pF/ m	pF/ Ft.	pF/ m

**20 AWG** Stranded (19x32) Silver-plated Copper Conductors • Cabled and Color-coded • Silver-plated Copper Braid Shield (85% Coverage)

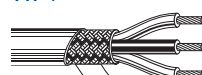
**Extruded TFE Teflon® Insulation • White TFE Teflon Tape-wrapped Jacket**

600V RMS -65°C to 200°C VW-1 	<b>83306E</b>	—	1	White	100 <sup>†</sup> 1000 <sup>▲</sup>	30.5 304.8	1.4 14.0	0.6 6.4	.010 .25	.010 .25	.099 2.52	—	—	69	226
	<b>83320E</b>	—	2	White, Black	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	2.6 12.0 23.0	1.2 5.4 10.4	.010 .25	.011 .28	.159 4.04	31.7 104	51 167		
	<b>83335E</b>	—	3	White, Black, Red	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	3.3 15.5 30.0	1.5 7.0 13.6	.010 .25	.011 .28	.168 4.27	31.7 104	51 167		
	<b>83350E</b>	—	4	White, Black, Red, Green	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	4.0 19.0 37.0	1.8 8.6 16.8	.010 .25	.011 .28	.183 4.65	31.7 104	51 167		

Complies with MIL-W-16878/4 (Type E) except stranding.

**18 AWG** Stranded (19x30) Silver-plated Copper Conductors • Cabled and Color-coded • Silver-plated Copper Braid Shield (85% Coverage)

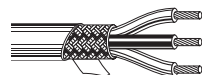
**Extruded TFE Teflon Insulation • White TFE Teflon Tape-wrapped Jacket**

600V RMS -65°C to 200°C VW-1 	<b>83307E</b>	—	1	White	1000 <sup>▲</sup>	304.8	17.0	7.7	.011 .28	.010 .25	.109 2.77	—	—	71.5	235
	<b>83321E</b>	—	2	White, Black	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	3.2 15.0 29.0	1.5 6.8 13.2	.011 .28	.011 .28	.179 4.55	31 102	52.8 173		
	<b>83336E</b>	—	3	White, Black, Red	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	4.2 20.0 39.0	1.9 9.1 17.7	.011 .28	.011 .28	.189 4.80	31 102	52.8 173		
	<b>83351E</b>	—	4	White, Black, Red, Green	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	5.2 25.0 51.0	2.4 11.3 23.1	.011 .28	.011 .28	.207 5.26	31 102	52.8 173		

Complies with MIL-W-16878/4 (Type E) except stranding.

**16 AWG** Stranded (19x29) Silver-plated Copper Conductors • Cabled and Color-coded • Silver-plated Copper Braid Shield (85% Coverage)

**Extruded TFE Teflon Insulation • White TFE Teflon Tape-wrapped Jacket**

600V RMS -65°C to 200°C VW-1 	<b>83308E</b>	—	1	White	500 <sup>††</sup> 1000 <sup>▲</sup>	152.4 304.8	9.5 20.0	4.3 9.1	.012 .31	.011 .28	.120 3.05	—	—	72.5	238
	<b>83322E</b>	—	2	White, Black	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	3.8 18.0 35.0	1.7 8.2 15.9	.012 .31	.011 .28	.197 5.00	36 118	60 197		
	<b>83337E</b>	—	3	White, Black, Red	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	5.0 24.5 49.0	2.3 11.1 22.2	.012 .31	.011 .28	.209 5.31	30.7 101	53 174		
	<b>83352E</b>	—	4	White, Black, Red, Green	100 <sup>†</sup> 500 <sup>††</sup> 1000 <sup>▲</sup>	30.5 152.4 304.8	6.2 30.5 61.0	2.8 13.8 27.7	.012 .31	.011 .28	.229 5.82	30.2 99	50.8 167		

Complies with MIL-W-16878/4 (Type E) except stranding.

\*Capacitance between conductors.

\*\*Capacitance between one conductor and other conductors connected to shield.

<sup>†</sup>100 ft. put-up one piece, exact length.

<sup>††</sup>500 ft. put-up exact, but may contain up to 2 pieces. Minimum length of any one piece is 25 ft.

<sup>▲</sup>1000 ft. put-up exact, but may contain up to 6 pieces. Minimum length of any one piece is 25 ft.

Teflon is a DuPont trademark.