

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	85220	—	2	Black, Red	100	30.5	3.8	1.7	.015	.38	.020	.51	.185	4.70
					1000 [†]	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	85221	—	2	Black, Red	500 [†]	152.4	15.0	6.8	.015	.38	.019	.48	.211	5.36
					1000 [†]	304.8	34.0	15.4						



85102	—	2	See Chart 2 (Tech Info Section)	500 [†]	152.4	14.0	6.4	.015	.38	.019	.48	.211	5.36
				1000 [†]	304.8	32.0	14.5						

85103	—	3	See Chart 2 (Tech Info Section)	500 [†]	152.4	20.0	9.1	.015	.38	.019	.48	.223	5.66
				1000 [†]	304.8	43.0	19.5						

85105	—	5	See Chart 2 (Tech Info Section)	500 [†]	152.4	35.0	15.9	.015	.38	.019	.48	.268	6.81
				1000 [†]	304.8	68.0	30.9						

85107	—	7	See Chart 2 (Tech Info Section)	100	30.5	11.5	5.2	.015	.38	.024	.61	.303	7.70
				1000 [†]	304.8	105.0	47.7						

85109	—	9	See Chart 2 (Tech Info Section)	500 [†]	152.4	59.0	26.8	.015	.38	.024	.61	.354	8.99
				1000 [†]	304.8	119.0	54.0						

[†] Spools are one piece, but length may vary $\pm 10\%$ 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.

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

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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	83394	AWM	2	Black,	100	30.5	3.6	1.6	.015	.38	.030	.76	.199	5.05	22	72	40	131
		4516		White	U-500 [†]	U-152.4	14.5	6.6	500 [†]	152.4	13.0	5.9						



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

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



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

	83396	AWM	4	Black,	100	30.5	3.9	1.8	.015	.38	.030	.76	.217	5.51	22	72	40	131
		4516		White, Red, Green	U-500 [†]	U-152.4	16.0	7.3	500 [†]	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	83393	AWM	2	Black,	100 ^{††}	30.5	4.2	1.9	.020	.51	.030	.76	.242	6.15	22	72	40	131
		4516		Red	U-500	U-152.4	18.5	8.4	500 [†]	152.4	17.0	7.8						



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	85230	—	2	Black,	500 [†]	152.4	12.5	5.7	.015	.38	.020	.51	.182	4.62	31	102	59	194
				Red	1000 [†]	304.8	29.0	13.2										



300V RMS 150°C VW-1	85240	—	3	Black,	100	30.5	4.6	2.1	.015	.38	.020	.51	.193	4.90	27	87	48	157
				Red, Green	1000 [†]	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	85231	—	2	Black,	100	30.5	5.6	2.5	.020	.51	.020	.51	.210	5.33	44	144	79	259	
				Red	500 [†]	152.4	17.0	7.8											
					1000 [†]	304.8	38.0	17.3											



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



TC = Tinned Copper

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

[†]Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel from length shown.

^{††}100 ft. put-up one piece, exact length.

Tefzel and Kapton are DuPont trademarks.

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High-Temperature

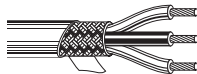
Overall Braid Shield — Control and Instrumentation Cables

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)

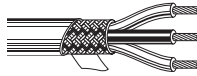
Extruded TFE Teflon® Insulation • White TFE Teflon Tape-wrapped Jacket

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

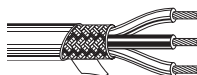
Extruded TFE Teflon Insulation • White TFE Teflon Tape-wrapped Jacket

600V RMS -65°C to 200°C VW-1 	83304E	—	1	White	500 ^{††}	152.4	4.5	2.0	.010	.25	.010	.25	.085	2.16	—	—	46	151	
					1000 [▲]	304.8	8.0	3.6											
	83318E	—	2	White, Black	100 [†]	30.5	1.6	0.7	.010	.25	.011	.28	.131	3.33	26.5	87	42.4	139	
					500 ^{††}	152.4	7.5	3.4											
					1000 [▲]	304.8	16.0	7.3											
	83333E	—	3	White, Black, Red	100 [†]	30.5	1.9	0.9	.010	.25	.011	.28	.137	3.48	21.9	72	36.8	121	
					500 ^{††}	304.8	10.0	4.5											
	83348E	—	4	White, Black, Red, Green	100 [†]	30.5	2.3	1.0	.010	.25	.011	.28	.149	3.79	21.9	72	36.8	121	
					500 ^{††}	152.4	12.0	5.4											
					1000 [▲]	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 	83305E	—	1	White	100 [†]	30.5	1.1	0.5	.010	.25	.010	.25	.091	2.31	—	—	57.9	190
					500 ^{††}	152.4	5.0	2.3										
	83319E	—	2	White, Black	100 [†]	30.5	1.9	0.9	.010	.25	.011	.28	.143	3.63	29.9	98	49.2	161
					500 ^{††}	152.4	10.0	4.5										
					1000 [▲]	304.8	19.0	8.6										
	83334E	—	3	White, Black, Red	100 [†]	30.5	2.7	1.2	.010	.25	.011	.28	.150	3.81	27.4	90	45.7	150
					500 ^{††}	152.4	12.5	5.7										
	83349E	—	4	White, Black, Red, Green	100 [†]	30.5	3.1	1.4	.010	.25	.011	.28	.163	4.14	27.4	90	45.7	150
					500 ^{††}	152.4	14.5	6.6										
					1000 [▲]	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.

[†] 100 ft. put-up one piece, exact length.

^{††} 500 ft. put-up exact, but may contain up to 3 pieces. Minimum length of any one piece is 25 ft.

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

Teflon is a DuPont trademark.

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High-Temperature

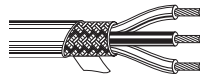
Overall Braid Shield — Control and Instrumentation Cables

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)

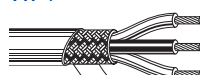
Extruded TFE Teflon® Insulation • White TFE Teflon Tape-wrapped Jacket

600V RMS -65°C to 200°C VW-1 	83306E	—	1	White	100 [†] 1000 [▲]	30.5 304.8	1.4 14.0	0.6 6.4	.010	.25	.010	.25	.099	2.52	—	—	69	226
	83320E	—	2	White, Black	100 [†] 500 ^{††} 1000 [▲]	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
	83335E	—	3	White, Black, Red	100 [†] 500 ^{††} 1000 [▲]	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
	83350E	—	4	White, Black, Red, Green	100 [†] 500 ^{††} 1000 [▲]	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)

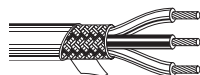
Extruded TFE Teflon Insulation • White TFE Teflon Tape-wrapped Jacket

600V RMS -65°C to 200°C VW-1 	83307E	—	1	White	1000 [▲]	304.8	17.0	7.7	.011	.28	.010	.25	.109	2.77	—	—	71.5	235
	83321E	—	2	White, Black	100 [†] 500 ^{††} 1000 [▲]	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
	83336E	—	3	White, Black, Red	100 [†] 500 ^{††} 1000 [▲]	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
	83351E	—	4	White, Black, Red, Green	100 [†] 500 ^{††} 1000 [▲]	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 	83308E	—	1	White	500 ^{††} 1000 [▲]	152.4 304.8	9.5 20.0	4.3 9.1	.012	.31	.011	.28	.120	3.05	—	—	72.5	238
	83322E	—	2	White, Black	100 [†] 500 ^{††} 1000 [▲]	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
	83337E	—	3	White, Black, Red	100 [†] 500 ^{††} 1000 [▲]	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
	83352E	—	4	White, Black, Red, Green	100 [†] 500 ^{††} 1000 [▲]	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.

[†] 100 ft. put-up one piece, exact length.

^{††} 500 ft. put-up exact, but may contain up to 2 pieces. Minimum length of any one piece is 25 ft.

[▲] 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.