

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 1000 [†]	30.5 304.8	3.8 23.0	1.7 10.4	.015	.38	.020	.51	.185	4.70
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**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 [†] 1000 [†]	152.4 304.8	15.0 34.0	6.8 15.4	.015	.38	.019	.48	.211	5.36
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85102	—	2	See Chart 2 (Tech Info Section)	500 [†] 1000 [†]	152.4 304.8	14.0 32.0	6.4 14.5	.015	.38	.019	.48	.211	5.36
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85103	—	3	See Chart 2 (Tech Info Section)	500 [†] 1000 [†]	152.4 304.8	20.0 43.0	9.1 19.5	.015	.38	.019	.48	.223	5.66
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85105	—	5	See Chart 2 (Tech Info Section)	500 [†] 1000 [†]	152.4 304.8	35.0 68.0	15.9 30.9	.015	.38	.019	.48	.268	6.81
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85107	—	7	See Chart 2 (Tech Info Section)	100 1000 [†]	30.5 304.8	11.5 105.0	5.2 47.7	.015	.38	.024	.61	.303	7.70
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85109	—	9	See Chart 2 (Tech Info Section)	500 [†] 1000 [†]	152.4 304.8	59.0 119.0	26.8 54.0	.015	.38	.024	.61	.354	8.99
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[†] 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, telemetry, and monitoring pressure or material flow.

Tefzel is a DuPont trademark.

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 4516	2	Black, White	100 500 [†]	30.5 152.4	3.6 14.5	1.6 6.6	.015 500 [†]	.38 152.4	.030 13.0	.76 5.9	.199	5.05	22	72	40	131
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70°C (min.) to 150°C (max.) operating temperature.

Jacket working voltage 2000V DC, shield to ground VW-1	83395	AWM 4516	3	Black, Red, White	100 500 [†]	30.5 152.4	3.9 14.0	1.8 6.4	.015 500 [†]	.38 152.4	.031 14.0	.79 6.4	.208	5.28	22	72	40	131
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70°C (min.) to 150°C (max.) operating temperature.

	83396	AWM 4516	4	Black, White, Red, Green	100 500 [†]	30.5 152.4	3.9 16.0	1.8 7.3	.015 500 [†]	.38 152.4	.030 16.0	.76 7.3	.217	5.51	22	72	40	131
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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 4516	2	Black, Red	100 ^{††} 500 [†]	30.5 152.4	4.2 18.5	1.9 8.4	.020 500 [†]	.51 152.4	.030 17.0	.76 7.8	.242	6.15	22	72	40	131
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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, Red	500 [†] 1000 [†]	152.4 304.8	12.5 29.0	5.7 13.2	.015 1000 [†]	.38 304.8	.020 29.0	.51 13.2	.182	4.62	31	102	59	194
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300V RMS 150°C VW-1	85240	—	3	Black, Red, Green	100 1000 [†]	30.5 304.8	4.6 30.0	2.1 13.6	.015 1000 [†]	.38 304.8	.020 30.0	.51 13.6	.193	4.90	27	87	48	157
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**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, Red	100 500 [†] 1000 [†]	30.5 152.4 304.8	5.6 17.0 38.0	2.5 7.8 17.3	.020 500 [†] 1000 [†]	.51 152.4 304.8	.020 17.0 38.0	.51 7.8 17.3	.210	5.33	44	144	79	259
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300V RMS 150°C VW-1	85241	—	3	Black, Red, Green	500 [†] 1000 [†]	152.4 304.8	22.5 49.0	10.3 22.3	.020 1000 [†]	.51 304.8	.020 49.0	.51 22.3	.223	5.66	34	112	61	201
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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.

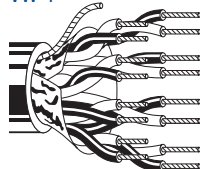
Overall Beldfoil® Shield

High-Temperature Control and Instrumentation Cables
and Computer Cables for EIA RS-232 Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	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 (7x28) TC Conductors • Pairs Cabled Together • Overall Beldfoil® Shield (100% Coverage) • Drain Wire

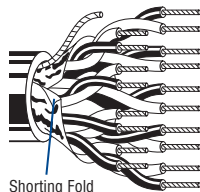
Tefzel® Insulation • Clear Tefzel Jacket

High-Temperature 300V RMS, 150°C VW-1 	85164		4	See Chart 3 (Tech Info Section)	100	30.5	6.6	3.0	.015	.38	.025	.64	.344	8.74	23	75	40	131
					500†	152.4	37.0	16.8										
					1000†	304.8	71.0	32.3										
	85168		8	See Chart 3 (Tech Info Section)	100	30.5	11.5	5.2	.015	.38	.025	.64	.439	11.15	23	75	40	131
					500†	152.4	62.0	28.2										
					1000†	304.8	126.0	57.3										

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Nom. DCR		Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nom. Capacitance			
					Ft.	m	Lbs.	kg	Cond.	Shield	Inch	mm			* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m

24 AWG Stranded (7x32) TC Conductors • Twisted Pairs • Overall Beldfoil Shield (100% Coverage) • 24 AWG Stranded TC Drain Wire

Semi-rigid PVC Insulation • Chrome PVC Jacket

UL AWM Style 2464 (300V 80°C) CSA AWM I A 	9501	NEC: CMG CEC: CMG FT4	1	See Chart 3 (Tech Info Section)	100	30.5	2.1	1.0	24.0Ω/M'	18.0Ω/M'	.156	3.96	75	60%	40	131	74	243
					U-500	U-152.4	7.5	3.4	78.7Ω/km	59.1Ω/km								
					500	152.4	7.0	3.2										
					U-1000	U-304.8	14.0	6.4										
	9502††	NEC: CMG CEC: CMG FT4	2	See Chart 3 (Tech Info Section)	100	30.5	3.7	1.7	24.0Ω/M'	17.0Ω/M'	.222	5.64	75	60%	30	98	50	164
					U-500	U-152.4	15.0	6.8	78.7Ω/km	55.8Ω/km								
					500	152.4	14.5	6.6										
					U-1000	U-304.8	28.0	12.7										
		P-MSHA-SC-7K-182037			1000	304.8	30.0	13.6										
					10000	3048.0	290.0	131.8										
	9503	NEC: CMG CEC: CMG FT4	3	See Chart 3 (Tech Info Section)	100	30.5	3.4	1.5	24.0Ω/M'	17.0Ω/M'	.232	5.89	75	60%	30	98	50	164
					U-500	U-152.4	15.0	6.8	78.7Ω/km	55.8Ω/km								
					500	152.4	14.5	6.6										
					U-1000	U-304.8	28.0	12.7										
					1000	304.8	30.0	13.6										
	9504	NEC: CMG CEC: CMG FT4	4	See Chart 3 (Tech Info Section)	100	30.5	4.0	1.8	24.0Ω/M'	17.0Ω/M'	.265	6.73	75	60%	30	98	50	164
					U-500	U-152.4	18.0	8.2	78.7Ω/km	55.8Ω/km								
					500	152.4	16.5	7.5										
					U-1000	U-304.8	35.0	15.9										
					1000	304.8	36.0	16.3										
	9505	NEC: CMG CEC: CMG FT4	5	See Chart 3 (Tech Info Section)	100	30.5	4.7	2.1	24.0Ω/M'	17.0Ω/M'	.289	7.34	75	60%	30	98	50	164
					U-500	U-152.4	21.5	9.8	78.7Ω/km	55.8Ω/km								
					500	152.4	23.0	10.4										
					U-1000	U-304.8	41.0	18.6										
					1000	304.8	43.0	19.5										

DCR = DC Resistance • TC = Tinned Copper

* Capacitance between conductors.

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

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

†† Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration certification. Request quotations of RG/U cables not listed.

See Attenuation, Rise Time and Bit Rate data for this series on page 5.10.

Tefzel is a DuPont trademark.

BELDEN

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

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