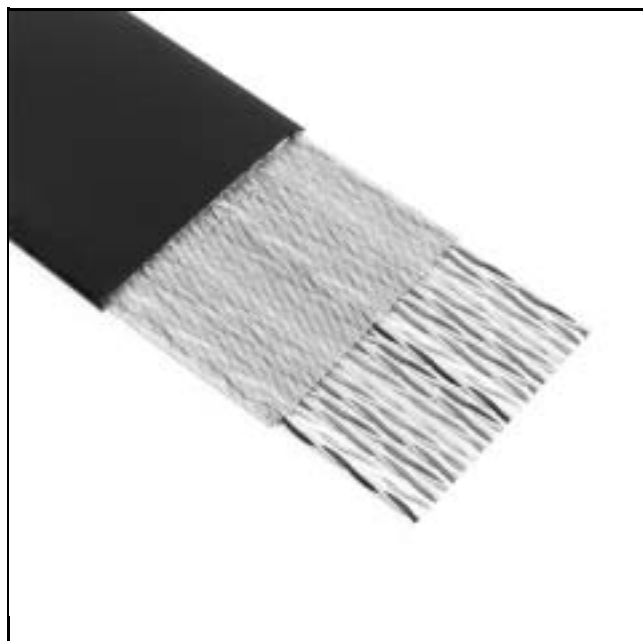


# 3M™ Shielded/Jacketed, Flat Cable

.050" 28 AWG Stranded, Twisted Pair, PVC/PVC

1785 Series



- Meets external wiring requirements of National Electrical Code, Article 725
- UL listed for US and Canadian markets
- Expanded copper shielding provides easier termination than aluminum/mylar shielding
- 360 degree expanded copper shielding provides 20 db average shielding effectiveness
- Twist and flat repeat has variable length options
- RoHS\* compliant

Date Modified: June 29, 2005

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## Physical

**Jacket Material:** Polyvinyl Chloride (PVC)  
Color: Black  
**Primary Material:** PVC  
Color: 10 Color Repeat with Tan Common  
**Marking Standard:** (UL) CL2 75C 28 AWG OR AWM 2912 3M NU C AWM IIA/B 80C 150V FT1 EU <50V  
**Conductors:** 28 AWG 7 x 36 [ 7 x 0.127 ] Tinned Stranded Copper  
**Shielding:** Expanded Copper

## Electrical

**Voltage Rating:** USA: N.E.C. 725, CL2 or AWM 150V Canada: 150V EU: <50V  
**Insulation Resistance:** (Primary Cable) >  $1 \times 10^9 \Omega/10 \text{ ft.}$  [ 3m ]

	<b>Unbalanced</b>	<b>Balanced</b>
<b>Characteristic Impedance:</b>	67 $\Omega$	118 $\Omega$
<b>Capacitance:</b>	24.7 pF/ft (81.0 pF/m)	13.8 pF/ft (45.3 pF/m)
<b>Inductance:</b>	11 $\mu\text{H/ft}$ (0.36 $\mu\text{H/m}$ )	.19 $\mu\text{H/ft}$ (0.62 $\mu\text{H/m}$ )
<b>Propagation Delay:</b>	1.65 ns/ft (5.41 ns/m)	1.63 ns/ft (5.35 ns/m)
<b>Velocity of Propagation:</b>	62%	62%

Note: Unbalanced is measured between conductors within a pair with one conductor connected to the shield. Balanced is measured between conductors within a pair with the shield floating.

## Environmental

**Temperature Rating:** USA: CL2; 75°C or AWM: -20°C to +80°C Canada: 80°C  
**Flammability Rating:** USA: N.E.C. 725, CL2 Canada: FT1

\* RoHS = Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment  
"RoHS compliant" means that the product or part does not contain any of the following substances in excess of the following maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's knowledge and belief based upon information provided by third party suppliers to 3M.

UL File No.: E118773, Power Limited Circuit Cable CL2: (or AWM Style 2912)

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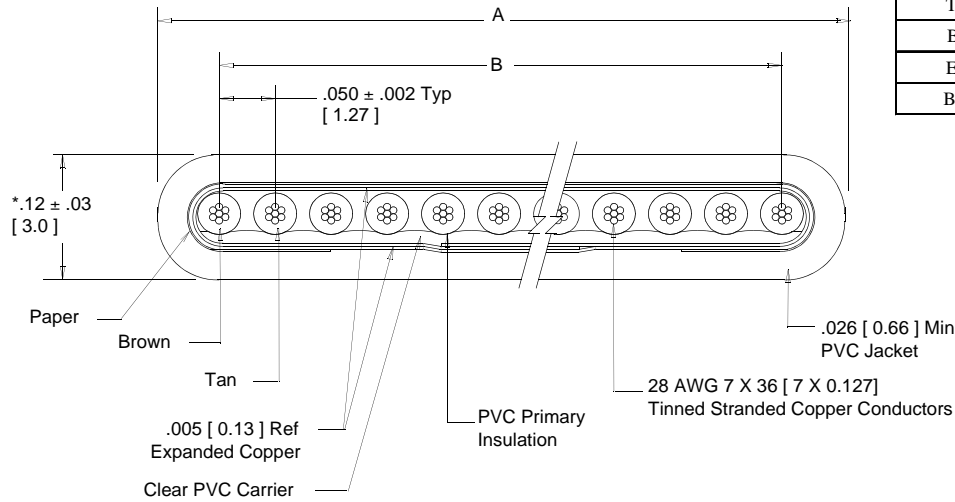
1785 Series



Number of Conductors	3M Part Number	Dimension A	Dimension B
20 (10 pair)	<b>1785/20</b>	1.13 [ 28.7 ]	0.950 ± .015 [ 24.13 ]
26 (13 pair)	<b>1785/26</b>	1.43 [ 36.3 ]	1.250 ± .015 [ 31.75 ]
34 (17 pair)	<b>1785/34</b>	1.83 [ 46.5 ]	1.650 ± .020 [ 41.91 ]
36 (18 pair)	<b>1785/36</b>	1.93 [ 49.0 ]	1.750 ± .020 [ 44.45 ]
40 (20 pair)	<b>1785/40</b>	2.13 [ 54.1 ]	1.950 ± .020 [ 49.53 ]
50 (25 pair)	<b>1785/50</b>	2.63 [ 66.8 ]	2.450 ± .020 [ 62.23 ]
60 (30 pair)	<b>1785/60</b>	3.13 [ 79.5 ]	2.950 ± .020 [ 74.93 ]
64 (32 pair)	<b>1785/64</b>	3.38 [ 85.9 ]	3.150 ± .020 [ 80.01 ]

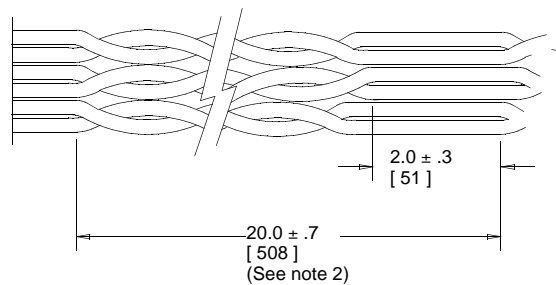
Variable Length Suffix Table		
Example of alternate twist and flat repeats		
Suffix	Repeat	Flat
TO	22.00	4.00
TB	7.50	1.00
TD	43.00	3.00
BP	9.00	1.50
EA	10.50	2.00
BW	34.00	2.00

## Section Through Termination Area



10 Color Repeat

- Brown/Tan
- Red/Tan
- Orange/Tan
- Yellow/Tan
- Green/Tan
- Blue/Tan
- Violet/Tan
- Gray/Tan
- White/Tan
- Black/Tan



Inch  
[mm]

Tolerance Unless Noted			
	.0	.00	.000
Inch	±.1	±.05	±.010

[ ] Dimensions for Reference only

\*Caliper in Twist Area is  $.15 \pm .03$  [ 3.8 ]

## Ordering Information

**1785/XX XX**

Number of conductors  
(See Table)

Variable Length  
(See Variable length suffix table)

Notes:

- Standard lengths of 100 ft. and 200 ft. are available. Please specify when ordering.
- Standard product has a twist-flat repeat length of 20 inches (50.8 cm), with a 2-inch (5.1 cm) flat portion. The twist-flat repeat can be specified from 8-1/2 inches (16.5 cm) to 48 inches (1.219 m), and the flat can be specified as anything over 1 inch (2.5 cm).
- For special requirements, please contact your 3M representative.

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*Minimum 10%  
Post-Consumer Fiber*

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