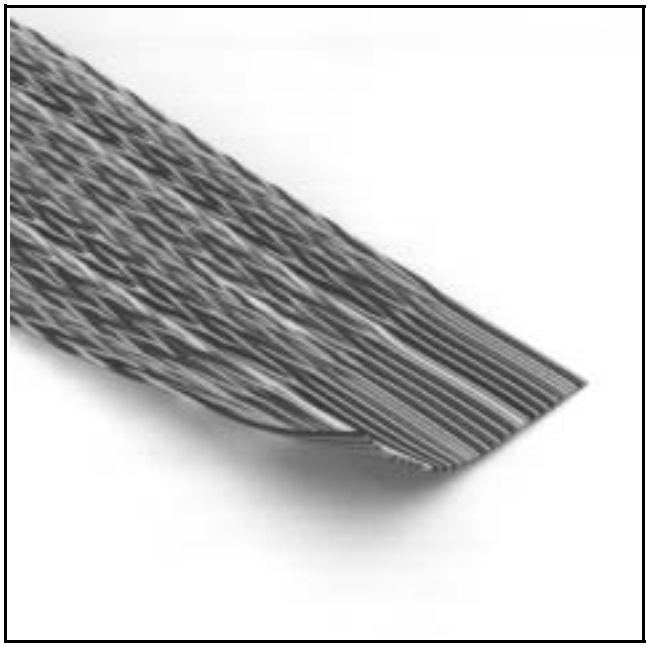
3M™ Twisted Pair Flat Cable

.050″ 28 AWG Stranded, Mass Terminatable Pair, PVC 1700 Series



- Wires are color-coded for easy identification
- Twist and flat repeat has variable length option
- Can be mass terminated to a broad line of IDC connectors
- Provides reduced crosstalk in balanced drive applications
- 28 AWG stranded wire provides flexibility and extended product life
- 10 color repeat
- RoHS* compliant

Date Modified: June 28, 2005

Physical

Insulation Material: Polyvinyl Chloride (PVC)

Color: 10 Color Repeat with Tan Common

Marking: None

Canadain Option: AWM 20462 105C 300V VW1 3M NU C AWM IA 80C 150V FT1 EU <50V

Conductors: 28 AWG 7 x 36 [7 x 0.127] Tinned Stranded Copper

Electrical

Voltage Rating: USA: 300V Canada: 150V EU: <50V

Insulation Resistance: $> 1 \times 10^9$ Ω/10 ft. [3m]

	Unbalanced	Balanced
Characteristic Impedance:	101 Ω	122 Ω
Capacitance:	15.9 pF/ft (52.2 pF/m)	13.3 pF/ft (43.6 pF/m)
Inductance:	16 µH/ft (0.52 µH/m)	.20 µH/ft (0.66 µH/m)
Propagation Delay:	1.61 ns/ft (5.28 ns/m)	1.63 ns/ft (5.35 ns/m)
Velocity of Propagation:	63%	62%

Note: Unbalanced is measured between ground-signal-ground conductors. Balanced is measured between conductors within a pair.

Environmental

Temperature Rating: USA: -20° C to +105° C Canada: -20° C to +80° C

Flammability Rating: USA: VW-1 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 prolybromianted 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.: E42769, Style No.: 20462

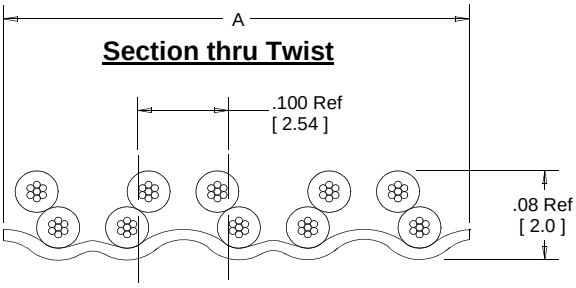
3M is a trademark of 3M Company.

3M™ Twisted Pair Flat Cable

.050″ 28 AWG Stranded, Mass Terminatable Pair, PVC 1700 Series

Number of Conductors	3M Part Number	Dimension A	Dimension B
10 (5 pair)	**1700/10**	0.50 [12.7]	0.450 ± .010 [11.43]
14 (7 pair)	**1700/14**	0.70 [17.8]	0.650 ± .010 [16.51]
16 (8 pair)	**1700/16**	0.80 [20.3]	0.750 ± .015 [19.05]
20 (10 pair)	**1700/20**	1.00 [25.4]	0.950 ± .015 [24.13]
26 (13 pair)	**1700/26**	1.30 [33.0]	1.250 ± .015 [31.75]
34 (17 pair)	**1700/34**	1.70 [43.2]	1.650 ± .020 [41.91]
36 (18 pair)	**1700/36**	1.80 [45.7]	1.750 ± .020 [44.45]
40 (20 pair)	**1700/40**	2.00 [50.8]	1.950 ± .020 [49.53]
50 (25 pair)	**1700/50**	2.50 [63.5]	2.450 ± .020 [62.23]
60 (30 pair)	**1700/60**	3.00 [76.2]	2.950 ± .020 [74.93]
64 (32 pair)	**1700/64**	3.20 [81.3]	3.150 ± .020 [80.01]

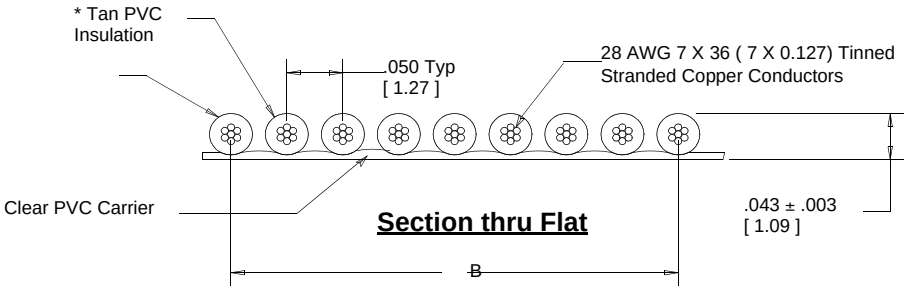
(OPTIONAL)



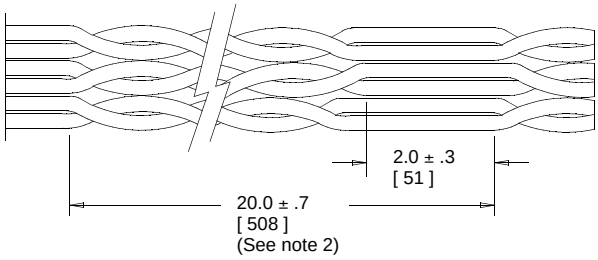
Variable Length Suffix Table

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



* 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	±.01	±.005

[ ] Dimensions for Reference only

Ordering Information

1700/XX XX

- Blank = Standard; C = Canadian Certified Version
- Number of conductors (See Table)
- Variable Length (See Variable length suffix table)

Notes:

1. Available in standard lengths of 100 feet or 300 feet per roll, please specify when ordering.
2. 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).
3. For special requirements, please contact your 3M representative.

3 M
Interconnect Solutions
http://www.3M.com/interconnects/

3M is a trademark of 3M Company.
For technical, sales or ordering information call
800-225-5373

Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**

3M

Electronics

6801 River Place Blvd.
Austin, TX 78726-9000
800/328-1368
www.3M.com/electronics

Minimum 10%
Post-Consumer Fiber

Printed in USA.

© 3M 2005