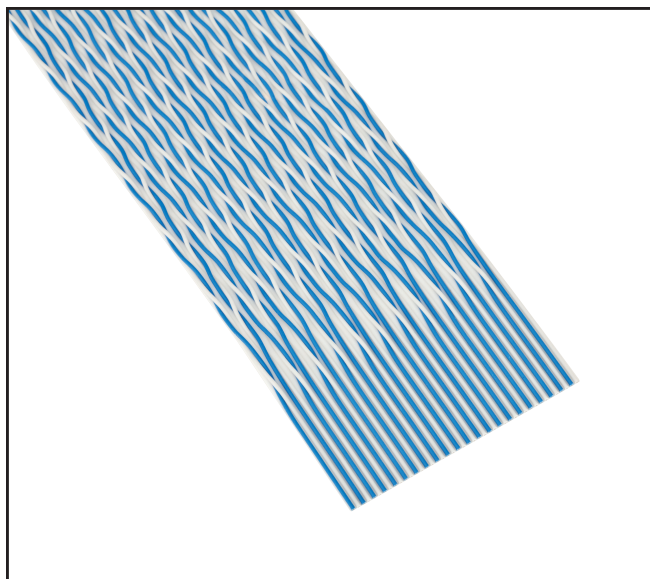


# 3M™ Twisted Pair Flat Cable

.050" 28 AWG Stranded, Mass Terminable, Halogen Free PO

HF100 Series



- Low Smoke Zero Halogen (LSZH) Insulation. Advantages of LSZH insulation are the low smoke (IEC 61034-2:2005), and low toxicity of combustion gases (NF X 70-100-2:2006), reducing the risk to firefighters, and reducing the soot and corrosion damage to nearby equipment
- Broad operating temperature range from -40°C to 105°C
- 28 AWG wire on .050 inch centers permits mass termination to broad line of IDC connectors
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3Mconnectors.com](http://www.3Mconnectors.com) for compliance information (RIA E1 & C1 apply)

Date Modified: June 19, 2012

TS-2344-C  
Sheet 1 of 2

## Physical

### Insulation:

Material: Halogen-Free Polyolefin (PO)

Color: Blue / White Pairs

### Marking:

Standard: None

Canadian Option:  AWM 21008 105°C 150V HOR  AWM 1A 105°C 150V FT2 EU<50V

**Conductors:** 28 AWG 7 × 36 [ 7 × Ø 0.127 ] Tinned Stranded Copper

## Electrical

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

**Insulation Resistance:**  $> 1 \times 10^{10} \Omega/10 \text{ ft.}$  [ 3 m ]

|                                  | Unbalanced   | Balanced  |
|----------------------------------|--|---|
| <b>Characteristic Impedance:</b> | 102 $\Omega$   | 119 $\Omega$  |
| <b>Capacitance:</b>              | 16.9 pF/ft [ 55.4 pF/m ]                                     | 14.6 pF/ft [ 47.9 pF/m ]                                    |
| <b>Inductance:</b>               | 0.18 $\mu\text{H}/\text{ft}$ [ 0.59 $\mu\text{H}/\text{m}$ ] | 0.21 $\mu\text{H}/\text{m}$ [ 0.69 $\mu\text{H}/\text{m}$ ] |
| <b>Propagation Delay:</b>        | 1.74 ns/ft [ 5.71 ns/m ]                                     | 1.73 ns/ft [ 5.68 ns/m ]                                    |
| <b>Velocity of Propagation:</b>  | 58%  | 59%   |

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

## Environmental

**Temperature Rating:** -40°C to +105°C

**Flammability Rating:** UL: Horizontal

Halogen Free is defined as both 1) no halogen compounds that are intentionally added to the product or used in the manufacturing process for the product and 2) any impurities present are less than 900 ppm bromine, less than 900 ppm chlorine and/or less than 1500 ppm total bromine and chlorine. The latter are the levels set forth in certain industry standards for printed circuit boards, such as the International Electrotechnical Commission (IEC) 61249-2-21 standard. This information represents 3M's knowledge and belief which may be based in whole or in part on information provided by 3rd party suppliers to 3M.

UL File No. :E42769, Style No: 21008

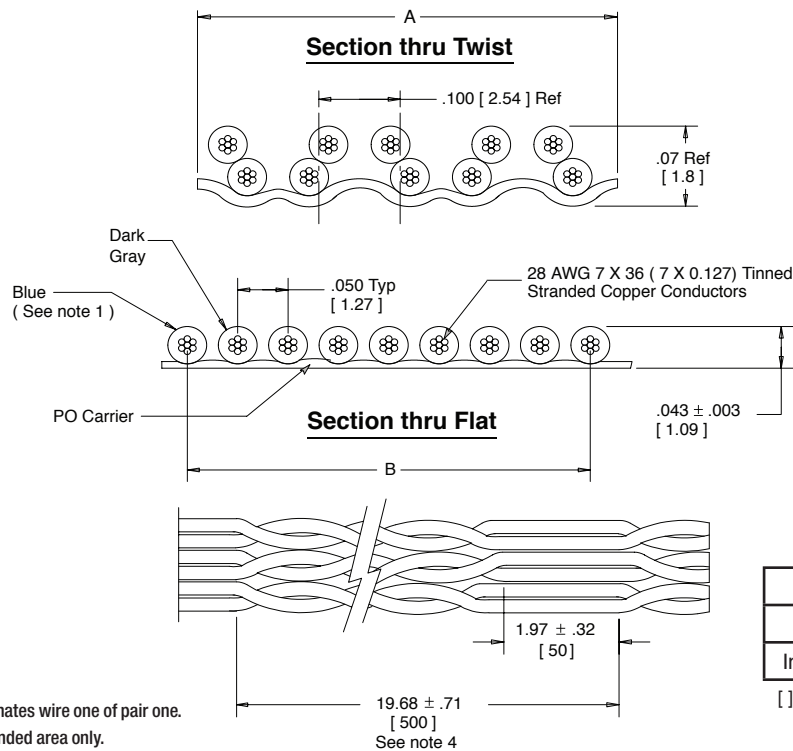
# 3M™ Twisted Pair Flat Cable

.050" 28 AWG Stranded, Mass Terminable, Halogen Free PO

HF100 Series



| Number of Conductors | 3M Part Number | Dimension A   | Dimension B (See Note 2) |
|----------------------|----------------|---------------|--------------------------|
| 10 (5 pair)          | HF100/10TP     | 0.50 [ 12.7 ] | 0.450 ± .010 [ 11.43 ]   |
| 14 (7 pair)          | HF100/14TP     | 0.70 [ 17.8 ] | 0.650 ± .010 [ 15.88 ]   |
| 16 (8 pair)          | HF100/16TP     | 0.80 [ 20.3 ] | 0.750 ± .010 [ 20.96 ]   |
| 20 (10 pair)         | HF100/20TP     | 1.00 [ 25.4 ] | 0.950 ± .010 [ 22.23 ]   |
| 24 (12 pair)         | HF100/24TP     | 1.20 [ 30.5 ] | 1.150 ± .010 [ 24.77 ]   |
| 26 (13 pair)         | HF100/26TP     | 1.30 [ 33.0 ] | 1.250 ± .010 [ 31.12 ]   |
| 30 (15 pair)         | HF100/30TP     | 1.50 [ 38.1 ] | 1.450 ± .015 [ 36.80 ]   |
| 34 (17 pair)         | HF100/34TP     | 1.70 [ 43.2 ] | 1.650 ± .015 [ 37.47 ]   |
| 40 (20 pair)         | HF100/40TP     | 2.00 [ 50.8 ] | 1.950 ± .015 [ 42.55 ]   |
| 50 (25 pair)         | HF100/50TP     | 2.50 [ 63.5 ] | 2.450 ± .015 [ 50.17 ]   |
| 60 (30 pair)         | HF100/60TP     | 3.00 [ 76.2 ] | 2.950 ± .015 [ 62.87 ]   |
| 64 (32 pair)         | HF100/64TP     | 3.20 [ 81.3 ] | 3.150 ± .015 [ 80.01 ]   |



| Tolerance Unless Noted |      |      |       |
|------------------------|------|------|-------|
|                        | Inch | [mm] |       |
|                        | .0   | .00  | .000  |
| Inch                   | ±.1  | ±.01 | ±.005 |

[ ] Dimensions for Reference Only

**Note:**

- Blue edge conductor designates wire one of pair one.
- Dimension B pertains to bonded area only.

## Ordering Information

**HF100/XX TP XX**

Number of Conductors  
(See Table)

Blank = Standard  
SF = Splice Free

**Note:**

- Available in standard lengths of 100 ft and 300 ft per roll, please specify when ordering.
- Standard product has a 2" flat on 19.7" repeat (50 mm bond on 500 mm repeat). For special requirements, please contact your 3M sales representative. The flat can be specified anything over 1" (25 mm), the repeat can be specified from 6.5" to 48" (16.5 cm to 1.2 m).

TS-2344-C  
Sheet 2 of 2

**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 Solutions Division**

6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
1-800-225-5373  
[www.3Mconnectors.com](http://www.3Mconnectors.com)

3M is a trademark of 3M Company.

Please recycle. Printed in USA.  
© 3M 2012. All rights reserved.  
RIA-2217B-E