

# ALPHA WIRE

## CUSTOMER PRODUCT SPECIFICATION

**Part Number: 850113**  
**Page 1 of 2 Pages**

**Issue: 1**  
**Issue Date: 7/27/2010**  
**Effective Date: 8/24/2010**

- |                        |                       |                       |
|------------------------|-----------------------|-----------------------|
| <b>A. Construction</b> |                       | <b>Diameters (In)</b> |
| 1) Component 1         | 1 X 1 TRIAD           |                       |
| a) Conductor           | 16 (19/.0117) AWG TC  | 0.059                 |
| b) Insulation          | 0.010" Wall, Nom. FEP | 0.079                 |
| (1) Color(s)           |                       |                       |

Triad	Color	Triad	Color	Triad	Color
1	BLACK	2	RED	3	WHITE

- |                   |  |                    |
|-------------------|--|--------------------|
| c) Pair           | 3/Cond Cabled Together   |                    |
| (1) Twists:       | 4.8 Twists/foot (min)  |                    |
| 2) Shield:        | Alum/Mylar Tape, 25% Overlap, Min.   |                    |
| a) Foil Direction | Foil Facing In   |                    |
| b) Drain Wire     | 16 (19/.0117) AWG TC   |                    |
| 3) Jacket         | 0.027" Wall, Nom., FEP   | 0.236 (0.246 Max.) |
| a) Color(s)       | NATURAL TAN  |                    |
| b) Ripcord        | Para-Aramid fiber(Kevlar, Twaron or equal)   |                    |
| c) Marker Tape    | ALPHA WIRE-* P/N 850113 3TRIAD 16 AWG<br>(1.0MM SQ) SHIELDED 150C (UL)C(UL) CMP<br>OR AWM 20229 --- IEC EN 60332-1/2   CE   ROHS |                    |
|                   | * = Factory Code   |                    |
|                   | <i>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]</i>                                       |                    |

**B. Applicable Specifications**

- |                      |  |                              |
|----------------------|--|------------------------------|
| 1) UL                | AWM/STYLE 20229                                  | 150°C / 300 V <sub>RMS</sub> |
|                      | UL-910/NFPA 262 (Steiner Tunnel) Flame Test      |                              |
|                      | CMP  | 150°C                        |
| 2) CSA International | C(UL) TYPE CMP                                   | 150°C                        |
|                      | FT6  |                              |
| 3) IEC               | EN 50356 Spark Testing                           |                              |
|                      | EN 50395, Section 10, Faults in Insulation       |                              |
|                      | EN 50396, Section 4, Test Methods for Dimensions |                              |
|                      | EN 60228 Conductors, Class 2                     |                              |
|                      | EN 60332-1 Flame Behavior                        |                              |
|                      | EN 60332-2 Flame Behavior                        |                              |
| 4) Other             | ICEA T-29-520 210,000 BTU/Hr. Flame Test         |                              |
| 5) CE:               | LVD 73/23/EEC Amendment 93/68/EEC                |                              |

**C. Environmental Compliance**

- 1) EU Directive 2002/95/EC(RoHS):  
All materials used in the manufacture of this part are in compliance with EU Directive 2002/95/EU regarding the restriction of use of certain hazardous substances in electrical and electronic equipment.
- 2) REACH Regulation (EC 1907/2006):  
This product does not contain any of the substances listed on the European Union REACH Substance of Very High Concern (SVHC) candidate list, dated 30 March 2010, in excess of a concentration of 0.1% weight/weight.
- 3) California Proposition 65:  
The outer surface materials used in the manufacture of this part meet the requirements of California Proposition 65.

**D. Physical & Mechanical Properties**

- 1) Temperature Range -80 to 200 °C
- 2) Bend Radius 10X Cable Diameter
- 3) Pull Tension 204 Lbs, Maximum

**E. Electrical Properties**

- (For Engineering purposes only)
- 1) Voltage Rating 300 V<sub>RMS</sub>
  - 2) Mutual Capacitance 20.2 pf/ft @1 kHz, Nominal

Although Alpha Wire Company ("Alpha") makes every reasonable effort to ensure their accuracy at the time of publication, information and specifications described herein are subject to errors or omissions and to changes without notice, and the listing of such information and specifications does not ensure product availability.

Alpha provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Alpha be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary) whatsoever, even if Alpha has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

**ALPHA WIRE**  
**CUSTOMER PRODUCT SPECIFICATION**

**Part Number: 850113**  
**Page 2 of 2 Pages**

**Issue: 1**  
**Issue Date: 7/27/2010**  
**Effective Date: 8/24/2010**

- 3) Ground Capacitance 36 pf/ft @1 kHz, Nominal
- 4) Characteristic Impedance 72  $\Omega$
- 5) Inductance 0.15  $\mu$ H/ft, Nominal
- 6) Conductor DCR 4.3  $\Omega$ /1000ft @20°C, Nominal
- 7) OA Shield DCR 3.4  $\Omega$ /1000ft @20°C, Nominal

**F. Other**

- 1) Packaging Flange x Traverse x Barrel (inches)
  - a) Bulk(Made-to-order)

**This Design is custom, Made-To-Order & once accepted, the order is NON-CANCELLABLE & NON-RETURNABLE.**

Accepted By:	Date:
Company:	Title:

Although Alpha Wire Company ("Alpha") makes every reasonable effort to ensure their accuracy at the time of publication, information and specifications described herein are subject to errors or omissions and to changes without notice, and the listing of such information and specifications does not ensure product availability. Alpha provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Alpha be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary) whatsoever, even if Alpha has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.