



Alpha Wire | 711 Lidgerwood Avenue, Elizabeth, NJ 07207  
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# Customer Specification

## PART NO. 6409

### Construction

|                   |  | Diameters (In)     |                             |
|-------------------|--|--------------------|-----------------------------|
| 1) Component 1    | 12 X 1 PAIR  |                    |                             |
| a) Conductor      | 24 (7/32) AWG TC   | 0.024              |                             |
| b) Insulation     | 0.016" Wall, Nom. Polyethylene(PE)   | 0.056              |                             |
| (1) Color Code    | Alpha Wire Color Code M  |                    |                             |
| Pair              | Color  | Pair               | Color                       |
| 1                 | BLUE/WHITE - WHITE/BLUE  | 5                  | SLATE/WHITE - WHITE/SLATE   |
| 2                 | ORANGE/WHITE - WHITE/ORANGE  | 6                  | BLUE/RED - RED/BLUE         |
| 3                 | GREEN/WHITE - WHITE/GREEN  | 7                  | ORANGE/RED - RED/ORANGE     |
| 4                 | BROWN/WHITE - WHITE/BROWN  | 8                  | GREEN/RED - RED/GREEN       |
| 9                 | BROWN/RED - RED/BROWN  | 10                 | SLATE/RED - RED/SLATE       |
| 11                | BLUE/BLACK - BLACK/BLUE  | 12                 | ORANGE/BLACK - BLACK/ORANGE |
| c) Pair           | 2/Cond Cabled Together   |                    |                             |
| (1) Twists:       | 8.0 Twists/foot (min)  |                    |                             |
| 2) Cable Assembly | 12 Components Cabled   |                    |                             |
| a) Twists:        | 2.2 Twists/foot (min)  |                    |                             |
| 3) Shield:        | Alum/Mylar Tape, 25% Overlap, Min.   |                    |                             |
| a) Foil Direction | Foil Facing Out  |                    |                             |
| b) Drain Wire     | 24 (7/32) AWG TC   |                    |                             |
| c) Braid          | TC,65% Coverage, Min.  |                    |                             |
| 4) Jacket         | 0.035" Wall, Nom.,PVC  | 0.478 (0.500 Max.) |                             |
| a) Color(s)       | SLATE  |                    |                             |
| b) Print          | ALPHA WIRE-* P/N 6409 12PR 24 AWG<br>SHIELDED 75C (UL) C(UL) TYPE CM OR<br>AWM 2919 LOW VOLTAGE COMPUTER CABLE<br>CE ROHS<br>* = Factory Code<br>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.] |                    |                             |

### Applicable Specifications

|                      |                                     |                            |
|----------------------|-------------------------------------|----------------------------|
| 1) UL                | AWM/STYLE 2919                      | 80°C / 30 V <sub>RMS</sub> |
|                      | CM                                  | 75°C                       |
|                      | VW-1                                |                            |
| 2) CSA International | C(UL) TYPE CM                       | 75°C                       |
| 3) CE:               | EU Low Voltage Directive 2006/95/EC |                            |

## Environmental

|  |   |
|--|---|
| 1) CE: EU Directive 2011/65/EU(RoHS2): |   |
|  | This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011. No Exemptions are required for RoHS Compliance on this item. Consult Alpha Wire's web site for RoHS C of C. |
| 2) REACH Regulation (EC 1907/2006):    |   |
|  | This product does not contain Substances of Very High Concern (SVHC) listed on the European Union's REACH candidate list in excess of 0.1% mass of the item. For up-to-date information, please see Alpha's REACH SVHC Declaration.                 |
| 3) California Proposition 65:          | The outer surface materials used in the manufacture of this part meet the requirements of California Proposition 65.  |

## Properties

|                                  |                             |
|----------------------------------|-----------------------------|
| Physical & Mechanical Properties |                             |
| 1) Temperature Range             | -20 to 80°C                 |
| 2) Bend Radius                   | 10X Cable Diameter          |
| 3) Pull Tension                  | 96 Lbs, Maximum             |
| Electrical Properties            |                             |
| (For Engineering purposes only)  |                             |
| 1) Voltage Rating                | 300 V <sub>RMS</sub>        |
| 2) Characteristic Impedance      | 100 Ω                       |
| 3) Mutual Capacitance            | 15.5 pf/ft @1 kHz, Nominal  |
| 4) Ground Capacitance            | 27.5 pf/ft @1 kHz, Nominal  |
| 5) Conductor DCR                 | 26 Ω/1000ft @20°C, Nominal  |
| 6) OA Shield DCR                 | 2.1 Ω/1000ft @20°C, Nominal |

## Other

|                  |   |
|------------------|---|
| <b>Packaging</b> | Flange x Traverse x Barrel (inches)         |
| a) 1000 FT       | 24 x 14 x 12 Continuous length              |
| b) 500 FT        | 18 x 12 x 8 Continuous length               |
| c) 100 FT        | 16 x 11 x 8 Continuous length               |
|                  | <i>[Spool dimensions may vary slightly]</i> |

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## EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: 6409

6409 , RoHS-Compliant Commencing With 3/1/2005 Production

This document certifies that the Alpha part number cited above is manufactured in accordance with Directive 2011/65/EU of the European Parliament, better known as the RoHS Directive, with regards to restrictions of the use of certain hazardous substances used in the manufacture of electrical and electronic equipment. The reader is referred to this Directive for the specific definitions and extents of this Directive. **No Exemptions are required for RoHS Compliance on this item.** It should be noted that this product does not fall within the scope of Directive 2011/65/EU, but this Certificate is offered for cases where this product will be used within EEE that does fit within the Directive's scope. Additionally, Alpha certifies that the listed part number is in compliance with China RoHS "Marking for Control of Pollution by Electronic Information Products" standard SJ/T 11364-2006.

### Substance

### Maximum Control Value

|   |                            |
|---|----------------------------|
| Lead  | 0.1% by weight (1000 ppm)  |
| Mercury   | 0.1% by weight (1000 ppm)  |
| Cadmium   | 0.01% by weight (100 ppm)  |
| Hexavalent Chromium   | 0.1% by weight (1000 ppm ) |
| Polybrominated Biphenyls (PBB)                                | 0.1% by weight (1000 ppm)  |
| Polybrominated Diphenyl Ethers (PBDE) ,<br>Including Deca-BDE | 0.1% by weight (1000 ppm)  |

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Authorized Signatory for the Alpha Wire Company:

A handwritten signature in black ink, appearing to read 'Dave Watson'.

Dave Watson, Director of Engineering & QA

4/26/2013