



Alpha Wire | 711 Lidgerwood Avenue, Elizabeth, NJ 07207  
Tel: 1-800-52 ALPHA (25742), Web: www.alphawire.com

# Customer Specification

## PART NO. 5104C

### Construction

|                   |       |                                                                                                                                                                                                                                                                          |        | Diameters (In)     |       |
|-------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------------------|-------|
| 1) Component 1    |       | 4 X 1 COND                                                                                                                                                                                                                                                               |        |                    |       |
| a) Conductor      |       | 22 (7/30) AWG TC                                                                                                                                                                                                                                                         |        | 0.030              |       |
| b) Insulation     |       | 0.010" Wall, Nom. PVC, Semi Rigid                                                                                                                                                                                                                                        |        | 0.050              |       |
| (1) Color Code    |       | Alpha Wire Color Code E                                                                                                                                                                                                                                                  |        |                    |       |
| Cond              | Color | Cond                                                                                                                                                                                                                                                                     | Color  | Cond               | Color |
| 1                 | BLACK | 3                                                                                                                                                                                                                                                                        | RED    |                    |       |
| 2                 | BROWN | 4                                                                                                                                                                                                                                                                        | ORANGE |                    |       |
| 2) Cable Assembly |       | 4 Components Cabled                                                                                                                                                                                                                                                      |        |                    |       |
| a) Twists:        |       | 8.0 Twists/foot (min)                                                                                                                                                                                                                                                    |        |                    |       |
| b) Core Wrap      |       | Nonwoven Polyester Tape, 25% Overlap, Min.                                                                                                                                                                                                                               |        |                    |       |
| 3) Shield:        |       | A/P/A Tape, 25% Overlap, Min.                                                                                                                                                                                                                                            |        |                    |       |
| a) Drain Wire     |       | 22 (7/30) AWG TC                                                                                                                                                                                                                                                         |        |                    |       |
| b) Braid          |       | TC,70% Coverage, Min.                                                                                                                                                                                                                                                    |        |                    |       |
| 4) Jacket         |       | 0.032" Wall, Nom.,PVC                                                                                                                                                                                                                                                    |        | 0.217 (0.228 Max.) |       |
| a) Color(s)       |       | Slate, Black, Yellow, Orange, Blue, Green, Red, Sand Beige, White                                                                                                                                                                                                        |        |                    |       |
| b) Ripcord        |       | 1 End 810 Denier Nylon                                                                                                                                                                                                                                                   |        |                    |       |
| c) Print          |       | ALPHA WIRE-* P/N 5104C 4C 22 AWG<br>XTRAGUARD(R) 1 SHIELDED (UL) TYPE CM 105C OR AWM<br>2464 VW-1 --- LLXXXXXX CSA 105C TYPE CMG FT4<br>CE ROHS (SEQ FOOTAGE)<br>* = Factory Code<br>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.] |        |                    |       |

### Applicable Specifications

|                      |                                   |                              |
|----------------------|-----------------------------------|------------------------------|
| 1) UL                |                                   |                              |
| a) Component 1       | AWM/STYLE 10002                   | 105°C / 300 V <sub>RMS</sub> |
| b) Overall           | AWM/STYLE 2464                    | 80°C / 300 V <sub>RMS</sub>  |
|                      | CM                                | 105°C                        |
|                      | VW-1                              |                              |
| 2) CSA International | CMG                               | 105°C                        |
|                      | FT4                               |                              |
| 3) CE:               | LVD 73/23/EEC Amendment 93/68/EEC |                              |

### Environmental

|                                     |                                                                                                                                                                                                                                                                              |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. Consult Alpha Wire's web site for compliance Date of Manufacture. |
| 2) REACH Regulation (EC 1907/2006): |                                                                                                                                                                                                                                                                              |
|                                     | This product does not contain any of the substances listed on the 13 January 2010 European Union's REACH Substance of Very High Concern (SVHC) candidate list in excess of 0.1% mass of the item.                                                                            |
| 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             | -30 to 105°C                                    |
| 2) Bend Radius                   | 10X Cable Diameter                              |
| 3) Pull Tension                  | 30 Lbs, Maximum                                 |
| 4) Sunlight Resistance           | Yes                                             |
| Electrical Properties            |                                                 |
| (For Engineering purposes only)  |                                                 |
| 1) Voltage Rating                | 300 V <sub>RMS</sub>                            |
| 2) Capacitance                   | 36 pF/ft @1 kHz, Nominal Conductor to Conductor |
| 3) Ground Capacitance            | 65 pF/ft @1 kHz, Nominal                        |
| 4) Inductance                    | 0.18 µH/ft, Nominal                             |
| 5) Conductor DCR                 | 16.4 /1000ft @20°C, Nominal                     |
| 6) OA Shield DCR                 | 4.5 /1000ft @20°C, Nominal                      |

## Other

|                        |                                             |
|------------------------|---------------------------------------------|
| <b>Packaging</b>       | Flange x Traverse x Barrel (inches)         |
| a) 1000 FT             | 12 x 10 x 5 Continuous length               |
| b) 500 FT              | 12 x 4.5 x 3.5 Continuous length            |
| c) 100 FT              | 6.5 x 4 x 2.5 Continuous length             |
| d) Bulk(Made-to-order) |                                             |
|                        | <i>[Spool dimensions may vary slightly]</i> |

[www.alphawire.com](http://www.alphawire.com)

Alpha Wire | 711 Lidgerwood Avenue, Elizabeth, NJ 07207  
Tel: 1-800-52 ALPHA (25742)

Although Alpha Wire ("Alpha") makes every reasonable effort to ensure the 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 had 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 | 711 Lidgerwood Avenue, Elizabeth, NJ 07207  
Tel: 1-800-52 ALPHA (25742), Web: www.alphawire.com

## RoHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number:5104C

5104C , RoHS-Compliant Commencing With8/1/2005Production

*This document certifies that the Alpha part numbers cited above are manufactured in accordance with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003, better known as the RoHS Directives, 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 these Directives for the specific definitions and extents of these Directives. **No Exemptions are required for RoHS Compliance on this item.***

| Substance                             | Maximum Control Value     |
|---------------------------------------|---------------------------|
| Lead                                  | 0.1% by weight (1000 ppm) |
| Mercury                               | 0.1% by weight (1000 ppm) |
| Cadmium                               | 0.1% 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) | 0.1% by weight (1000 ppm) |
| Including Deca-BDE                    | 0.1% by weight (1000 ppm) |

*The information provided in this document and disclosure is correct to the best of Alpha Wire's knowledge, information and belief at the date of its release. The information provided is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it will become part of. The intent of this document is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.*

Authorized Signatory for the Alpha Wire Company:

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

Dave Watson, Director of Engineering &QA

1/21/2011