

# Customer Specification

## PART NO. 2421C

### Construction

|                   |       |                                                                                                                                                                                                                     |       |                    |       |
|-------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------|-------|
|                   |       |                                                                                                                                                                                                                     |       | Diameters (In)     |       |
| 1) Component 1    |       | 2 X 1 COND                                                                                                                                                                                                          |       |                    |       |
| a) Conductor      |       | 18 (16/30) AWG Tinned Copper                                                                                                                                                                                        |       | 0.047              |       |
| b) Insulation     |       | 0.016" Wall, Nom. FRPE                                                                                                                                                                                              |       | 0.079              |       |
| (1) Color Code    |       | Alpha Wire Color Code F                                                                                                                                                                                             |       |                    |       |
| Cond              | Color | Cond                                                                                                                                                                                                                | Color | Cond               | Color |
| 1                 | BLACK | 2                                                                                                                                                                                                                   | WHITE |                    |       |
| 2) Cable Assembly |       | 2 Components Cabled                                                                                                                                                                                                 |       |                    |       |
| a) Twists:        |       | 5.3 Twists/foot (min)                                                                                                                                                                                               |       |                    |       |
| b) Orientation:   |       | Components to be arranged from INSIDE LAYER to OUTSIDE LAYER                                                                                                                                                        |       |                    |       |
| 3) Shield:        |       | Alum/Mylar Tape, 25% Overlap, Min.                                                                                                                                                                                  |       |                    |       |
| a) Foil Direction |       | Foil Facing Out                                                                                                                                                                                                     |       |                    |       |
| b) Drain Wire     |       | 20 (10/30) AWG Tinned Copper                                                                                                                                                                                        |       |                    |       |
| 4) Jacket         |       | 0.020" Wall, Nom.,PVC                                                                                                                                                                                               |       | 0.202 (0.212 Max.) |       |
| a) Color(s)       |       | Slate, Brown                                                                                                                                                                                                        |       |                    |       |
| b) Print          |       | ALPHA WIRE-* P/N 2421C 2C 18 AWG<br>SHIELDED 75C (UL) TYPE CMG OR AWM 2092 ----<br>C(UL) CMG FT4 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 2092 | 60°C / 300 V <sub>RMS</sub> |
|       | CMG            | 75°C                        |

|                      |                                     |      |
|----------------------|-------------------------------------|------|
|                      | VW-1                                |      |
| 2) CSA International | C(UL) TYPE CMG                      | 75°C |
|                      | FT4                                 |      |
| 3) CE:               | EU Low Voltage Directive 2014/35/EU |      |

## Environmental

|                                                                          |                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) CE: EU Directive 2011/65/EU(RoHS2), EU Directive 2015/863/EU (RoHS3): |                                                                                                                                                                                                                                                             |
|                                                                          | This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011 and the amending Directive 2015/863/EU of 4 June 2015 . No Exemptions are required for RoHS Compliance on this item. |
| 2) California Proposition 65:                                            | This product may contain substances known to the State of California to cause Cancer or Reproductive Harm, but is exempt from labeling based on the Consent Judgement. See the Alpha Wire website for more information.                                     |

## Properties

| Physical & Mechanical Properties |                                                 |
|----------------------------------|-------------------------------------------------|
| 1) Temperature Range             | -20 to 75°C                                     |
| 2) Bend Radius                   | 10X Cable Diameter                              |
| 3) Pull Tension                  | 33 Lbs, Maximum                                 |
| Electrical Properties            | (For Engineering purposes only)                 |
| 1) Voltage Rating                | 300 V <sub>RMS</sub>                            |
| 2) Capacitance                   | 31 pF/ft @1 kHz, Nominal Conductor to Conductor |
| 3) Ground Capacitance            | 56 pF/ft @1 kHz, Nominal                        |
| 4) Characteristic Impedance      | 54 Ω                                            |
| 5) Inductance                    | 0.18 μH/ft, Nominal                             |
| 6) Conductor DCR                 | 7 Ω/1000ft @20°C, Nominal                       |
| 7) OA Shield DCR                 | 8.5 Ω/1000ft @20°C, Nominal                     |

## Other

| Packaging  | Flange x Traverse x Barrel (inches) |
|------------|-------------------------------------|
| a) 3000 FT | 18 x 14.25 x 8 Continuous length    |
| b) 1000 FT | 12 x 10.5 x 5 Continuous length     |

|                                                                                             |                                             |
|---------------------------------------------------------------------------------------------|---------------------------------------------|
| c) BOX 1000FT                                                                               | 11-3/4 EASY REEL: Continuous length         |
| d) BOX 500FT                                                                                | 9-1/2 EASY REEL: Continuous length          |
| e) 500 FT                                                                                   | 10.5 x 5 x 3.5 Continuous length            |
| f) 328 FT                                                                                   | 10.5 x 5 x 3.5 Continuous length            |
| g) 100 FT                                                                                   | 6.5 x 4 x 2.5 Continuous length             |
|                                                                                             | <i>[Spool dimensions may vary slightly]</i> |
| <b>Notes:</b>                                                                               |                                             |
| a) Certain color and putup combinations for Special only. Minimum order quantity may apply. |                                             |

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# EU/UK/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: 2421C

2421C, RoHS-Compliant Commencing With 11/1/2004 Production

Note: all colors and put-ups

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 (commonly known as RoHS 2), with regards to restrictions of the use of certain hazardous substances used in the manufacture of electrical and electronic equipment. This certification extends to amending Directive 2015/863/EU which expanded the list of restricted substances to 10 items (commonly known as RoHS 3). This product also complies with UK - RoHS. The reader is referred to these Directives for the specific definitions and extents of the Directives. **No Exemptions are required for RoHS Compliance on this item.** 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 11364-2014. This product is also in compliance with China RoHS 2 per GB/T 26572-2011.

| 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) , |                           |
| Including Deca-BDE                      | 0.1% by weight (1000 ppm) |
| Bis(2-ethylhexyl) phthalate (DEHP)      | 0.1% by weight (1000 ppm) |
| Butyl benzyl phthalate (BBP)            | 0.1% by weight (1000 ppm) |
| Dibutyl phthalate (DBP)                 | 0.1% by weight (1000 ppm) |
| Diisobutyl phthalate (DIBP)             | 0.1% by weight (1000 ppm) |

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Authorized Signatory for the Alpha Wire:

Dave Watson, Director of Engineering

1/3/2024

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