

ALPHA WIRE
CUSTOMER PRODUCT SPECIFICATION

Part Number: FIT-KIT-221C
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Issue: 3
Issue Date: 2/21/2013
Effective Date: 3/8/2013

A. Construction

- | | |
|--------------------|---|
| 1) Tubing Type | Heat Shrinkable Tubing |
| 2) Tubing Material | Cross Linked Polyolefin |
| 3) Color(s) | BLACK, WHITE, CLEAR, RED, YELLOW, BLUE, GREEN |

Part Number	Minimum Supplied ID (In)	Maximum Recovered ID (In)	Nominal Recovered Wall Thickness (In)
FIT-221C-3/32	0.093	0.046	0.020
FIT-221C-1/8	0.125	0.062	0.020
FIT-221C-3/16	0.187	0.093	0.020
FIT-221C-1/4	0.250	0.125	0.025
FIT-221C-3/8	0.375	0.187	0.025
FIT-221C-1/2	0.500	0.250	0.025

B. Applicable Specifications

- | | |
|----------------------|--|
| 1) UL | Standard 224 (Except Clear) |
| 2) CSA International | Standard 198 (Except Clear) |
| 3) Other | AMS-DTL-23053/5 Class 1 (Except Clear)
AMS-DTL-23053/5 Class 2 (Clear Only) |

C. Environmental Compliance

- 1) RoHS Directive (2011/65/EU):
All materials used in the manufacture of this part meet the requirements of European Directive 2011/65/EU regarding the restriction of use of certain hazardous substances in electrical and electronic equipment. 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.

D. Physical & Mechanical Properties

- | | | |
|--------------------------------|------------------------------|---------------|
| 1) Temperature Range | -55 to 135°C | |
| 2) Shrink Ratio | Approximately 2:1 | |
| 3) Full Recovery Temperature | 121°C | |
| 4) Minimum Shrink Temperature | 90°C | |
| 5) Tensile Strength | 1500psi, Min | ASTM D638 |
| 6) Elongation | 200%, Min | ASTM D638 |
| 7) Low Temperature Flex(-55°C) | no cracking | AMS-DTL-23053 |
| 8) Heat Shock(250°C,4hrs) | no cracking | AMS-DTL-23053 |
| 9) Secant Modulus | 2.5x10 ⁵ psi, Min | ASTM D882 |
| 10) Longitudinal Change | +/-5% | AMS-DTL-23053 |
| 11) Specific Gravity(Colors) | 1.35, Max | ASTM D792 |
| Specific Gravity(Clear) | 1.00, Max | |
| 12) Shelf Life | 5 Years @ 18 to 35°C | |

E. Electrical Properties

- | | | |
|------------------------|--------------------------------|-----------|
| 1) Dielectric Strength | 500 V/mil, Min | ASTM D876 |
| 2) Volume Resistivity | 1x10 ¹⁴ ohm-cm, Min | ASTM D876 |

F. Chemical Properties

- | | | |
|---------------------|------------|-----------|
| 1) Water Absorption | 0.50%, Max | ASTM D570 |
|---------------------|------------|-----------|

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2) Corrosion(0°C,16hrs)	no corrosion	AMS-DTL-23053
3) Fluid Resistance(23°C,24 Hrs)	1000 PSI, Min	AMS-DTL-23053
4) Fungus Resistance	Pass	AMS-DTL-23053
5) Halogen Free	No	
6) Lead Free	Yes	

G. Other

- 1) Packaging
 - a) FIT-221C-3/32
28X6 IN
 - b) FIT-221C-1/8
21 x 6 IN
 - c) FIT-221C-3/16
21 x 6 IN
 - d) FIT-221C-1/4
21 x 6 IN
 - e) FIT-221C-3/8
14X6 IN
 - f) FIT-221C-1/2
14X6 IN
- 2) Notes:
 - a) FIT-221-3/32: 4 of each color
 - b) FIT-221-1/8: 3 of each color
 - c) FIT-221-3/16: 3 of each color
 - d) FIT-221-1/4: 3 of each color
 - e) FIT-221-3/8: 2 of each color
 - f) FIT-221-1/2: 2 of each color

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