

ALPHA WIRE
CUSTOMER PRODUCT SPECIFICATION

Part Number: FIT221MS-2
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Issue: 2
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, RED, BLUE, YELLOW |

Part Number	Minimum Supplied ID (In)	Maximum Recovered ID (In)	Nominal Recovered Wall Thickness (In)
FIT221-1/4	0.250	0.125	0.025
FIT221-3/8	0.375	0.187	0.025
FIT221-1/2	0.500	0.250	0.025
FIT221-3/4	0.750	0.375	0.030

B. Applicable Specifications

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

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) Heat Shock(250°C,4hrs) | no cracking | AMS-DTL-23053 |
| 8) Secant Modulus | 2.5x10 ⁴ psi, Min | ASTM D882 |
| 9) Longitudinal Change | +/-5% | AMS-DTL-23053 |
| 10) Specific Gravity | 1.35, Max | ASTM D792 |
| 11) 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 |
| 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 | |

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G. Other

- 1) Packaging
 - a) FIT221-1/4
4X6 IN
 - b) FIT221-3/8
4X6 IN
 - c) FIT221-1/2
4X6 IN
 - d) FIT221-3/4
4X6 IN

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