

ALPHA WIRE COMPANY

CUSTOMER PRODUCT SPECIFICATION

Part Number: FIT221
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Issue: 7
Issue Date: 9/22/2009
Effective Date: 10/22/2009

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-221-3/64	0.046	0.023	0.016
FIT-221-1/16	0.063	0.031	0.017
FIT-221-3/32	0.093	0.046	0.020
FIT-221-1/8	0.125	0.062	0.020
FIT-221-3/16	0.187	0.093	0.020
FIT-221-1/4	0.250	0.125	0.025
FIT-221-3/8	0.375	0.187	0.025
FIT-221-1/2	0.500	0.250	0.025
FIT-221-3/4	0.750	0.375	0.030
FIT-221-1	1.000	0.500	0.035
FIT-221-1-1/2	1.500	0.750	0.040
FIT221-2	2.000	1.000	0.045
FIT221-3	3.000	1.500	0.050
FIT221-4	4.000	2.000	0.055

B. Industry Approvals

- | | |
|----------------------|--|
| 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 Approvals

- 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.
- REACH Regulation (EC 1907/2006):
This product does not contain any of the 16 substances listed on the European Union's REACH Substance of Very High Concern (SVHC) candidate list in excess of 0.1% mass of the item.
- 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 ⁴ psi, Min | ASTM D882 |
| 10) Longitudinal Change | +/-5% | AMS-DTL-23053 |
| 11) Specific Gravity(Colors) | 1.35, Max | ASTM D792 |

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	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
	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-221-3/64	1000 FT, 25X4 FT, 1000X1 IN, 1000X1/2IN, 40X6 IN	
	b) FIT-221-1/16	1000 FT, 100 FT, 25X4 FT, 1000X1 IN, 70 FT, 1000X1/2IN, 36X6 IN	
	c) FIT-221-3/32	500 FT, 100 FT, 25X4 FT, 1000X1 IN, 65 FT, 32X6 IN, 100X1/2 IN	
	d) FIT-221-1/8	500 FT, 100 FT, 25X4 FT, 1000X1 IN, 60 FT, 1000X1/2IN, 28X6 IN	
	e) FIT-221-3/16	1000X4 FT, 500 FT, 100 FT, 25X4 FT, 1000X1 IN, 50 FT, 1000X1/2IN, 24X6 IN	
	f) FIT-221-1/4	250 FT, 100 FT, 25X4 FT, 1000X1 IN, 40 FT, 1000X1/2IN, 20X6 IN	
	g) FIT-221-3/8	200 FT, 25X4 FT, 1000X1 IN, 50 FT, 35 FT, 16X6 IN, 100X1/2 IN	
	h) FIT-221-1/2	150 FT, 50 FT, 32 FT, 5X4 FT, 14X6 IN	
	i) FIT-221-3/4	250 FT, 50 FT, 24 FT, 5X4 FT, 12X6 IN	
	j) FIT-221-1	250X4 FT, 250 FT, 50 FT, 5X4 FT, 16 FT, 100X1 IN, 8X6 IN	
	k) FIT-221-1-1/2	125 FT, 5X4 FT, 5X6 IN	
	l) FIT221-2	250X4 FT, 125 FT, 5X4 FT, 2X6 IN	
	m) FIT221-3	250X4 FT, 100 FT, 2X4 FT, 2X6 IN	
	n) FIT221-4	250X4 FT, 50 FT, 2X4 FT	

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