



Customer Specification

PART NO. FIT-221V-1IN

Construction

1) Tubing Type	Heat Shrinkable Tubing
2) Tubing Material	Cross Linked Polyolefin
3) Minimum Supplied ID(In)	1.000
4) Maximum Recovered ID (In)	0.500
5) Nominal Recovered Wall Thickness(In)	0.035
6) Color(s)	BLACK, WHITE, RED, YELLOW, GREEN, BLUE

Applicable Specifications

1) UL	Standard 224	
	VW-1	
2) CSA International	Standard 198	
3) Other	AMS-DTL-23053/5 Class 1 &3	

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):	
	All materials used in the manufacture of this part do not appear on the EU REACH Substance of Very High Concern (SVHC) candidate list.

Properties

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 Resistance(175°C, 168hrs)	100% Elongation, Min	ASTM D638
9) Heat Shock(250°C, 4hrs)	no cracking	AMS-DTL-23053
10) Secant Modulus	2.5x10 ⁴ psi, Min	ASTM D882
11) Longitudinal Change	+/-5%	AMS-DTL-23053
12) Specific Gravity(Colors)	1.35, Max	ASTM D792
Specific Gravity(Clear)	1.00, Max	
13) Shelf Life	5 Years @ 0 to 35°C	
Electrical Properties		
1) Dielectric Strength	500 V/mil, Min	ASTM D876
2) Volume Resistivity	1x10 ¹⁴ ohm-cm, Min	ASTM D876
Chemical Properties		
1) Water Absorption	0.50%, Max	ASTM D570
2) Fluid Resistance(23°C, 24 Hrs)	1000 PSI, Min	AMS-DTL-23053
3) Vacuum Outgassing - CVCM	0.10%, Max	ASTM E595
4) Halogen Free	No	
5) Lead Free	No	

Other

Packaging

www.alphawire.com

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RoHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: FIT-221V-1IN

FIT-221V-1IN , RoHS-Compliant Commencing With 12/1/2004 Production

*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) Including Deca-BDE	0.1% by weight (1000 ppm)

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Authorized Signatory for the Alpha Wire Company:

Dave Watson, Director of Engineering & QA

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