



1-800-52-ALPHA

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Part #	Shrink Ratio	Material	Min Supplied ID	Max Recovered ID	Nom Recovered Wall	Temperature	Ratings
FIT-221-1/16	2:1	XLPO	0.063	0.031	0.017	-55 to 135	AMS DTL-23053/5 CL 1 Colors, AMS DTL-23053/5 CL 2 Clear, CA Prop 65, CSA 198, REACH Regulation (EC 1907/2006), UL 224

PART NO. FIT-221-1/16


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Construction

1) Tubing Type	Heat Shrinkable Tubing
2) Tubing Material	Cross Linked Polyolefin
3) Minimum Supplied ID(In)	0.063
4) Maximum Recovered ID (In)	0.031
5) Nominal Recovered Wall Thickness(In)	0.017
6) Color(s)	BLACK, WHITE, CLEAR, RED, YELLOW, BLUE, GREEN

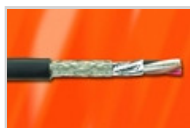
Industry Approvals

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)

Add the performance of Xtra-Guard...

Xtra-Guard Performance Cable

Alpha Wire's Xtra-Guard cable brings performance and reliability to the biggest challenges in the toughest environments. No matter what extremes your application faces, you'll find an Xtra-Guard cable that excels in meeting your requirements.


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The perfect accessory...

Heat Guns

Alpha heat guns are the perfect complement to our tubing, making it easy to apply FIT tubing quickly and efficiently.


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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. The outer surface materials used in the manufacture of this part meet the requirements of California Proposition 65.
3) California Proposition 65:	

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 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
Specific Gravity(Clear)	1.00, Max	
12) 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(Colors)	0.50%, Max	ASTM D570
Water Absorption(Clear)	0.20%, Max	
2) Fluid Resistance(23°C,24 Hrs)	1000 PSI, Min	AMS-DTL-23053
3) Vacuum Outgassing - CVCM(Colors)	0.89%, Max	ASTM E595
Vacuum Outgassing - CVCM(Clear)	0.49%, Max	
3) Vacuum Outgassing - TML(Colors)	0.16%, Max	ASTM E595
Vacuum Outgassing - TML(Clear)	0.09%, Max	
4) Halogen Free	Clear only	
5) Lead Free	Yes	

Other

Packaging

1000 FT, 25X4 FT, 100 FT, 1000X1 IN, 70 FT, 1000X1/2IN, 36X6 IN

Our FIT heat-shrink tubing offers a reliable way to protect and seal terminations or add additional mechanical ruggedness. FIT preferred heatshrink products are made from premium compounds under the tightest manufacturing controls. This means FIT will consistently have excellent physical characteristics such as low longitudinal shrinkage and wide temperature ranges while

providing an elegant appearance when used alone or on OEM equipment.

CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: FIT-221-1/16

FIT-221-1/16, 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	0.01% 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)

The information provided in this document and disclosure is correct to the best of Alpha Wire's knowledge, information and belief at the date of its release. The information provided is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it will become part of. The intent of this document is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product .

Authorized Signatory for the Alpha Wire Company:



Dave Watson, Director of Engineering & QA

8/10/2009

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