

# Customer Specification

## PART NO. M13109

### Construction

		Diameters (In)			
1) Component 1		9 X 1 PAIR			
a) Conductor		22 (7/30) AWG TC		0.030	
b) Insulation		0.010" Wall, Nom. Polypropylene(PP)		0.050	
(1) Color Code		Alpha Wire Color Code K			
Pair	Color	Pair	Color	Pair	Color
1	BLACK-RED	4	BLACK-BLUE	7	BLACK-ORANGE
2	BLACK-WHITE	5	BLACK-YELLOW	8	RED-WHITE
3	BLACK-GREEN	6	BLACK-BROWN	9	RED-GREEN
c) Pair		2/Cond Cabled Together			
(1) Twists:		8.0 Twists/foot (min)			
Individually Applied:					
d) Shield:		Foil Free Alum/Mylar Tape, 25% Overlap, Min.			
(1) Foil Direction		Foil Facing In			
(2) Drain Wire		22 (7/30) AWG TC			
2) Cable Assembly		9 Components Cabled			
a) Twists:		2.4 Twists/foot (min)			
b) Core Wrap		Clear Mylar Tape, 25% Overlap, Min.			
3) Jacket		0.032" Wall, Nom.,PVC		0.404 (0.424 Max.)	
a) Color(s)		SLATE			
b) Print		ALPHA WIRE-* P/N M13109 9PR 22 AWG EXXXXXX 75C SHIELDED CM (UL) C(UL) OR AWM STYLE 2919 LOW VOLTAGE COMPUTER CABLE CE ROHS * = Factory Code <i>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]</i>			

### Applicable Specifications

1) UL	CM	75°C
	AWM/STYLE 2919	80°C / 30 V <sub>RMS</sub>
2) CSA International	C(UL) TYPE CM	75°C
3) CE:	EU Low Voltage Directive 2006/95/EC	

### Environmental

1) CE: EU Directive 2011/65/EU(RoHS2):	
	This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011. 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.

## Properties

Physical & Mechanical Properties	
1) Temperature Range	-20 to 75°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	148 Lbs, Maximum
Electrical Properties (For Engineering purposes only)	
1) Voltage Rating	300 V <sub>RMS</sub>
2) Mutual Capacitance	25 pf/ft @1 kHz, Nominal
3) Ground Capacitance	45 pf/ft @1 kHz, Nominal
4) Characteristic Impedance	61 Ω
5) Inductance	0.18 μH/ft, Nominal
6) Conductor DCR	16.6 Ω/1000ft @20°C, Nominal
7) Component Shield DCR	14.4 Ω/1000ft @20°C, Nominal

## Other

<b>Packaging</b>	Flange x Traverse x Barrel (inches)
a) 1000 FT	20 x 11 x 8 Continuous length
b) 500 FT	16 x 11 x 8 Continuous length
c) 100 FT	12 x 10 x 5 Continuous length
d) Bulk(Made-to-order)	
	<i>[Spool dimensions may vary slightly]</i>

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# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: M13109

M13109 , RoHS-Compliant Commencing With 11/1/2004 Production

This document certifies that the Alpha part number cited above is manufactured in accordance with Directive 2011/65/EU of the European Parliament, better known as the RoHS Directive, 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 this Directive for the specific definitions and extents of this Directive. **No Exemptions are required for RoHS Compliance on this item.** It should be noted that this product does not fall within the scope of Directive 2011/65/EU, but this Certificate is offered for cases where this product will be used within EEE that does fit within the Directive's scope. Additionally, Alpha certifies that the listed part number is in compliance with China RoHS "Marking for Control of Pollution by Electronic Information Products" standard SJ/T 11364-2006.

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

5/1/2013