



Alpha Wire | 711 Lidgerwood Avenue, Elizabeth, NJ 07207  
Tel: 1-800-52 ALPHA (25742), Web: [www.alphawire.com](http://www.alphawire.com)

# Customer Specification

## PART NO. M14478

Construction

				Diameters (In)	
1) Component 1		1 X 4 COND			
a) Conductor		24 (7/32) AWG TC		0.024	
b) Insulation		0.012" Wall, Nom. Polyethylene(PE)		0.048	
(1) Color(s)					
Cond	Color	Cond	Color	Cond	Color
1	BLACK	3	YELLOW		
2	RED	4	ORANGE		
c) Cabling		4 COND Cabled			
(1) Twists:		8.0 Twists/foot (min)			
d) Shield:		Foil Free Alum/Mylar Tape, 25% Overlap, Min.			
(1) Foil Direction		Foil Facing In			
(2) Drain Wire		24 (7/32) AWG TC			
2) Component 2		1 X 4 COND			
a) Conductor		24 (7/32) AWG TC		0.024	
b) Insulation		0.012" Wall, Nom. Polyethylene(PE)		0.048	
(1) Color(s)					
Cond	Color	Cond	Color	Cond	Color
1	SLATE	3	BLUE		
2	WHITE	4	GREEN		
c) Cabling		4 COND Cabled			
(1) Twists:		8.0 Twists/foot (min)			
d) Shield:		Foil Free Alum/Mylar Tape, 25% Overlap, Min.			
(1) Foil Direction		Foil Facing In			
(2) Drain Wire		24 (7/32) AWG TC			
3) Component 3		2 X 1 COND			
a) Conductor		22 (7/30) AWG TC		0.030	
b) Insulation		0.015" Wall, Nom. PVC		0.060	
(1) Color(s)					
Cond	Color	Cond	Color	Cond	Color
1	WHITE	2	BLUE		
4) Cable Assembly		4 Components Cabled			
a) Twists:		3.7 Twists/foot (min)			
5) Jacket		0.030" Wall, Nom.,PVC		0.288 (0.305 Max.)	
a) Color(s)		SLATE			
b) Print		ALPHA WIRE-* P/N M14478 ROHS * = Factory Code			

## Applicable Specifications

## 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):	
	This product does not contain any of the substances listed on the European Union REACH Substance of Very High Concern (SVHC) candidate list, dated 30 March 2010, in excess of a concentration of 0.1% weight/weight.
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 80°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	46 Lbs, Maximum
Electrical Properties (For Engineering purposes only)	
1) Voltage Rating	350 V <sub>RMS</sub>
2) Component 1	
a) Capacitance	19.1 pf/ft @1 kHz, Nominal Conductor to Conductor
b) Ground Capacitance	34.38 pf/ft @1 kHz, Nominal
c) Inductance	0.2 μH/ft, Nominal
d) Conductor DCR	26 Ω/1000ft @20°C, Nominal
e) Component Shield DCR	19.7 Ω/1000ft @20°C, Nominal
3) Component 2	
a) Capacitance	19.1 pf/ft @1 kHz, Nominal Conductor to Conductor
b) Ground Capacitance	34.38 pf/ft @1 kHz, Nominal
c) Inductance	0.2 μH/ft, Nominal
d) Conductor DCR	26 Ω/1000ft @20°C, Nominal
e) Component Shield DCR	19.7 Ω/1000ft @20°C, Nominal
4) Component 3	
a) Capacitance	29 pf/ft @1 kHz, Nominal Conductor to Conductor
b) Inductance	0.2 μH/ft, Nominal
c) Conductor DCR	16.4 Ω/1000ft @20°C, Nominal

## Other

<b>Packaging</b>	Flange x Traverse x Barrel (inches)
a) 1000 FT	16 x 11 x 8 Continuous length
b) 500 FT	12 x 10 x 5 Continuous length
c) 100 FT	10 x 4 x 3.5 Continuous length
	<i>[Spool dimensions may vary slightly]</i>
<b>Notes:</b>	
a) Tape shield over component 1 {4/c (quad)} to be red color and Tape shield over component 2 {4/c (quad)} to be green color.	

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# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: M14478

M14478 , RoHS-Compliant Commencing With 7/1/2005 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)

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Authorized Signatory for the Alpha Wire Company:

Dave Watson, Director of Engineering & QA

5/10/2013