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# Customer Specification

## PART NO. 87104

### Construction

		Diameters (In)			
1) Component 1		4 X 1 COND			
a) Conductor		22 (19/34) AWG BC		0.032	
b) Insulation		0.016" Wall, Nom. TPES(Hytrel)		0.064	
(1) Print		ALPHANUMERIC NUMBERS - 1-ONE ALTERNATING AND INVERTED			
(2) Color Code		Alpha Wire Color Code KX			
Cond	Color	Cond	Color	Cond	Color
1	GREEN/YELLOW	3	BLACK#2		
2	BLACK#1	4	BLACK#3		
2) Cable Assembly		4 Components Cabled			
a) Twists:		3.0 Twists/foot (min)			
b) Core Wrap		PTFE(skived) Tape, 25% Overlap, Min.			
3) Jacket		0.050" Wall, Nom., Polyurethane (TPU)		0.261 (0.274 Max.)	
a) Color(s)		BLACK			
b) Print		ALPHA WIRE-* P/N 87104 XTRAGUARD(R) FLEXIBLE TORSION CABLE - RU AWM 20234 --- LLXXXXXX CSA AWM I/II A/B 80C 600 VOLTS FT1 CE ROHS (SEQ FOOTAGE) * = Factory Code <i>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]</i>			

### Applicable Specifications

1) UL			
a) Component 1		AWM/STYLE 10162	90°C / 600 V <sub>RMS</sub>
b) Overall		AWM/STYLE 20234	80°C / 600 V <sub>RMS</sub>
2) CSA International		AWM I/II A/B	80°C / 600 V <sub>RMS</sub>
		FT1	
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	-30 to 80°C(static), -10 to 80°C (dynamic)
2) Bend Radius	10X Cable Diameter(static), 15X Cable Diameter(dynamic)
3) Pull Tension	23.7 Lbs, Maximum
Electrical Properties (For Engineering purposes only)	
1) Voltage Rating	600 V <sub>RMS</sub>
2) Capacitance	23.3 pf/ft @1 kHz, Nominal Conductor to Conductor
3) Inductance	0.2 µH/ft, Nominal
4) Conductor DCR	14 Ω/1000ft @20°C, Nominal

## Other

<b>Packaging</b>	Flange x Traverse x Barrel (inches)
a) Bulk(Made-to-order)	

www.alphawire.com

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# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: 87104

87104 , RoHS-Compliant Commencing With 11/1/2004 Production

Note: all colors and put-ups

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 (commonly known as RoHS 2), with regards to restrictions of the use of certain hazardous substances used in the manufacture of electrical and electronic equipment. This certification extends to amending Directive 2015/863/EU which expanded the list of restricted substances to 10 items (commonly known as RoHS 3) The reader is referred to these Directives for the specific definitions and extents of the Directives. **No Exemptions are required for RoHS Compliance on this item.** 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 11364-2014.

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)
Bis(2-ethylhexyl) phthalate (DEHP)	0.1% by weight (1000 ppm)
Butyl benzyl phthalate (BBP)	0.1% by weight (1000 ppm)
Dibutyl phthalate (DBP)	0.1% by weight (1000 ppm)
Diisobutyl phthalate (DIBP)	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:

Dave Watson, Director of Engineering & QA

2/9/2017

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