

**1. CONDUCTOR**

Material: See Table 1  
 Construction: See Table 1  
 Diameter: See Table 1

**2. INSULATION**

Material: Radiation Crosslinked Polyethylene  
 Wall thickness  
 Nominal: 0.023"  
 Minimum: 0.018"  
 Min Average: 0.020"  
 Diameter: See Table 1  
 Color: See Table 2  
 Marking: RU AWM 3239 105C 4 KVDC VW-1 JUDD  
 WIRE XX AWG ROHS

XX denotes AWG size

**3. PHYSICAL CHARACTERISTICS**

Temperature rating: 105 °C  
 Voltage rating: 4.0 kV<sub>dc</sub>  
 Weight: See Table 1

**4. PERFORMANCE PROPERTIES**

Mechanical  
 Tensile Strength – UL 1581  
 Unaged 1500 psi, min  
 Aged (168 hrs @ 136°C) 70% retention, min  
 Elongation – UL 1581  
 Unaged 150%, min  
 Aged (168 hrs @ 136°C) 50% retention, min  
 Deformation  
 UL (1hr @ 121°C, 250g)  
 50% thickness decrease, max

**PERFORMANCE PROPERTIES (cont'd)**

Thermal  
 Heat Shock – UL 758  
 (1 hr @ 136°C) No Cracks  
 Shrinkage  
 UL 758 (18 hrs @ 136°C) Less than 3.0mm

Flame – UL 758  
 VW-1 60 sec, max

Electrical

High Voltage Dielectric Test (UL 758 Method I)  
 Unaged 30 min @ 8.0 kV<sub>DC</sub>  
 Aged (168 hrs @ 136°C) 30 min @ 8.0 kV<sub>DC</sub>  
 High Voltage Dielectric Test (UL 758 Method II)  
 Unaged 7 hrs @ 5.0 kV<sub>DC</sub>  
 Aged (168 hrs @ 136°C) 7 hrs @ 5.0 kV<sub>DC</sub>  
 High Voltage Cut-Through  
 UL 758 7 hrs @ 6.0 kV<sub>DC</sub>  
 Spark Test – UL 758 5.0 kV<sub>AC</sub>

Chemical

Ozone Resistance No Cracks  
 (3 hrs @ 25°C, 0.010% to 0.015% Concentration)

Environmental

Directive 2002/95/EC(RoHS) Complies

**5. REFERENCE SPECIFICATIONS**

UL AWM Style 3239  
 UL Standard 758  
 UL Standard 1581  
 The European Parliament and the Council of the  
 European Union Directive 2002/95/EC

Table 1

Conductor				Insulation		
AWG	Material	Construction	Diameter (in), nom	Diameter (nom)	Diameter (Max)	Weight Lbs/kft (nom)
24	TOC	7/32	0.025"	0.071"	0.073"	4.25
22	TPC	19/34	0.030"	0.076"	0.078"	5.04
22	TOP	19/34	0.031"	0.077"	0.079"	5.45
22	TOC	19/34	0.031"	0.077"	0.079"	5.45
22	TPC	7/30	0.030"	0.076"	0.078"	4.96
22	TOC	7/30	0.030"	0.076"	0.078"	5.12

Table 2

Black	Brown	Red	Orange	Yellow	Green
Blue	Violet	Gray	White	Tan	Pink

Special colors and stripes available upon request



**JUDD WIRE INC.**  
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 Turners Falls, MA 01376  
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Date	Rev	By	Appr'	ECN	Description: <b>HIGH VOLTAGE HOOKUP, XLPE, 4kV</b>	
09/17/10	C	ARJP	EJK	10-837		
11/16/10	D	CJS	GT	16-1766		
04/11/22	E	GT	CNL	22-2097		
Customer Approval:					Specification Number: <b>JW1122-06</b>	Page: 1 of 1