

1. CONDUCTOR

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

2. INSULATION

Material: Radiation Crosslinked Polyethylene
 Wall thickness:
 Minimum: 0.030"
 Minimum Average: 0.035"
 Nominal: 0.037"
 Diameter: See Table 1
 Color: Customer Specified
 Marking: RU AWM 3239 105C 15 KVDC VW-1
 JUDD WIRE CSA TV-15 105C XLPE FT1 xx AWG
 ROHS

xx – Denotes gauge size

3. PHYSICAL CHARACTERISTICS

Temperature rating: 105 °C
 Voltage rating: 15.0 kV_{dc}
 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
 Elongation – CSA C22.2 No. 127-99
 Unaged 200%, min
 Aged (168 hrs @ 131°C) 100%, min
 Deformation
 UL (1hr @ 121°C, 250g) 50% thickness decrease, max
 CSA (2 - 1 hr Procedures @ 136°C, 500g) 35% thickness decrease, max

PERFORMANCE PROPERTIES (cont'd)**Thermal**

Heat Shock – UL 758 & CSA C22.2 No. 127-99
 (1 hr @ 136°C) No Cracks
 Shrinkage
 UL 758 (18 hrs @ 136°C) Less than 3.0mm
 CSA C22.2 No. 127-99 (6 hrs @ 136°C) Less than 3.2mm
 Flame – UL 758 & CSA C22.2 No. 127-99
 VW-1 60 sec, max
 FT1 60 sec, max

Electrical

High Voltage Dielectric Test (UL 758 Method I)
 Unaged 30 min @ 30.0 kV_{DC}
 Aged (168 hrs @ 136°C) 30 min @ 30.0 kV_{DC}
 High Voltage Dielectric Test (UL 758 Method II)
 Unaged 7 hrs @ 18.75 kV_{DC}
 Aged (168 hrs @ 136°C) 7 hrs @ 18.75 kV_{DC}
 Dielectric Strength – CSA C22.2 No. 127-99
 1 hr @ 37.5 kV_{DC}
 High Voltage Cut-Through
 UL 758 7 hrs @ 22.5 kV_{DC}
 CSA C22.2 No. 127-99 7 hrs @ 22.5 kV_{DC}
 Spark Test – UL 758 12.5 kV_{ac}

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
 CSA C22.2 No. 127-99
 The European Parliament and the Council of the
 European Union Directive 2002/95/EC



JUDD WIRE INC.
 124 Turnpike Road
 Turners Falls, MA 01376
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Date	Rev	By	Appr'd	ECN
6/26/06	A	FJC	EJK	06-158
10/06/06	B	EJK	GBM	06-190
10/29/13	C	EM	GT	13-1439
Customer Approval:				

Description: HIGH VOLTAGE HOOKUP, XLPE, 15KV, 105C	
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Table 1

Conductor				Insulation	
AWG	Plating	Construction	Diameter, nom	Diameter, nom	Weight, nom
24	TPC	1/24	0.020"	0.094"	5.84 lbs/kft
24	TOP	7/32	0.025"	0.099"	6.50 lbs/kft
24	TOC	7/32	0.025"	0.099"	6.78 lbs/kft
22	TPC	1/22	0.025"	0.099"	6.99 lbs/kft
22	TPC	7/30	0.030"	0.104"	7.63 lbs/kft
22	TOP	7/30	0.031"	0.105"	7.93 lbs/kft
22	TOC	7/30	0.031"	0.105"	7.95 lbs/kft
20	TPC	1/20	0.032"	0.106"	8.92 lbs/kft
20	TPC	7/28	0.038"	0.110"	9.29 lbs/kft
20	TOP	7/28	0.039"	0.113"	10.0 lbs/kft
20	TOC	7/28	0.039"	0.113"	10.0 lbs/kft
18	TPC	1/18	0.040"	0.114"	11.1 lbs/kft
18	TOP	7/26	0.049"	0.123"	13.1 lbs/kft
18	TOC	7/26	0.048"	0.122"	13.0 lbs/kft
16	TPC	7/0.0117	0.056"	0.130"	15.6 lbs/kft
14	TPC	41/30	0.071"	0.135"	20.1 lbs/kft
12	TPC	65/30	0.091"	0.155"	28.9 lbs/kft



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**HIGH VOLTAGE HOOKUP,
 XLPE, 15KV, 105C**

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Rev:

C

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