

**1. CONDUCTOR**

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

**2. INSULATION**

Material: Radiation Crosslinked Polyethylene  
Wall thickness  
Nominal: 0.025"  
Minimum: 0.021"  
Min Average: 0.023"  
Diameter: See Table 1  
Color: Customer Specified  
Marking: RU AWM 3239 105C 5 KVDC VW-1  
JUDD WIRE CSA TV-6 105C XLPE FT1 xx  
AWG ROHS

xx – Denotes gauge size

**3. PHYSICAL CHARACTERISTICS**

Temperature rating: 105 °C  
Voltage rating: 5.0 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  
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 @ 10.0 kV<sub>DC</sub>  
Aged (168 hrs @ 136°C) 30 min @ 10.0 kV<sub>DC</sub>  
High Voltage Dielectric Test (UL 758 Method II)  
Unaged 7 hrs @ 6.25 kV<sub>DC</sub>  
Aged (168 hrs @ 136°C) 7 hrs @ 6.25 kV<sub>DC</sub>  
Dielectric Strength – CSA C22.2 No. 127-99  
1 hr @ 15.0 kV<sub>DC</sub>

**High Voltage Cut-Through**

UL 758 7 hrs @ 7.5 kV<sub>DC</sub>  
CSA C22.2 No. 127-99 7 hrs @ 7.5 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  
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  
(413) 863-4357

Date	Rev	By	Appr'd	ECN
11/28/95	---	HR	DF	
10/06/06	A	EJK	FJC	06-191
Customer Approval:				

Description: <b>HIGH VOLTAGE HOOKUP, XLPE, 5KV, 105°C</b>	
Specification Number: <b>JW441-95</b>	Page: 1 of 2

Table 1

Conductor				Insulation	
AWG	Plating	Construction	Diameter, nom	Diameter, nom	Weight, nom
24	TPC	1/24	0.020"	0.070"	3.69 lbs/kft
24	TOP	7/32	0.025"	0.075"	4.23 lbs/kft
24	TOC	7/32	0.025"	0.075"	4.50 lbs/kft
22	TPC	1/22	0.025"	0.075"	4.70 lbs/kft
22	TPC	7/30	0.030"	0.080"	5.22 lbs/kft
22	TOP	7/30	0.031"	0.081"	5.49 lbs/kft
22	TOC	7/30	0.031"	0.081"	5.52 lbs/kft
20	TPC	1/20	0.032"	0.082"	6.45 lbs/kft
20	TOP	7/28	0.039"	0.089"	7.36 lbs/kft
20	TOC	7/28	0.039"	0.089"	7.40 lbs/kft
18	TPC	1/18	0.040"	0.090"	8.47 lbs/kft
18	TPC	7/26	0.048"	0.098"	9.46 lbs/kft
18	TOP	7/26	0.049"	0.099"	10.2 lbs/kft
18	TOC	7/26	0.048"	0.098"	10.1 lbs/kft



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**HIGH VOLTAGE HOOKUP,  
 XLPE, 5KV, 105°C**

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Rev:  
**A**

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