

1. CONDUCTOR

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

2. INSULATION

Material: Radiation Crosslinked Polyethylene
Wall thickness
Nominal: 0.075"
Minimum: 0.066"
Min Average: 0.073"
Diameter: See Table 1
Color: Customer Specified
Marking: RU AWM 3239 105C 40 KVDC VW-1
JUDD WIRE CSA TV-40 105C XLPE FT1 xx
AWG ROHS

xx – Denotes gauge size

3. PHYSICAL CHARACTERISTICS

Temperature rating: 105 °C
Voltage rating: 40.0 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
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 @ 80.0 kV_{DC}
Aged (168 hrs @ 136°C) 30 min @ 80.0 kV_{DC}

High Voltage Dielectric Test (UL 758 Method II)

Unaged 7 hrs @ 50.0 kV_{DC}
Aged (168 hrs @ 136°C) 7 hrs @ 50.0 kV_{DC}

Dielectric Strength – CSA C22.2 No. 127-99

1 hr @ 100.0 kV_{DC}

High Voltage Cut-Through

UL 758 7 hrs @ 60.0 kV_{DC}
CSA C22.2 No. 127-99 7 hrs @ 60.0 kV_{DC}

Spark Test – UL 758

25.0 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.
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Date	Rev	By	Appr'd	ECN
05/01/05	---	EJK	GBM	---
09/22/06	B	EJK	FJC	06-184
12/11/06	C	EJK	FJC	06-214
Customer Approval:				

Description: HIGH VOLTAGE HOOKUP, XLPE, 40kV	
Specification Number: JW1063-05	Page: 1 of 2

Table 1

Conductor				Insulation	
AWG	Plating	Construction	Diameter, nom	Diameter, nom	Weight, nom
24	TPC	1/24	0.020"	0.170"	16.5 lbs/kft
24	TOP	7/32	0.025"	0.175"	17.5 lbs/kft
24	TOC	7/32	0.025"	0.175"	17.8 lbs/kft
22	TPC	1/22	0.025"	0.175"	18.1 lbs/kft
22	TOP	7/30	0.031"	0.181"	19.5 lbs/kft
22	TOC	7/30	0.031"	0.181"	19.8 lbs/kft
20	TPC	1/20	0.032"	0.182"	20.8 lbs/kft
20	TOP	7/28	0.039"	0.189"	22.6 lbs/kft
20	TOC	7/28	0.039"	0.189"	22.6 lbs/kft
18	TPC	1/18	0.040"	0.190"	23.8 lbs/kft
18	TOP	7/26	0.049"	0.199"	26.5 lbs/kft
18	TOP	19/30	0.049"	0.199"	26.7 lbs/kft
18	TOC	7/26	0.048"	0.198"	26.3 lbs/kft
18	TPC	16/30	0.047"	0.197"	24.8 lbs/kft
16	TPC	19/.0117	0.056"	0.206"	29.3 lbs/kft
16	TOC	19/.0117	0.059"	0.209"	30.6 lbs/kft



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**HIGH VOLTAGE HOOKUP,
 XLPE, 40kV**

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Rev:
C

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