

1. CONDUCTOR

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

2. INSULATION

Material: Radiation Crosslinked Polyethylene
Wall thickness
Nominal: 0.030"
Minimum: 0.022"
Min Average: 0.024"
Diameter: See Table 1
Color: Customer Specified
Marking: RU AWM 3239 105C 10 KVDC VW-1
JUDD WIRE CSA TV-10 105C XLPE FT1 xx
AWG ROHS

xx – Denotes gauge size

3. PHYSICAL CHARACTERISTICS

Temperature rating: 105 °C
Voltage rating: 10.0 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 @ 20.0 kV_{DC}
Aged (168 hrs @ 136°C) 30 min @ 20.0 kV_{DC}

High Voltage Dielectric Test (UL 758 Method II)
Unaged 7 hrs @ 12.5 kV_{DC}
Aged (168 hrs @ 136°C) 7 hrs @ 12.5 kV_{DC}

Dielectric Strength – CSA C22.2 No. 127-99
1 hr @ 25.0 kV_{DC}

High Voltage Cut-Through

UL 758 7 hrs @ 15.0 kV_{DC}
CSA C22.2 No. 127-99 7 hrs @ 15.0 kV_{DC}

Spark Test – UL 758 10.0 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
10/30/96	---	DF	MJ	---
11/16/10	D	ARJP	EJK	10-891
04/26/11	E	ARJP	EJK	11-968

Customer Approval:

Description:
**HIGH VOLTAGE HOOKUP,
XLPE, 10KV, 105°C**

Specification Number:
JW495-96

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Table 1

Conductor				Insulation	
AWG	Plating	Construction	Diameter, nom	Diameter, nom	Weight, nom
24	TPC	1/24	0.020"	0.080"	4.51 lbs/kft
24	TOP	7/32	0.025"	0.085"	5.10 lbs/kft
24	TOC	7/32	0.025"	0.085"	5.38 lbs/kft
22	TPC	1/22	0.025"	0.085"	5.58 lbs/kft
22	TPC	7/30	0.030"	0.090"	6.26 lbs/kft
22	TOP	7/30	0.031"	0.091"	6.43 lbs/kft
22	TOC	7/30	0.031"	0.091"	6.45 lbs/kft
22	TPC	19/34	0.030"	0.090"	6.34 lbs/kft
20	TPC	1/20	0.032"	0.092"	7.40 lbs/kft
20	TOP	7/28	0.039"	0.100"	8.50 lbs/kft
20	TOC	7/28	0.039"	0.100"	8.54 lbs/kft
18	TPC	1/18	0.040"	0.100"	9.50 lbs/kft
18	TPC	7/26	0.048"	0.108"	10.6 lbs/kft
18	TOP	7/26	0.049"	0.109"	11.3 lbs/kft
18	TOC	7/26	0.048"	0.108"	11.3 lbs/kft



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