

1. CONDUCTOR

ISO Conductor Size: 3.00 mm²
 Material: Bare Copper
 Construction: 41 Strands of 0.33 mm dia. max.
 Diameter: 2.24 mm, nom.

2. INSULATION

Material: Crosslinked Polyolefin
 Minimum Wall Thickness: 0.32 mm
 Nominal Wall Thickness: 0.40 mm
 Diameter: 3.16 mm ± 0.11 mm
 Color: Orange
 Color Standard: SAE
 Marking: None

3. BRAID SHIELD

Material: 36 AWG Tin Plated Copper
 Coverage: 95%, min.
 Diameter: 3.66 ± 0.13 mm

4. JACKET

Material: Cross-linked Polyolefin
 Wall Thickness: 0.76 mm, nom.
 0.57 mm, min.
 Diameter: 5.19 ± 0.18
 Base Color: Orange
 Color Standard: SAE
 Stripe Color: See Table 1
 Marking: JUDD WIRE INC – JUDD P/N SO# XXXXXX

5. PHYSICAL CHARACTERISTICS

Temperature Rating: -40 °C to 150 °C
 Voltage Rating: 600 V
 Weight: 65.1 kg/km, nom.

**6. PERFORMANCE PROPERTIES
 INSULATION – ISO 6722-1 CLASS D**

Mechanical

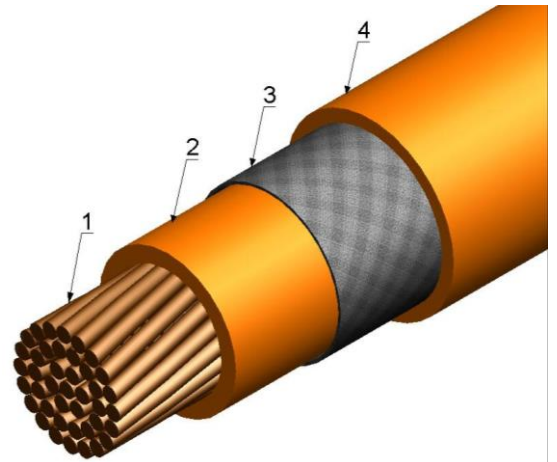
Tensile Strength (SAE J1128) 10 MPa, min.
 Elongation (SAE J1128) 150%, min.
 Scrape Abrasion* 150 mm, min.
 Sandpaper Abrasion* 0.50 kg mass, 300 mm, min. avg.

*Abrasion Resistance is an approved exception to the ISO 6722-1 60 V Thin Wall Requirement

Adhesion (50 mm @ 50 mm/min) 4.5 N, min.

Electrical

Dielectric Strength 1000 V, 60 Hz, 60 s
 Withstand Voltage 1000 V, 60 Hz, 30 min
 500 V/s Increase to 5000 V, Hold for 5 min
 Insulation Volume Resistivity 10⁹ Ω.mm, min.
 Spark Test 8000 V_{ac}
 Conductor ASTM B-3
 Maximum DC Resistance @ 20 °C 6.15 mΩ/m



PERFORMANCE PROPERTIES (Cont'd)

Thermal

Short-term Aging (240 hr @ 175 °C)
 No Cracks, Pass Dielectric Strength Test
 Long-term Aging (3000 hr @ 150 °C)
 No Cracks, Pass Dielectric Strength Test
 Thermal Overload (6 hr @ 200 °C)
 No Cracks, Pass Dielectric Strength Test
 Flame Resistance (45°) 70 Sec Burn, max.
 Low Temperature Winding (4 hr @ -40 °C)
 No Cracks, Pass Dielectric Strength Test
 Low Temperature Impact (4 hr @ -15 °C)
 Pass Impact Test, Pass Dielectric Strength Test
 Shrinkage (15 min @ 150 °C) 2mm, max.
Hot Water Resistance
 (35 days @ 85 °C, 10 g/L Salt Solution)
 No Cracks, Pass Dielectric Strength Test
 Insulation Volume Resistivity
 1 x 10⁹ Ω.mm, min.
 High Temperature Pressure Test (4 hr @ 150 °C)
 Pass Dielectric Strength Test

Chemical

Ozone Resistance (192 hr @ 65 °C)
 1 ppm, No Cracks
Fluid Compatibility
 O.D. Change, max.
 Pass Dielectric after Immersion
 Engine Oil (IRM 902) 15%
 Gasoline (Ref. Fuel C) 15%
 Ethanol / Ref Fuel C 15%
 Diesel Fuel 15%
 Power Steering (IRM 903) 30%
 Auto Trans. (Dexron VI) 25%
 Engine Coolant 50/50 15%
 Battery Acid (Sp. Gr. ~ 1.26) (SAE J1128) 5%



JUDD WIRE INC.
 124 Turnpike Road
 Turners Falls, MA 01376
 (413) 863-4357

Date	Rev	By	Appr'd	ECN
08/25/08	---	ARJP	EJK	---
12/11/18	K	MJM	RTB	18-1947
10/04/19	L	MJM	CMS	19-1991
Customer Approval:				

Description: 1C 3.00 BC XLPO/XLPO, SHIELDED, ISO 150°C, 600V, HEV	
Specification Number: JW1187-08	Page: 1 of 2

PERFORMANCE PROPERTIES (Cont'd)**CABLE – ISO 14572****Mechanical**

Tensile Strength (SAE J1128)	10 MPa, min.
Elongation (SAE J1128)	150%, min.
Adhesion (50 mm @ 50 mm/min)	67 N, min.
Bend Radius (Industry Standard Calculation)	
Secured Mount	20 mm
Unsecured Mount	40 mm

Electrical

Dielectric strength	1000 V, 60 Hz, 60 s
Withstand Voltage	5000 V, 60 Hz, 60 s
Theoretical Ampacity	See Table 2
(Ambient Temperature Air, Single Cable routing in a non-enclosed space)	
Spark Test	8000 V _{ac}

Thermal

Short-term Aging (240 hr @ 175 °C)	No Cracks, Pass Dielectric Strength Test
Long-term Aging (3000 hr @ 150 °C)	No Cracks, Pass Dielectric Strength Test
Flame Resistance (45°)	70 s Burn, max.
Low Temperature Winding (4 hr @ -40 °C)	No Cracks, Pass Dielectric Strength Test
Thermal Overload (6 hr @ 200 °C)	No Cracks, Pass Dielectric Strength Test

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

Shrinkage (15 min @ 150 °C)	5 mm, max.
High Temperature Pressure Test (4 hr @ 150 °C)	40% Impression Thickness, min.

Chemical

Ozone Resistance (192 hr @ 65 °C)	1 ppm, No Cracks
Fluid Compatibility	O.D. Change, max.

Pass Dielectric after Immersion

Engine Oil (IRM 902)	15%
Gasoline (Ref. Fuel C)	15%
Ethanol / Ref Fuel C	15%
Diesel Fuel	15%
Power Steering (IRM 903)	30%
Auto Trans. (Dexron VI)	25%
Engine Coolant 50/50	15%
Battery Acid (Sp. Gr. ~ 1.26) (SAE J1128)	5%

7. PRODUCT REFERENCE SPECIFICATIONS

ISO 6722-1
ISO 14572

8. PROCEDURAL REFERENCE SPECIFICATIONS

ISO 6722-1
SAE J1128
ASTM B-3
ISO 14572

Table 1 Colors

Base/Stripe	Item Number
Orange	C09494
Orange/White	C12690
Orange/Black	C12691

Table 2 Ampacity
(Single Cable Routing in a Non-Enclosed Space)

Ambient Air Temperature						
	22 °C	50 °C	75 °C	100 °C	125 °C	140 °C
Theoretical Ampacity (Maximum Current, Amps)	40	35	31	25	18	11

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