

Flexible Flat Cable

Constructions

Item	Detail			
Symbol name	SMCD	SML2CD	SML2XCD	
Conductor	Standard	Tinned copper (Thickness of tin plating : Min.1 μ m)		
	SNT2	Anti-Whisker tinned copper (Thickness of tin plating : 0.4+0.2/-0.1 μ m, pure tin plating : 0.1±0.1 μ m)		
Insulation	Insulation layer	Polyester		
	Adhesive layer	Flame-retardant PVC	Flame-retardant polyester	Irradiated flame-retardant polyolefin
	Color	White		
Supporting tape	Material	Polyester		
	Color	Blue		

Properties (Example)

Symbol name		SMCD	SML2CD	SML2XCD
Conductor	Nominal dimension	0.1×0.8mm	0.035×0.8mm	0.035×0.8mm
	Pitch	1.25mm	1.25mm	1.25mm
Flame Test		VW-1 Pass		
Conductor resistance		Max. 260 Ω/km	Max. 750 Ω/km	Max. 750 Ω/km
Insulation resistance		Min. 1,000M Ω -m		
Dielectric strength (Between adjacent conductors)		AC500V-1min No Dielectric Breakdown	AC500V-1min No Dielectric Breakdown	AC2,500V-1min No Dielectric Breakdown
Flexing test	Sliding test	15mmR Min. 100,000 cycles	15mmR Min.15 million cycles	5mmR Min. 500,000 cycles
	180° Folding test	Min. 20 cycles	Min. 100 cycles	Min. 50 cycles
Abrasion test (φ 0.5mm, 600g)		Min. 10,000 cycles		

UL Style No. and Products

Symbol name	UL style No.	UL rating	Conductor thickness (B) (mm)	Cable thickness (T) (mm)	Pitch (mm)			
					1.25	1.0	0.5	
SMCD	2896	80°C, 30 V	0.10	0.30	○	○	×	
			0.05	0.25	○	○	×	
	2896 Thin type	80°C, 30 V	0.05	0.17	○	○	×	
			20624	80°C, 60 V	0.10	0.30	○	○
SML2CD	2896	80°C, 30 V	0.05	0.20	○	○	△	
			0.035	0.18	○	○	△	
	2896 Thin type	80°C, 30 V	0.035	0.11	○	○	○	
			20624	80°C, 60 V	0.05	0.20	○	○
				0.035	0.18	○	○	○
				20861	105°C, 60 V	0.05	0.16	○
				0.035	0.14	○	○	○
				21147 Halogen Free	80°C, 60 V	0.05	0.14	○
				0.035	0.12	○	○	○
				SML2XCD	20783	105°C, 300 V	0.05	0.20
0.035	0.18	○	○				×	
20941	105°C, 90 V	0.05	0.18		△	△	○	
		0.035	0.16		△	△	○	

○ : Sumitomo standard △ : Special specification × : Unavailable

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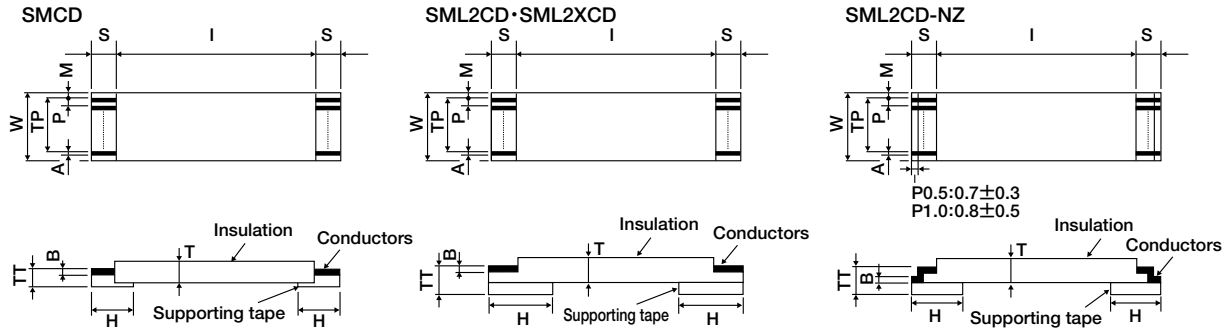
※This specification is subject to change without a prior announcement.

Nominal Dimension

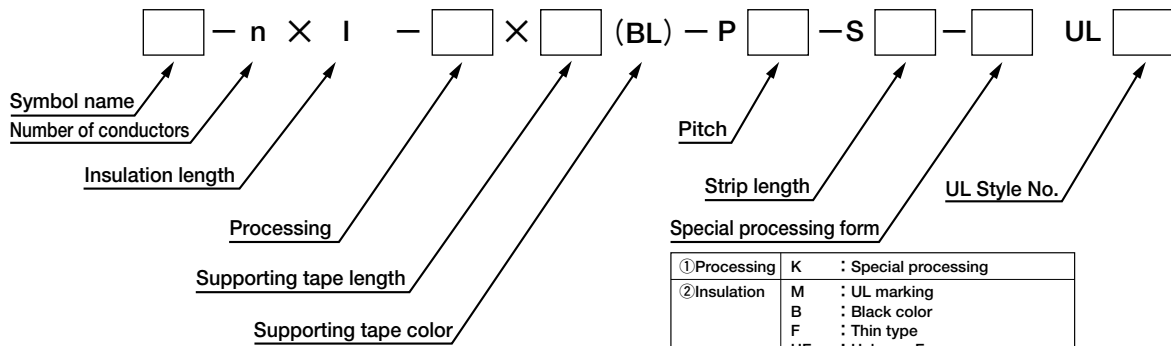
Unit : mm

Item	Dimension			
Pitch (P)	1.25	1.0		0.5
Conductor width (A)	0.80	0.70	0.60	0.30
Margin width (M)	0.85	0.65	0.70	0.35
Total pitch (TP)	P×(n-1)			
Cable width (W)	P×(n+1)			
Insulation length (I)	Min. 20 (P1.25, P1.0 AD type : Min. 30)			
Terminal thickness (TT)	0.30			
Strip length (S)	4, 5, 6			
Supporting tape length (H)	6, 8, 10, 15, 20			

n=number of conductors



Nomenclature



①Processing	K	: Special processing
②Insulation	M	: UL marking
	B	: Black color
	F	: Thin type
	HF	: Halogen Free
③Conductor	T	: Conductor width 0.8mm
	T(0.6)	: Conductor width 0.6mm
	N	: Conductor thickness 0.05mm
	N(35)	: Conductor thickness 0.035mm
	SNT2	: Anti-Whisker
④Other	NZ	: NON-ZIF connector type

Processing Form

	BD Supporting tapes at both ends are on the same side	AD Supporting tapes at both ends are on the opposite side	ES Supporting tapes at one end, and the other end is stripped for soldering(including semi-strip type)
SMCD			
SML2CD SML2XCD			
SML2CD-NZ			

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Constructions

Item		Detail
Symbol name		SML2CD
Conductor	Material	Annealed copper
	Plating (Whole)	Nickle (Thickness : Min. 0.3 μ m)
	Plating (Terminal)	Au (Thickness : Min. 0.05 μ m)
Insulation	Insulation layer	Polyester
	Adhesive layer	Flame-retardant polyester
	Color	White
Supporting tape	Material	Polyester
	Color	Blue

Properties

		Detail	
Conductor nominal dimension		0.035×0.3mm	0.05×0.7mm
Pitch		0.5mm	1.0mm
Flame test		VW-1 Pass	
Conductor resistance		Max. 2,200 Ω /km	Max. 600 Ω /km
Insulation resistance		Min. 1,000M Ω -m	
Dielectric strength(Between adjacent conductors)		AC500V-1min No Dielectric Breakdown	
Flexing test	Sliding test	5mmR Min. 10,000 cycles	10mmR Min. 10,000 cycles
	180° Folding test	Min. 30 cycles	Min. 100 cycles
Abrasion test (φ 0.5mm, 600g)		Min. 10,000 cycles	

UL Style No. and Products

Symbol name	UL style No.	UL rating	Conductor thickness (B) (mm)	Cable thickness (T) (mm)	Pitch (mm)	
					1.0	0.5
SML2CD	2896 Thin type	80°C, 30 V	0.035	0.11	×	○
	20861	105°C, 60 V	0.05	0.16	○	×
			0.035	0.14	△	○

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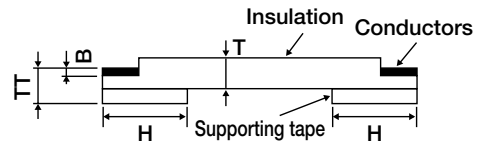
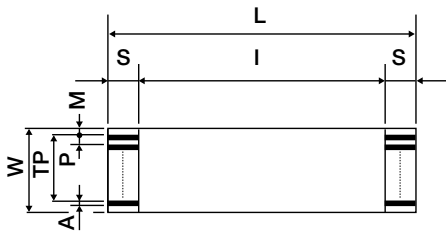
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Nominal Dimension

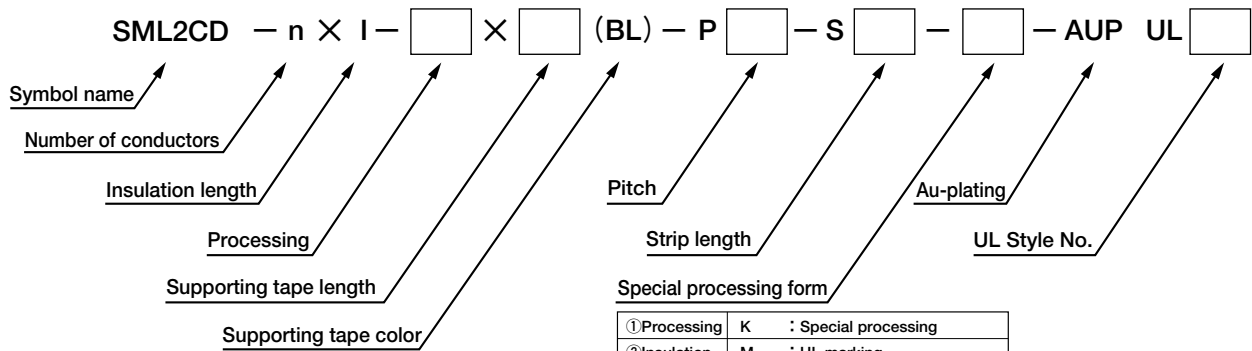
Unit : mm

Item	Dimension	
Pitch (P)	1.0	0.5
Conductor width (A)	0.70	0.30
Margin width (M)	0.65	0.35
Total pitch (TP)	P×(n-1)	
Cable width (W)	P×(n+1)	
Insulation length (I)	Min. 30	Min. 20
Cable length (L)	Max. 650mm	
Terminal thickness (TT)	0.30	
Strip length (S)	4, 5	3, 4, 5
Supporting tape length (H)	6, 8, 10	5, 6, 8

n=number of conductors



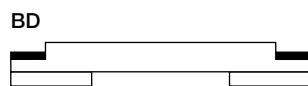
Nomenclature



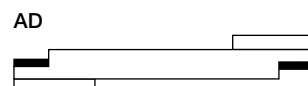
Special processing form

① Processing	K	: Special processing
② Insulation	M	: UL marking
	F	: Thin type
③ Conductor	N	: Conductor thickness 0.05mm
	N(35)	: Conductor thickness 0.035mm

Processing Form



Supporting tapes at both ends are on the same side



Supporting tapes at both ends are on the opposite side

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Constructions

Item	Detail	
Symbol name	SML2SC	
Conductor	Tinned copper (Thickness of tin plating : Min.1 μ m)	
Insulation	Insulation layer	Polyester
	Adhesive layer	Flame-retardant polyester
	Color	White
Supporting tape	Material	Polyester
	Color	Blue
Shield tape	Material	PET (Outer) + Metallic layer + Copper coated with Silver (Inner)
Reinforcing tape	Material	Polyimide (outside) +Adhesive (inside)

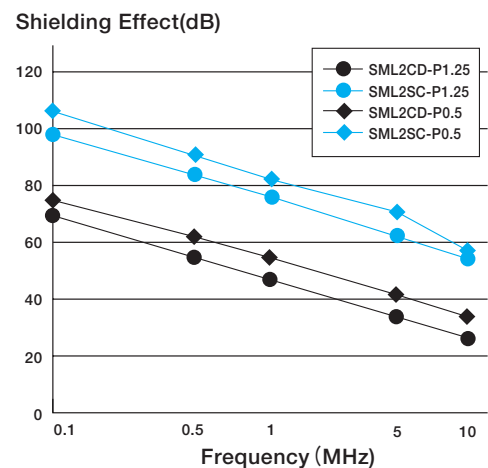
Properties (Example)

Item	Detail	
Conductor nominal dimension	0.035×0.3mm	
Pitch	0.5mm	
Flame test	VW-1 Pass	
Conductor resistance	Max. 2,200 Ω/km	
Insulation resistance	Min. 1,000MΩ·m	
Dielectric strength	Between adjacent conductors	AC500V-1min No Dielectric Breakdown
	Conductors / Shield	AC250V-1min No Dielectric Breakdown
Capacitance	624 pF/m (ref.)	
Flexing test	Sliding test	15mmR Min. 1,500 cycles
	180° Folding test	Min. 30 cycles
Abrasion test (φ 0.5mm, 600g)	Min. 200 cycles	

Shielding Effect

	0.1MHz	0.5MHz	1MHz	5MHz	10MHz
SML2CD-P1.25	69.4	55.2	48.7	34.4	28.2
SML2SC-P1.25	96.5	82.2	76.4	61.4	55.6
SML2CD-P0.5	75.2	60.8	55.7	40.6	34.9
SML2SC-P0.5	104.2	90.3	81.7	70.4	56.5

(dB)



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UL Style No. and Products

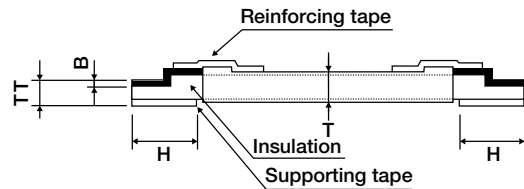
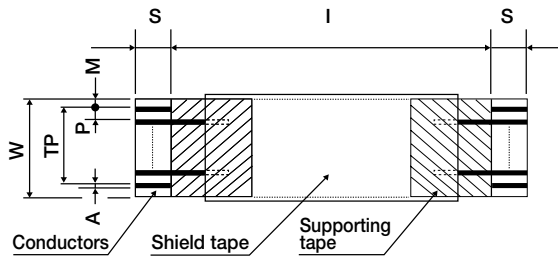
Symbol name	UL style No.	UL rating	Conductor Thickness (B) (mm)	Cable Thickness (T) (mm)
SML2SC	2896	80°C, 30 V	0.035	0.26
	2896 Thin type	80°C, 30 V		0.20
	20861	105°C, 60 V		0.24
	21147 Halogen Free	80°C, 60 V		0.22

Nominal Dimension

Unit : mm

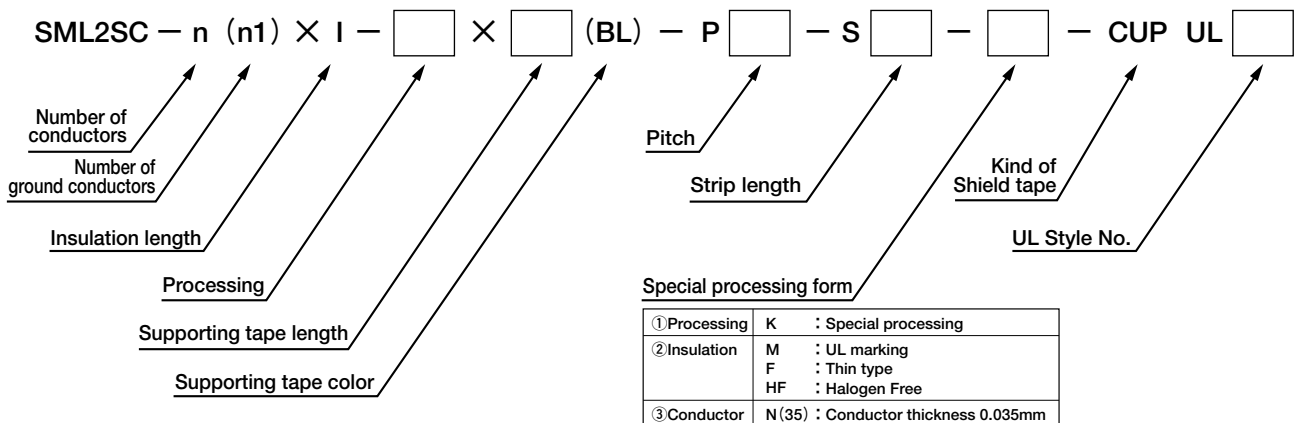
Item	Dimension		
Pitch (P)	1.25	1.0	0.5
Conductor width (A)	0.80	0.70	0.30
Margin width (M)	0.85	0.65	0.35
Total pitch (TP)	P×(n-1)		
Cable width (W)	P×(n+1)		
Insulation length (I)	Min. 20		
Terminal thickness (TT)	0.30		
Strip length (S)	4, 5, 6		3, 4
Supporting tape length (H)	Strip length + Max. 2mm		

n=number of conductors



※Because there is limitation on specifications, please talk about a combination of strip length and supporting tape length with our sales office.

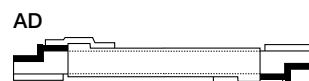
Nomenclature



Processing Form



Supporting tapes at both ends are on the same side



Supporting tapes at both ends are on the opposite side

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JUMPER LEAD WIRE

RoHS Directive					
Lead Free	Hg Free	Cd Free	Cr ⁶⁺ Free	PBB Free	PBDE Free

Constructions

UL Style No.	2651		2896	4478 Halogen Free	20731	
UL rating	105°C, 300V		80°C, 30V	105°C, 300V	80°C, 60V	
Symbol name	SMV2J	SMV2RJ	SML2VJ	SMV2RJ-HF	SMV2J-U	
Conductor	7/0.16 (OM-1S) 7/0.16 (OM-CP)		0.1×0.5 (TPBR) 0.1×0.3 (TPBR)	7/0.16 (OM-1S) 7/0.16 (OM-CP)	7/0.16 (OM-1S)	0.1×0.5 (TPBR) 0.1×0.3 (TPBR)
Insulation	Material	FRPVC	FRXLPVC	Polyester(Outer) +FRPVC(inner)	FRXL polyethylene	FRPVC+PET
	Color	Sky blue	Ivory white	White	White	Transparent

Properties

UL Style No.	2651		2896	4478 Halogen Free	20731	
Flame test	VW-1 Pass					
Conductor resistance	Max. 175 Ω/km (OM-1S) Max. 286 Ω/km (OM-CP)	Max. 3,000 Ω/km (0.1×0.5) Max. 5,000 Ω/km (0.1×0.3)	Max. 175 Ω/km (OM-1S) Max. 286 Ω/km (OM-CP)	Max. 175 Ω/km	Max. 3,000 Ω/km (0.1×0.5) Max. 5,000 Ω/km (0.1×0.3)	
Insulation resistance	Min. 1,000MΩ·m					
Dielectric strength (Conductors / Water)	AC2,000V-1min No Dielectric Breakdown	AC500V-1min No Dielectric Breakdown	AC2,000V-1min No Dielectric Breakdown	AC2,000V-1min No Dielectric Breakdown	AC1,000V-1min No Dielectric Breakdown	

Nominal Dimension

Unit : mm

UL Style No.	2651		2896	4478 Halogen Free	20731		
Pitch (P)	1.25, 1.5, 2.0, 2.5, 2.54		0.8, 1.0, 1.25, 2.0, 2.5, 2.54	1.5, 2.0, 2.5, 2.54	0.8, 1.0, 1.25, 2.0, 2.5, 2.54		
Total pitch (TP)	P×(n-1)						
Cable width (W)	P×n	P×n (P≤1.5 : P×(n+1))		P×n	P×n (P≤1.5 : P×(n+1))		
Cable thickness (T)	0.95		0.31	0.95	Round conductor : 0.65 Square conductor : 0.45		
Insulation length (I)	Min. 20		Min. 15	Min. 20	4~20		
Strip length (S)	Standard : 3, 3.5, 4, 4.5, 5 Semi-strip(4.5)					Standard : 3, 3.5	
	Forming 3.5F~5F		—	Forming 3.5F~5F		—	

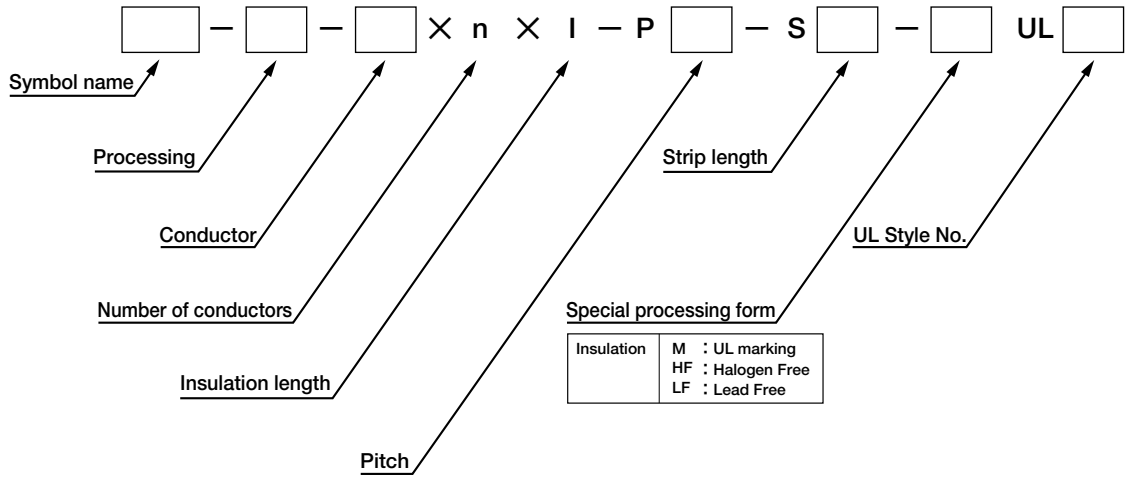
Shape

UL Style No.	2651		2896	4478 Halogen Free	20731	

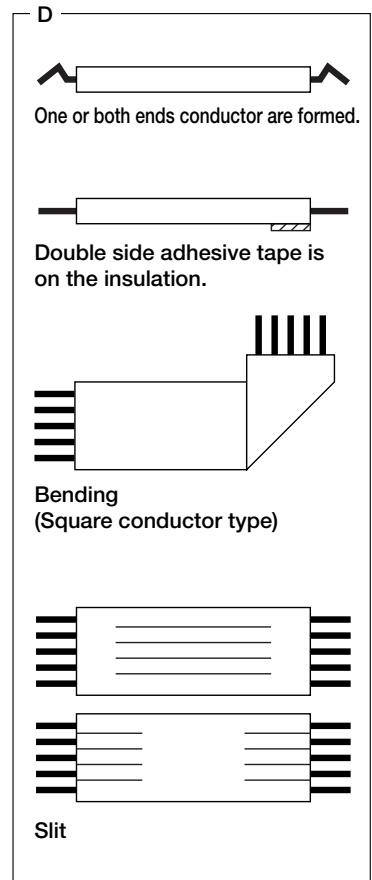
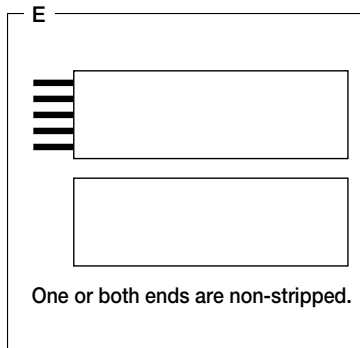
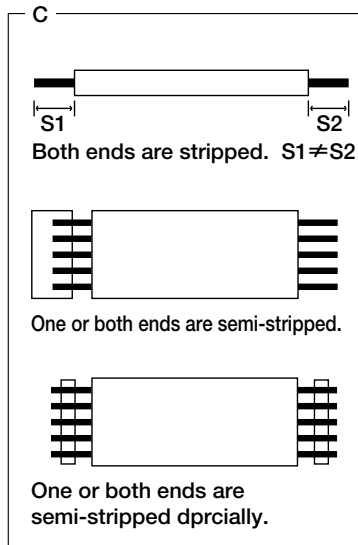
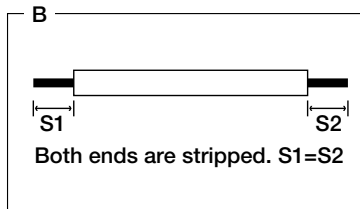
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Nomenclature



Processing Form



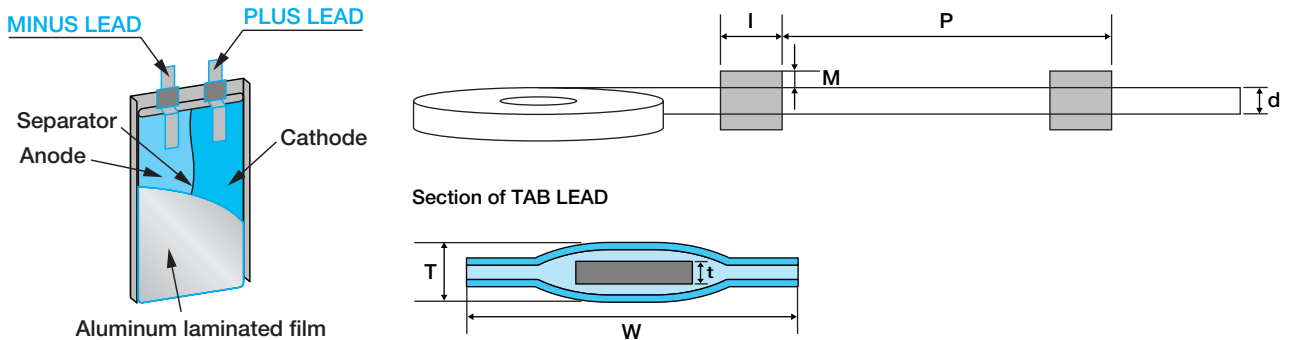
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TAB-LEAD

RoHS Directive							
Lead Free	Hg Free	Cd Free	Cr ⁶⁺ Free	PBB Free	PBDE Free	PVC Free	Halogen Free

Constructions

Item		PLUS LEAD	MINUS LEAD
Conductor		Aluminum (Surface treatment non-Cr)	Nickel
			Nickel (Surface treatment non-Cr)
			Nickel plated copper (Surface treatment Cr ³⁺)
Insulation	Heat resistance layer	Heat resistant PP (Gray)	
	Adhesive layer	Modified PP (Melting point : PP=140°C)	
Shipment form		Reel · · · hole diameter for the shaft : 100mm, outer diameter : 400mm	



Nominal Dimension

Unit : mm

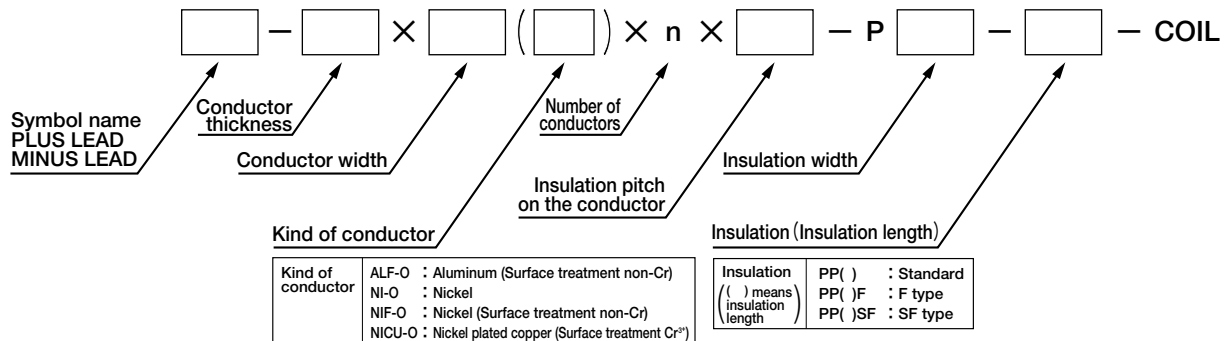
Item	Dimension					
Conductor width (d)	2.0	3.0	4.0	5.0	7.0	10.0
Conductor thickness (t)	0.1	0.08, 0.1				
Margin width (M)	1.0, 1.5, 2.0			2.0		
Total thickness (T)	Standard	t + 0.2				
	F type	t + 0.14				
	SF type	t + 0.12				
Insulation pitch on the conductor	Min. 20					
Insulation length (I)	4.0~15.0					
Insulation width (W)	d + (M×2)					

NomenClature

Example)

PLUS LEAD-0.08×4.0(ALF-O)×1×50-P8.0-PP(7.5)-COIL

MINUS LEAD-0.08×4.0(NI-O)×1×50-P8.0-PP(7.5)-COIL



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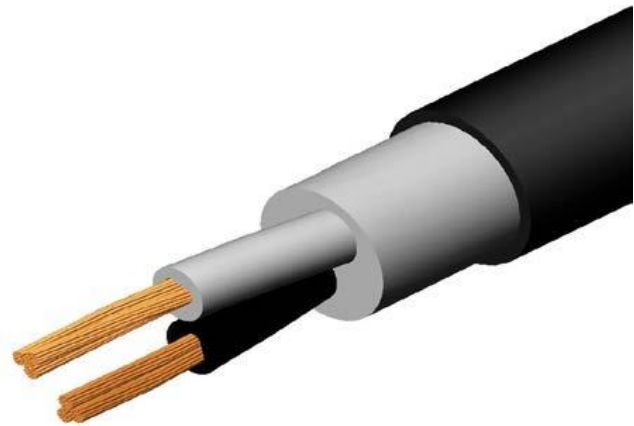
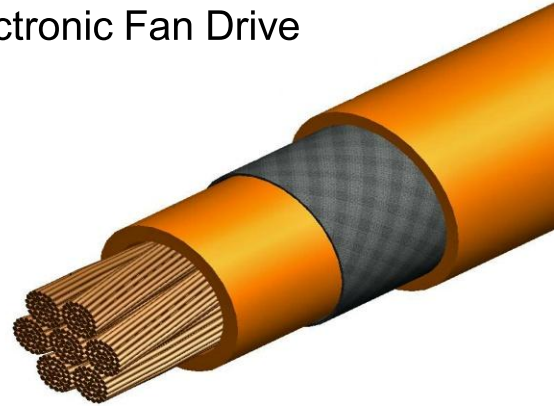
Automotive

Automotive Wire and Cable Products

- Primary Wires:
ISO: *Classes B - H*
JASO: *AEX, AESSX, AVX, AVSSX*
SAE: *TXL, GXL, STX*
- Engine Harness Wire:
AutoRad®
- Transmission Wire:
Silicon & Non-Silicon Blocked
- Sensor Cables:
ABS, Crank Sensor, Transmission
- Fuel Tank Wire
- Active/Passive Sensor Cables
- Hybrid Electric Vehicle Cables
- Air Bag Wire
- Battery Cable
- Shielded and Blocked Wires
- Databus
- Electronic Fan Drive

Jacket & Insulation Materials

Material	Temperature Rating
PUR	(85°C up to 125°C)
XLPU	(85°C up to 150°C)
XLPVC	(100°C up to 115°C)
XLPE	(120°C up to 150°C)
XLPO	(120°C up to 150°C)
XLTPPE	(150°C)
XLFE	(150°C up to 200°C)
XLETFE	(150°C up to 200°C)



Wire Type	Standard	Judd Specification	Temperature Ratings	Conductor Range	Insulation Type	Application
TXL	SAE J1128	JW1427	135°C	0.22mm ² - 8.00mm ²	HFXLPO	Engine Harness
		JW1414	135°C		XLPE: G12	Gas Tank Wire
		JW1214	150°C & 200°C		XLFE: J5, J7 & R5	Transmission Wire
GXL	SAE J1127	JW1335	125°C, 135°C & 150°C	0.22mm ² - 8.00mm ² 13.0mm ² - 103.0mm ²	HFXLPO	Engine Harness
STX		JW1131				Battery Cable
AVSSX	JASO D611	JW1052	105°C	0.30mm ² - 2.00mm ² 0.50mm ² - 8.00mm ²	XLPVC	Passenger Compartment
AVX		JW1198				Battery Cable
AESSX		JW881	125°C	0.30mm ² - 2.00mm ² 0.22mm ² - 8.00mm ²	XLPE	Engine Harness
AEX		JW1151				Battery Cable
Class B	ISO 6722	JW1202	105°C	0.30mm ² - 120.0mm ²	XLPVC	Passenger Compartment
Class C		JW1223	125°C		HFXLPO	Engine Harness
Class D		JW1109	150°C		XLPE	Engine Harness
Class F		JW1355	200°C		XLFE	Transmission Wire
Class H		JW1193	250°C		XLFP	Oxygen Sensor
Type A	SAE/ISO	JW1280	150°C	2mm ² - 120.0mm ²	XLPE/XLPE	High Voltage Shielded Battery Cables
Type B						
Type C						
Type D						
Type E						
Judd Flex		JW1187	200°C		FXLPE/FXLPE	
Type A		JW1314			XLFE/XLFE	
Type B		JW1313	150°C		XLPE	High Voltage Unshielded Battery Cables
Types A-E						

Engine Harness Wire

Product Characteristics

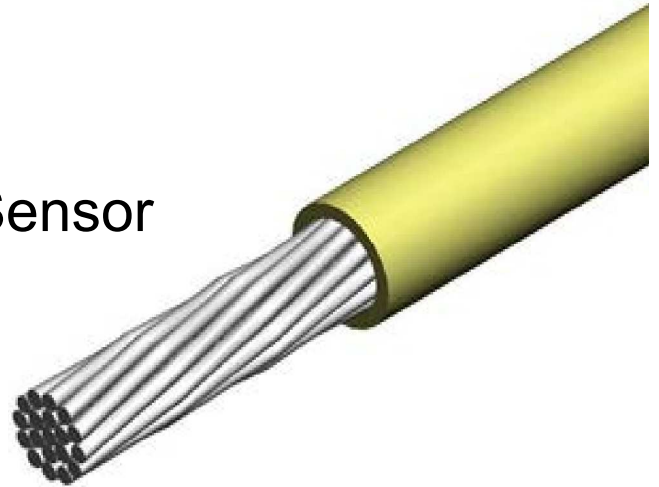
- Halogen-free insulation types
- Deca Bromine-free insulation types
- High abrasion resistant properties
- Excellent chemical resistance
- Multiple conductor stranding options
 - Symmetric or Asymmetric
- -40°C up to 150°C, 3000hr Temperature Rating

Standard	Wire Type	Standard	Judd Spec	Temp Rating	Size	Insulation Type	
SAE J1128	TXL	SAE J1128	JW1427	135°C	0.22mm ²	HFXLPO	
	GXL	SAE J1128	JW1335		Thru 8.00mm ²	HFXLPO	
JASO D618	AESSX	JASO D618	JW881	120°C	0.30mm ²	XLPE	
	AEX	JASO D618	JW1151	120°C	Thru 8.00mm ²		
ISO 6722	AutoRad125	ISO 6722	JW1223	125°C	0.22mm ²	XLPE	
	AutoRad150	ISO 6722	JW1109 (thin wall)	150°C		Thru 6.00mm ²	XLPE
			JW1390 (thick wall)	150°C		XLPE	

Fuel Systems Wire

Applications

- Fuel Pump
- Fuel Level Sensor
- Diesel Exhaust Reduction Sensor



Materials

- G12 - Proprietary Formulated Crosslinked Polyethylene
- TXL or ISO Thin Wall Constructions
- 3000hr 125°C Rated Material
- Low Cost Solution to PTFE
- Competitive to Nylon

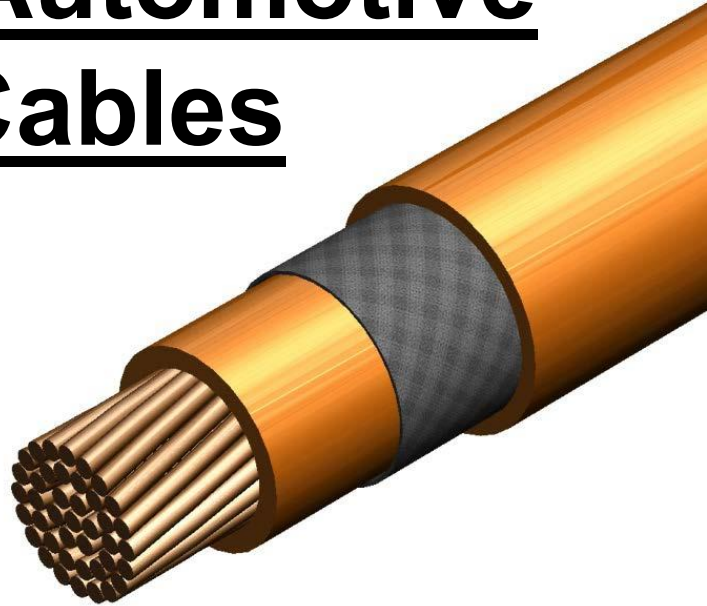
Fuel Systems Wire

Wire Type	Judd Spec	Wall Thickness (20awg/0.50mm Example)	Temp Rating	Size	Insulation Type
SAE Silicone Blocked	JW1266	0.40mm	125°C	22awg – 12awg	G12 XLPO
SAE	JW573	0.40mm	125°C	22awg – 12awg	G12 XLPO
ISO Silicone Blocked	JW1416	0.30mm	125°C	0.35mm ² – 3.00mm ²	G12 XLPO

High Voltage Automotive Battery Cables

Applications

- 2mm² up to 10mm²
 - Auxiliary power supply cables
- 12mm² up to 120mm²
 - Power unit cables
 - Power control cables
 - Battery cables



Product Characteristics

- 600V rated per SAE & ISO
- Bare Copper Conductor
 - Symmetric or Asymmetric Options
- 95% Braid Shield Coverage
- Flexible Insulation Systems
- 150°C & 200°C 3000hr Rated
- High Abrasion Resistance
- High Current Carrying Capacity

Spec	JW1280	JW1187	JW1314	JW1313	JW1301
Construction	Shielded	Shielded	Shielded	Unshielded	Unshielded
Temp. Rating	150°C	150°C	200°C	150°C	200°C
Materials	XLPE or Flexible XLPO	Flexible XLPO	Flexible XLFE	XLPE or Flexible XLPO	Flexible XLFE

High Voltage Automotive Battery Cables

Spec	JW1280	JW1187	JW1314	JW1313	JW1301
Construction	Shielded	Shielded	Shielded	Unshielded	Unshielded
Temp. Rating	150°C	150°C	200°C	150°C	200°C
Materials	XLPE or Flexible XLPO	Flexible XLPO	Flexible XLFE	XLPE or Flexible XLPO	Flexible XLFE

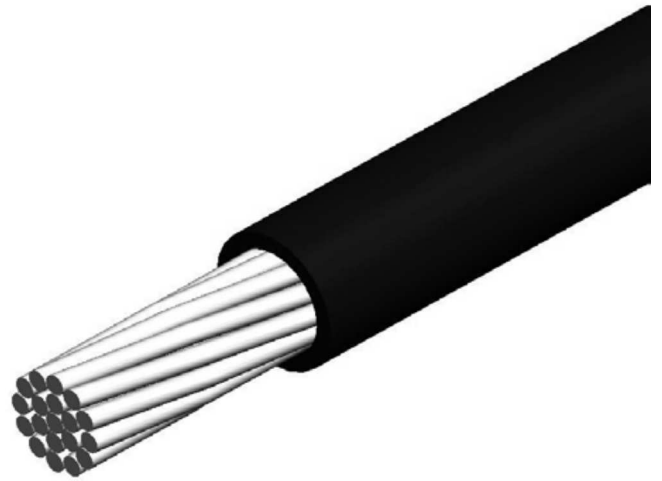
	12mm ²		16mm ²		35mm ²		50mm ²	
	JW1280	EX-50	JW1280	EX-50	JW1280	EX-50	JW1280	EX-50
Insulated Core Diameter (mm)	6.15	6.33	6.78	6.80	9.90	9.90	11.80	11.60
Braid Configuration	36AWG 95%	36AWG 95%	36AWG 95%	36AWG 95%	34AWG 95%	34AWG 95%	34AWG 95%	34AWG 95%
Overall Cable Diameter (mm)	8.17	8.30	8.81	9.30	12.01	12.90	13.97	14.90
Bend Force (N)	10.20	9.60	27.10	20.90	40.00	34.50	49.80	40.40
Flexibility Improvement	6%		23%		13%		18%	

Transmission Wire

Materials

- Conductors
 - Bare Copper
 - Tinned Copper
 - Silicone Blocked
 - Bare Copper
 - Tinned Copper

- 3000hr Rated Insulations
 - Crosslinked Fluoroelastomer
 - 150°C: J5, J7
 - 200°C: R5
 - Crosslinked ETFE
 - 200°C: XLETFE



Transmission Wire

Wire Type	Judd Spec	Wall Thickness (20awg/0.50mm Example)	Temp Rating	Size	Insulation Type
SAE Silicone Blocked	JW1067	0.40mm	150°C	22awg – 12awg	J5
	JW1111				J7
	JW1072		200°C		R5
SAE	JW1158	0.40mm	150°C	22awg – 12awg	J5
	JW1342				J7
	JW1107		200°C		R5
ISO	JW1339	0.30mm	150°C	0.35mm ² – 3.00mm ²	J5
	JW1407				J7
	JW1355		200°C		R5

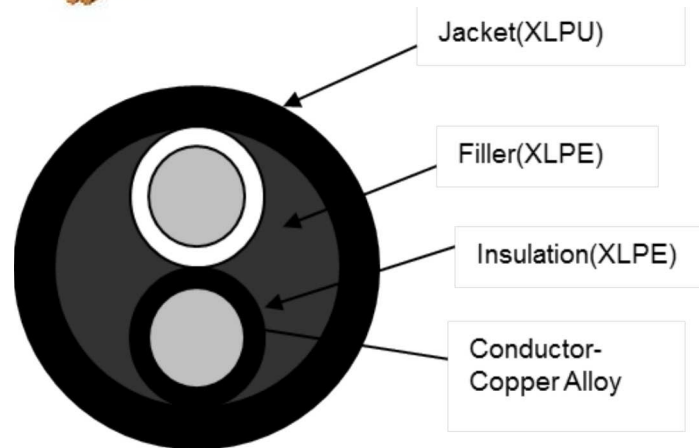
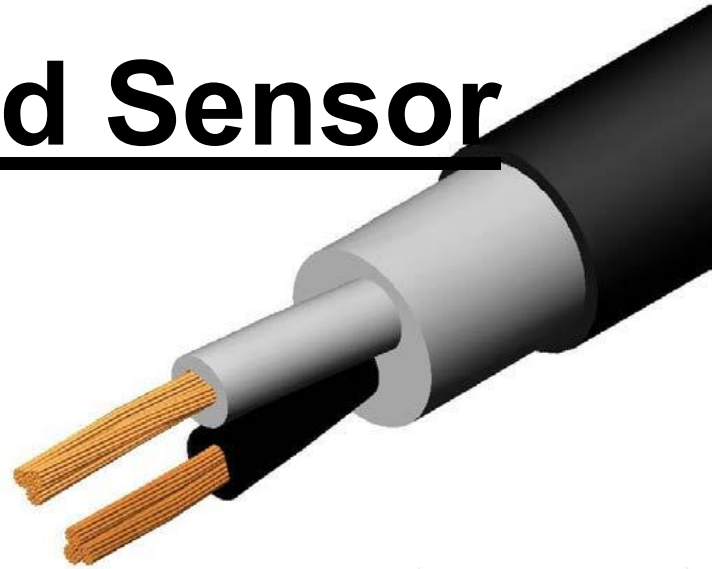
Wheel Speed Sensor

Product Characteristics

- High Tensile Strength
- High Flex Endurance
- High Abrasion Resistance
- Up to 125°C 3000hr rated
- JASO/SAE/ISO Compliant

Materials

- Conductors
 - Annealed Copper
 - Copper Alloy
 - High Strand Count
- Core Insulation
 - Crosslinked Polyethylene
 - Halogen Free
- Jacket Insulation
 - Crosslinked Polyurethane Types
 - Halogen Free
 - Heat Resistant
 - Flame Retardant
 - Heat Adhesive



Standard Sizes

0.50mm² – 6.2mm OD

0.30mm² – 5.0mm OD

0.25mm² – 4.3mm OD

0.25mm² – 4.0mm OD

Electronics / Rail Transit

Select, Customize, Order & Receive Products with Ease

This catalog contains comprehensive listings of Judd Wire standard products, many of which are stocked in a variety of colors. For the stocking status of a specific product, please call Judd Wire, or visit our web site:

www.juddwire.com

All standard and special colors, stripes, solids, combinations, and numerical codings are available upon request. Judd Wire is also prepared to meet your requirements for continuous lengths, custom packaging, jacketing, shielding, different gauges or stranding, etc. If you have a special need or unusual application, call us.

You can also contact Judd Wire for ordering assistance, engineering information, physical and electrical properties of products, etc. Complete East Coast and West Coast contact numbers are

throughout the United States. Please call for the name and address of your nearest location or return the enclosed reply card for prompt service.

We are not just a stock wire company, Judd Wire is your wire and cable problem-solver!

listed on the back cover for convenient telephone, facsimile, and world wide web communications.

Judd Wire maintains nationwide product availability through a network of Authorized Distributors. Sales representatives are also located in principal cities

Besides single conductors, Judd Wire PCA, FLEXRAD 125, and FLEXRAD 150 product lines are available in twist pairs, triples, quads and other multi-conductor configurations. See inside back cover(pg.11) for cable information.

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FLEXRAD HV High Voltage (105° XLPE)	9-10
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Ordering Information

Judd Wire is equipped to respond to a wide variety of customer requirements ranging from continuous length put-ups to custom striped, marked and tinned constructions. If you have special conditions to discuss or would like assistance with ordering, please call Judd Wire.

Packaging (Put-ups)

Spools from 1,000 feet to standard stock packages per factory specifications, continuous lengths; or per customer specifications. Custom packaging and drum packs are also available.

Colors/Markings

All standard and special colors, stripes, solids, combinations, and numerical codings are available per customer specification.

Special Conductors

In addition to the conductor styles listed in this catalog, Judd Wire products are available with heavy tinned, top coated or prebonded stranded conductors to facilitate automatic wire cutting, stripping, and other automatic processes.

Notice: All statements, ratings, technical data, etc., contained herein are based on information we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. Before using, buyer shall determine the suitability of the product for its intended application, and assumes all risk and liability in connection therewith.



Find the right Judd Wire product fast

By UL Style, CSA Class, or Military Specification

UL					CSA						
Style No.	Temp. Rating °C	Voltage Rating	AWG Sizes	Avg. Wall Thickness	Class	Temp. Rating °C	Voltage Rating	AWG Sizes	Avg. Wall Thickness	Judd Wire Product Line	page number
1472	80	125V	32-20	.007"	-	-	-	-	-	PCA	5
1429	80	150V	32-20 18-16	.0105" .011"							
1534	80	NVS*	32-16 14	.011" .012"	AWM	80	150V	32-12	.011"	PCA	5
1536	80	NVS*	32-16 14 12-10	.011" .012" .013"							
1787	80	300V	36-20 18-16	.0105" .011"	-	-	-	-	-	PCA	5
1430	105	300V	30-16	.016"							
1557	105	NVS*	16 14-10	.016" .016"	REW	105	300V	26-10	.016"	PCA	6
3317	105	300V	14-10	.016"							
1431	105	600V	30-10 8 6-2	.030" .050" .060"	REW	105	600V	24-10 8 6-2	.030" .050" .060"	PCA	6
3265	125	150V	30-16	.011"	AWM	125	150V	30-16	.011"	FLEXRAD 125	8
3266	125	300V	26-10	.016"	AWM or CL1252	125	300V	26-10	.016"	FLEXRAD 125	8
3271	125	600V	26-10 8 6-1/0	.030" .045" .060"	AWM or CL1251	125	600V	26-10 8 6-1/0	.030" .045" .060"	FLEXRAD 125	8
3239	105	5kV	24-12	.020"	TV-6	105	6KV	22-10	.020"	FLEXRAD HV	10
3239	105	10kV	24-12	.030"	TV-10	105	10KV	22-10	.030"	FLEXRAD HV	10
3239	105	15kV	24-12	.035"	TV-15	105	15KV	22-10	.035"	FLEXRAD HV	10
3239	105	20kV	24-12	.050"	TV-20	105	20KV	22-10	.050"	FLEXRAD HV	10
3239	105	25kV	24-12	.055"	TV-20	105	20KV	22-10	.055"	FLEXRAD HV	10
3239	105	30kV	24-12	.060"	TV-30	105	30KV	22-10	.060"	FLEXRAD HV	10
3239	105	40kV	24-12	.070"	TV-40	105	40KV	22-10	.070"	FLEXRAD HV	10
3398	150	300V	30-10	.017"	AWM	150	300V	30-10	.017"	FLEXRAD 150	8
3289	150	600V	30-10 8	.032" .047"	AWM	150	600V	30-10 8	.032" .047"	FLEXRAD 150	8

* No Voltage Specified

Find the right Judd Wire product fast by Application and Temperature

MILITARY SPECIFICATION

Mil-W-	Temp. Rating °C	Voltage Rating	AWG Sizes	Avg. Wall Thickness	Judd Wire Product Line	page number
16878F/1	105	600V	32-14	.0110	PCA	6
16878F/2	105	1000V	26-12	.0160	PCA	6
16878F/3	105	3000V	24-10	.0300	PCA	6
			8	.0500		
			6-0	.0600		
16878F/14	125	600V	32-14	.0110	FLEXRAD 125	8
16878F/15	125	1000V	26-12	.0160	FLEXRAD 125	8
16878F/16	125	3000V	26-0	.0310	FLEXRAD 125	8

Application	Temp. Rating	Prod. Line	page
Business Machines	80	PCA	5
Communication Equipment			
Computers			
Data Processing Equipment			
Instrumentation			
Military Electronics			
Test Equipment			
Appliances	105	PCA	6
Automotive Components			
Business Machines			
Communication Equipment			
Computers			
Data Processing Equipment			
Home Entertainment			
Instrumentation			
Medical Electronics			
Military Electronics			
Test Equipment			
Appliances	105	FLEXRAD HV	10
Cathode Ray Tubes			
Color TVs			
Home Entertainment			
Microwave Ovens			
Video Displays			
Computers	125	FLEXRAD 125	8
Industrial Controls			
Military Equipment			
Motor Leads			
Transformers			
Lighting Devices	150	FLEXRAD 150	8
Ballasts			
Transformers			
Computers			
Appliances			

PCA (80°C & 105°C XLPVC)



Solid Tinned Copper



Stranded Tinned Copper

PCA is a diverse line of tri-rated electronic wire. Its poly-chloroalkene insulation is an exclusive irradiation cross-linked PVC with a unique combination of high-performance properties.

High heat and burn-through resistance

PCA insulation will not melt or flow at soldering iron temperatures up to 660°F. It eliminates the problem of rework due to soldering iron damage.

Wide operating temperature range

PCA insulated wires are rated for continuous operation from -55°C to 105°C regardless of the temperature range established by UL, CSA and Mil Spec ratings.

Improved chemical resistance

PCA insulation has chemical and solvent resistance that is superior to the best grade PVC insulations.

Superior processability

End costs are reduced with PCA insulated wires, which conform easily to desired shapes for chassis wiring and harness construction. PCA insulation can be cut and stripped cleanly by automatic processing equipment. The characteristic PVC creep due to insulation stretch is eliminated.

VW-1

PCA insulated wire provides the same excellent flame-resistant properties as the best PVC insulations. It does not melt or shrink back at termination.

Ready availability

PCA insulated wire is available in nine UL styles and over 100 types and configurations. They are UL and CSA rated, and Mil specified at your option.

Reduced material costs

PCA tinned copper conductors do not require expensive silver plating as do many fluorocarbon constructions. PCA with tinned copper is comparable to fluorocarbon insulations with silver plating in every respect but one — price. There, PCA offers the significant advantage of lower cost with equivalent quality.

Business Machines ■ Communication Equipment ■ Computers ■ Data Processing Equipment ■ Automotive Components ■ Military Electronics ■ Test Equipment ■ Appliances ■ Instrumentation ■ Home Entertainment ■ Medical Electronics ■ Military Electronics

PCA (80°C XLPVC)

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL1472				
32	Solid	.022	.559	H0107045
30	Solid	.024	.610	H0107001
30	7/38	.026	.660	H0107002
28	Solid	.027	.666	H0107003
28	7/36	.029	.737	H0107004
26	Solid	.030	.762	H0107005
26	7/34	.033	.838	H0107006
26	19/38	.035	.889	H0107020
24	Solid	.034	.864	H0107007
24	7/32	.038	.960	H0107006
24	19/36	.038	.965	H1017021
22	Solid	.039	.991	H0107009
22	7/30	.044	1.118	H0107010
22	19/34	.045	1.143	H0107022
20	Solid	.046	1.166	H0107011
20	7/28	.052	1.321	H0107012
20	19/32	.053	1.346	H0107023

UL1429, CSA AWM, MIL-W-16878F/1

30	Solid	.032	.813	H0101001
30	7/38	.033	.838	H0101002
28	Solid	.034	.864	H0101004
28	7/36	.036	.914	H0101005
28	19/40	.036	.914	H0101006
26	Solid	.038	.965	H0101007
26	7/34	.040	1.016	H0101008
26	19/38	.040	1.016	H0101009
24	Solid	.042	1.067	H0101010
24	7/32	.045	1.143	H0101011
24	19/36	.045	1.143	H0101012
22	Solid	.047	1.194	H0101013
22	7/30	.051	1.295	H0101014
22	19/34	.052	1.321	H0101015
20	Solid	.054	1.372	H0101016
20	7/28	.059	1.499	H0101017
20	19/32	.060	1.524	H0101018
20	10/30	.058	1.473	H0101035
18	Solid	.061	1.549	H0102001
18	7/26	.070	1.778	H0102002
18	19/30	.070	1.778	H0102003
18	16/30	.069	1.753	H0102010
16	Solid	.073	1.854	H0102004
16	19/.0117	.078	1.981	H0102005
16	26/30	.082	2.083	H0102012

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL1534, CSA AWM, MIL-W-16878F/1				
14	Solid	.086	2.184	H0112003
14	19/.0147	.096	2.438	H0112001
14	41/30	.098	2.489	H0112002

UL1536, CSA AWM, MIL-W-16878F/1

12	19/.0185	.114	2.896	H0113003
12	65/30	.119	3.023	H0113002
10	37/.0167	.143	3.632	H0113008
10	105/30	.149	3.783	H0113007

UL1787 MIL-W-16878F/1

30	7/38	.033	.838	H0108001
28	7/36	.036	.914	H0108002
26	Solid	.038	.965	H0108003
26	7/34	.040	1.016	H0108004
26	19/38	.040	1.016	H0108005
24	Solid	.042	1.067	H0108006
24	7/32	.045	1.143	H0108007
24	19/36	.045	1.143	H0108009
22	Solid	.047	1.194	H0108010
22	7/30	.051	1.295	H0108011
22	19/34	.052	1.321	H0108013
20	Solid	.054	1.372	H0108014
20	7/28	.059	1.499	H0108015
20	19/32	.060	1.524	H0108017
18	7/26	.070	1.778	H0108018
18	19/30	.070	1.778	H0108019
16	19/.0117	.078	1.981	H0108020

PCA_(105°C XLPVC)

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL1430, CSA REW, MIL-W-16878F/2				
28	7/36	.049	1.245	H0103005
26	Solid	.050	1.270	H0103007
26	7/34	.051	1.295	H0103008
26	19/38	.053	1.346	H0103009
24	Solid	.054	1.372	H0103010
24	7/32	.056	1.422	H0103011
24	19/36	.057	1.448	H0103012
22	Solid	.059	1.499	H0103013
22	7/30	.062	1.575	H0103014
22	19/34	.063	1.600	H0103015
20	Solid	.066	1.676	H0103016
20	7/28	.070	1.778	H0103017
20	19/32	.071	1.803	H0103018
20	10/30	.071	1.803	H0103020
18	Solid	.074	1.880	H0104001
18	7/26	.082	2.083	H0104002
18	19/30	.082	2.083	H0104003
18	16/30	.082	2.083	H0104007
16	Solid	.085	2.159	H0104004
16	19/.0117	.092	2.337	H0104005
16	26/30	.092	2.337	H0104006

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL1557, CSA REW, MIL-W-16878F/2				
14	Solid	.098	2.489	H0104010
14	19/.0147	.107	2.718	H0104008
14	41/30	.109	2.769	H0104009
12	Solid	.115	2.921	H0104012
12	19/.0185	.124	3.150	H0104011
12	65/30	.127	3.226	H0104015

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL3317, CSA REW, MIL-W-16878F/2				
14	Solid	.098	2.489	H0104020
14	19/.0147	.107	2.718	H0104018
14	41/30	.109	2.769	H0104019
12	Solid	.115	2.921	H0104022
12	19/.0185	.124	3.150	H0104021
12	65/30	.127	3.226	H0104023
10	37/.0167	.149	3.785	H0104014
10	105/30	.156	3.962	H0104016

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL1431, CSA REW, MIL-W-16878F/3				
24	7/32	.088	2.235	H0105011
24	19/36	.088	2.235	H0105012
22	Solid	.089	2.261	H0105013
22	7/30	.092	2.337	H0105014
22	19/34	.095	2.413	H0105015
20	Solid	.096	2.438	H0105016
20	7/28	.102	2.591	H0105017
20	19/32	.103	2.616	H0105018
20	10/30	.105	2.667	H0105019
18	Solid	.104	2.642	H0106001
18	7/26	.112	2.845	H0106002
18	19/30	.112	2.845	H0106003
18	16/30	.111	2.819	H0106026
16	Solid	.115	2.921	H0106004
16	19/.0117	.122	3.099	H0106005
16	26/30	.122	3.099	H0106029
14	Solid	.128	3.251	H0106007
14	19/.0147	.136	3.454	H0106008
14	41/30	.142	3.607	H0106032
12	Solid	.145	3.683	H0106010
12	19/.0185	.154	3.912	H0106011
12	65/30	.156	3.962	H0106035
10	37/.0167	.178	4.521	H0106014
10	105/30	.188	4.775	H0106015
8	133/.011	.261	6.629	H0106017
8	168/30	.267	6.782	H0106018
6	133/.0141	.342	8.687	H0106020
4	133/.0177	.392	9.957	H0106021
2	665/30	.456	11.582	H0106040



Flexrad 125TM & 150TM (125°C 150°C XLPE)



Solid Tinned Copper



Stranded Tinned Copper

FLEXRAD 125 & 150 is an irradiation cross-linked polyethylene insulated wire, rated by UL, and CSA, for a wide variety of uses. FLEXRAD 125 is also rated by military specifications, and is offered in three styles. FLEXRAD 125 & 150 each have these desirable characteristics:

High heat and abrasion resistance

FLEXRAD 125 & 150 has excellent abrasion resistance (no cut-through) and exhibits no shrink-back even when in direct contact with a soldering iron.

Excellent chemical resistance

FLEXRAD 125 & 150 insulation has unusually high resistance to chemicals and solvents, especially potting systems, which makes it ideal for transformer applications.

Wide operating temperature range

FLEXRAD 125 & 150 insulated wires are rated for continuous operation from -55° to 125°C, and -55° to 150°C respectively, as recognized by UL and CSA.

Flame retardant rating VW-1

FLEXRAD 125 & 150 insulated wire provides the same excellent flame-retardant properties as the best PVC insulations. It does not melt or shrink back at termination.

Superior processability and performance

Highly flexible FLEXRAD 125 & 150 wires conform readily to desired shapes for lead wire and interconnection applications. They avoid the limitations of conventional 105°C PVC: limited temperature range, solder iron shrink-back, creeping insulation during automated cut and strip processing, and poor abrasion resistance. Similarly, FLEXRAD 125 & 150 avoids the production problems of fluorocarbons: cold flow, low adhesion, poor cut-through resistance, short lengths, limited flexibility and poor potting ability.

Reduced material costs

Instead of the silver plated conductors often required with fluorocarbon constructions, FLEXRAD 125 & 150 can use tinned copper conductors at substantial savings.

Flexrad 125 ■ Computers ■ Industrial Controls ■ Military Equipment ■ Motor Leads ■ Transformers

Flexrad 150 ■ Lighting Devices ■ Ballasts ■ Computers ■ Appliances ■ Transformers

Flexrad 125TM & 150TM (125°C, 150°C XLPE)

Flexrad 125TM (125°C XLPE)

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL3265, CSA AWM, MIL-W-16878F/14				
30	7/38	.032	.81	H0578002
28	7/36	.035	.89	H0578004
26	7/34	.039	.99	H0578006
26	19/38	.040	1.02	H0578007
24	7/32	.044	1.12	H0578009
24	19/36	.045	1.14	H0578010
22	7/30	.050	1.27	H0578012
22	19/34	.052	1.32	H0578013
20	7/28	.058	1.47	H0578015
20	19/32	.060	1.52	H0578017
18	7/26	.068	1.73	H0578019
18	16/30	.068	1.73	H0578020
18	19/30	.070	1.78	H0578021
16	19/.0117	.077	1.96	H0578024
16	26/30	.080	2.03	H0578025

UL3266, CSA AWM or CL1252, MIL-W-16878F/15

26	7/34	.051	1.29	H0579006
26	19/38	.052	1.32	H0579007
24	7/32	.056	1.42	H0579009
24	19/36	.057	1.45	H0579010
22	7/30	.062	1.58	H0579012
22	19/34	.064	1.63	H0579013
20	7/28	.070	1.78	H0579015
20	19/32	.072	1.83	H0579017
18	7/26	.080	2.03	H0579019
18	16/30	.080	2.03	H0579020
18	19/30	.082	2.08	H0579021
16	19/.0117	.089	2.26	H0579024
16	26/30	.092	2.34	H0579025
14	19/.0147	.106	2.69	H0579043
14	41/30	.107	2.72	H0579044
12	19/.0185	.127	3.23	H0579049
12	65/30	.127	3.23	H0579050
10	37/.0167	.151	3.84	H0579055
10	105/30	.154	3.91	H0579056

Flexrad 125TM (125°C XLPE)

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
UL3271, CSA AWM or CL1251, MIL-W-16878F/16				
26	7/34	.082	2.08	H0580006
26	19/38	.083	2.11	H0580007
24	7/32	.087	2.21	H0580009
24	19/36	.088	2.24	H0580010
22	7/30	.093	2.36	H0580012
22	19/34	.095	2.41	H0580013
20	7/28	.101	2.57	H0580015
20	19/32	.103	2.62	H0580017
18	7/26	.111	2.82	H0580019
18	19/30	.113	2.87	H0580021
16	19/.0117	.120	3.05	H0580024
16	26/30	.123	3.12	H0580025
14	19/.0147	.134	3.40	H0580028
14	41/30	.133	3.38	H0580029
12	19/.0185	.154	3.91	H0580033
12	65/30	.156	3.96	H0580034
10	37/.0167	.179	4.55	H0580036
10	105/30	.182	4.62	H0580038
8	133/.0111	.261	6.63	H0580048
6	133/.0141	.341	8.66	H0580040
4	133/.0177	.392	9.96	H0580052
2	665/30	.456	11.56	H0580043

Flexrad 150TM (150°C XLPE)

UL 3398, CSA AWM, 300 volt

30	19/42	.046	1.17	H0584001
28	19/40	.049	1.24	H0584002
24	19/36	.059	1.50	H0584003
22	19/34	.064	1.63	H0584004
20	10/30	.070	1.78	H0584006
18	16/30	.080	2.03	H0584010
16	26/30	.094	2.39	H0584013
14	41/30	.105	2.67	H0584014
12	65/30	.125	3.18	H0584015
10	105/30	.157	3.99	H0584020

UL 3289, CSA AWM, 600 volt

30	19/42	.076	1.93	H0588002
28	19/40	.083	2.11	H0588003
24	19/36	.093	2.36	H0588004
22	19/34	.094	2.39	H0588005
20	10/30	.100	2.54	H0588009
18	16/30	.110	2.79	H0588012
16	26/30	.124	3.15	H0588016
14	41/30	.135	3.43	H0588022
12	65/30	.155	3.94	H0588026
10	105/30	.184	4.67	H0588032
8	168/30	.243	6.17	H0588036

Flexrad HV™ (105°C XLPE)



Solid Tinned Copper



Stranded Copper with Tinned Overcoat

FLEXRAD HV is specially designed as a high voltage lead wire for consumer electronics, appliances, test equipment and instrumentation. It has Judd Wire's superior cross-linked polyethylene insulation and is temperature rated for 105°C continuous, with excellent overload capacity for short duration.

Application-matching variety

FLEXRAD HV is available in seven voltage ratings, 5kV to 40kV, so it is easily matched to your applications without expensive "overkill." There is no need, for example, to substitute a 15kV wire in a 5kV application. Savings of up to 20% in cost, space requirement and wire weight are possible by specifying the right FLEXRAD HV for each job.

Superior production properties

The excellent properties of FLEXRAD HV makes it easy to use in tight places. Its tough irradiated polyethylene insulation resists shrink-back and melting, even when in direct contact with a soldering iron.

Excellent performance characteristics

FLEXRAD HV has high resistance to abrasion, deformation, cut-through and chemical attack.

Flame retardant rating VW-1

FLEXRAD HV insulated wire provides the same excellent flame-retardant properties as the best PVC insulations. It does not melt or shrink back at termination.

Three conductor styles

Solid tinned copper, stranded bare copper with tinned overcoat (TOP), or stranded tinned copper with tinned overcoat (TOC).

Appliances ■ Cathode Ray Tubes ■ Color TVs Home Entertainment ■ Microwave Ovens ■ Video Displays

Flexrad HV™ (105°C XLPE)

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
5kV UL 3239, CSA TV-6				
24	Solid	.062	1.575	V0505001
24	7/32 TOP	.066	1.676	V0505002
24	7/32 TOC	.066	1.676	V0505003
22	Solid	.068	1.727	V0505004
22	7/30 TOP	.072	1.829	V0505005
22	7/30 TOC	.072	1.829	V0505006
20	Solid	.074	1.880	V0505007
20	7/28 TOP	.080	2.032	V0505008
20	7/28 TOC	.080	2.032	V0505028
18	Solid	.083	2.108	V0505011
18	7/26 TOP	.092	2.337	V0505032
18	7/26 TOC	.092	2.337	V0505033

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
10kV UL 3239, CSA TV-10				
24	Solid	.082	2.083	V0510001
24	7/32 TOP	.086	2.184	V0510002
24	7/32 TOC	.086	2.184	V0510003
22	Solid	.088	2.235	V0510004
22	7/30 TOP	.092	2.337	V0510005
22	7/30 TOC	.092	2.337	V0510006
20	Solid	.094	2.388	V0510007
20	7/28 TOP	.100	2.540	V0510008
20	7/28 TOC	.100	2.540	V0510010
18	Solid	.103	2.616	V0510011
18	7/26 TOP	.110	2.794	V0510032
18	7/26 TOC	.110	2.794	V0510033

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
15kV UL 3239, CSA TV-15				
24	Solid	.096	2.438	V0515001
24	7/32 TOP	.100	2.540	V0515002
24	7/32 TOC	.100	2.540	V0515003
22	Solid	.102	2.591	V0515004
22	7/30 TOP	.103	2.618	V0515005
22	7/30 TOC	.103	2.616	V0515013
20	Solid	.108	2.743	V0515007
20	7/28 TOP	.114	2.896	V0515008
20	7/28 TOC	.114	2.896	V0515025
18	Solid	.116	2.946	V0515011
18	7/26 TOP	.124	3.150	V0515032
18	7/26 TOC	.124	3.150	V0515033

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
20kV UL 3239, CSA TV-20				
24	Solid	.126	3.200	V0520001
24	7/32 TOP	.130	3.302	V0520002
24	7/32 TOC	.130	3.302	V0520003
22	Solid	.131	3.327	V0520004
22	7/30 TOP	.136	3.454	V0520005
22	7/30 TOC	.136	3.454	V0520016
20	Solid	.138	3.505	V0520007
20	7/28 TOP	.144	3.658	V0520008
20	7/28 TOC	.144	3.658	V0520010
18	Solid	.146	3.708	V0520011
18	7/26 TOP	.154	3.912	V0520032
18	7/26 TOC	.154	3.912	V0520033

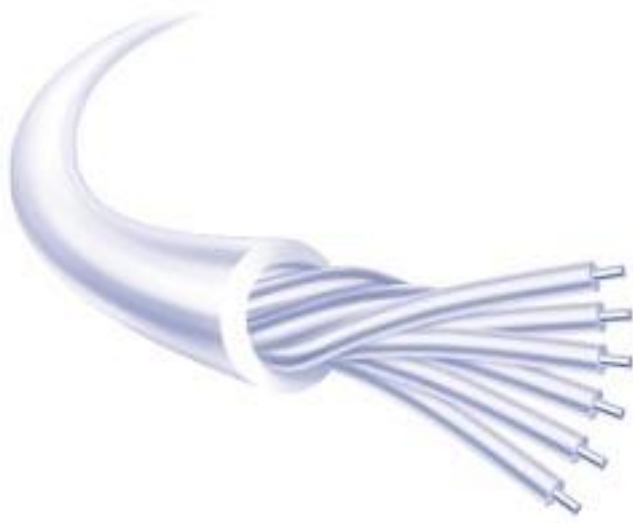
AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
25kV UL 3239, CSA TV-20				
24	Solid	.136	3.454	V0525001
24	7/32 TOP	.140	3.556	V0525002
24	7/32 TOC	.140	3.556	V0525003
22	Solid	.141	3.581	V0525004
22	7/30 TOP	.146	3.708	V0525005
22	7/30 TOC	.146	3.708	V0525016
20	Solid	.148	3.759	V0525007
20	7/28 TOP	.154	3.912	V0525008
20	7/28 TOC	.154	3.912	V0525010
18	Solid	.156	3.962	V0525011
18	7/26 TOP	.164	4.166	V0525032
18	7/26 TOC	.164	4.166	V0525033

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
30kV UL 3239, CSA TV-30				
24	Solid	.148	3.759	V0530001
24	7/32 TOP	.152	3.861	V0530002
24	7/32 TOC	.152	3.861	V0530003
22	Solid	.153	3.886	V0530004
22	7/30 TOP	.158	4.013	V0530005
22	7/30 TOC	.158	4.013	V0530006
20	Solid	.160	4.064	V0530007
20	7/28 TOP	.166	4.216	V0530008
20	7/28 TOC	.166	4.216	V0530010
18	Solid	.168	4.267	V0530011
18	7/26 TOP	.176	4.470	V0530032
18	7/26 TOC	.176	4.470	V0530033

AWG Sizes	Stranding	Nominal Inches	Diameter mm	JUDD Part No.
40kV UL 3239, CSA TV-40				
24	Solid	.168	4.267	V0540001
24	7/32 TOP	.172	4.369	V0540002
24	7/32 TOC	.172	4.369	V0540003
22	Solid	.173	4.394	V0540004
22	7/30 TOP	.178	4.521	V0540005
22	7/30 TOC	.178	4.521	V0540014
20	Solid	.180	4.572	V0540007
20	7/28 TOP	.186	4.724	V0540008
20	7/28 TOC	.186	4.724	V0540013
18	Solid	.188	4.775	V0540011
18	7/26 TOP	.196	4.978	V0540032
18	7/26 TOC	.196	4.978	V0540033



Multi-Conductor Cables



As a complete integrated wire and cable manufacturer, Judd Wire can manufacture a broad spectrum of special cables for OEM equipment or replacement applications. We can work from your specifications or design custom cables according to your needs.

Cables are available with or without shielding; shields can be conventional braids, spiral braids, aluminum foil or conductive plastics. Taped, served and wrapped shields are also available. Our cable jacketing facilities extrude irradiation cross-linked compounds as well as vinyls, nylons, polyethylenes, polyurethanes and fluorocarbons.

For further information about special cables, please contact Judd Wire. We want to work with you to develop the right features and functions for your application, within a unique custom package.

Typical Judd Wire cable styles include:

PCA

PCA cables offer all the advantages of Judd Wire's exclusive irradiation cross-linked polychloroalkene insulation in a multi-conductor package. Cables can contain twisted pairs, triples, quads and other multi-conductor configurations. PCA and other jacketing materials can be applied, as well as color-coding or striping to order.

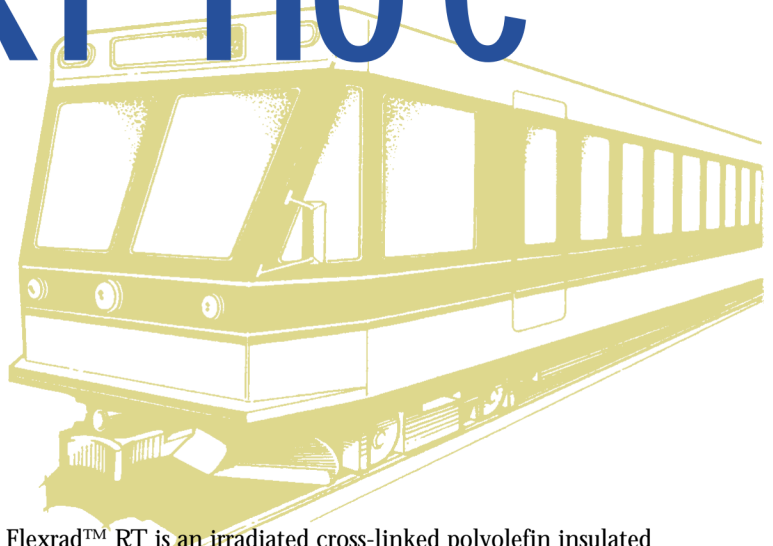
FLEXRAD

FLEXRAD process control cables link manufacturing departments with central data processing and computer locations. Factory automation projects are ideal sites for these dependable, environmentally hardy control cables. All primaries are VW-1 flame retardant; the jacketed cables meet requirements of the 70,000 BTU/hr burner vertical tray fire test for IEEE 383-1974. These cables are superior to instrumentation cables made with standard PVC compounds in their corrosive outgassing test and acid gas generation test results.

Multi-Conductor Cable Selection Guide

Application	Temp. Rating °C	Judd Wire Product Line
Communication Data Transmission Low Capacitance Magnetic Heads Point of Sale Terminals	80	PCA
Coaxial Communication Data Transmission Low Capacitance Point of Sale Terminals	105	PCA
Coaxial Data Transmission Instrumentation Process Control Thermocouples	125	FLEXRAD 125
Business Machines Computers Data Transmission Instrumentation Process Control	150	FLEXRAD 150

Flexrad™ RT 110°C



Rail Transit Wire



Flexrad™ RT is an irradiated cross-linked polyolefin insulated cable engineered specifically for use in Subway, Commuter Rail and Light Rail Vehicles. Flexrad's durable insulation system is rated for continuous operation at 110°C and is available in 600 or 2000 volts.

Flexrad RT features

the following distinct advantages:

- Excellent Flame Retardant Properties
- Low Smoke
- Excellent Heat Resistance
- Outstanding Crush Resistance
- Excellent Abrasion Resistance
- Flexible
- Mechanically Tough

In addition, the cross-linked thermosetting insulation exhibits high resistance to ozone, moisture, as well as to oil and grease.

Flexrad RT meets the requirements called out in New York City Transit Authority's "TX" specification.

Judd Wire Inc. offers a wide range of options for gauges, stranding, shielding and jacketing.

Heating & Air Conditioning ■ Lighting ■ Instrumentation
Braking Systems ■ Door Systems ■ Public Address Systems
Folding Steps ■ Fire Protection / Warning Systems



JUDD WIRE Turners Falls, MA Phone (413) 863-4357
Fax (413) 863-2305

San Marcos, CA Phone (760) 744-7720
Fax (760) 744-6089

web: www.juddwire.com



A member of the Sumitomo Electric Industries group of companies

FLEXRAD™ RT 110°C 600V WIRE

JUDD PART NUMBER	CONDUCTOR SIZE	CIRCULAR MILS	STRANDING NO./SIZE	INSULATION THICKNESS (INCH)	INSULATED DIAMETER (INCH) MIN/MAX	MINIMUM WT. (LBS/K')
H0750016	22	760	19/34	0.030	.090/.094	6.5
H0750018	20	1197	19/32	0.030	.098/.102	8.4
H0750020	18	1900	19/30	0.030	.108/.120	11.3
H0750022	16	2413	19/29	0.030	.116/.132	14.0
H0750024	14	3831	19/27	0.030	.130/.144	19.7
H0750026	12	6088	19/25	0.030	.148/.164	28.6
H0750028	10	10910	27/24	0.030	.177/.198	43.5
H0750030	8	14950	37/24	0.045	.225/.267	64.4
H0750032	6	24640	61/24	0.045	.267/.310	98.6
H0750034	5	36760	91/24	0.045	.320/.340	142
H0750036	4	42420	105/24	0.045	.352/.366	162
H0750038	3	50550	125/24	0.045	.374/.394	190
H0750040	2	60600	150/24	0.045	.405/.435	228
H0750042	1	90900	225/24	0.055	.497/.517	336
H0750044	1/0	111100	275/24	0.055	.540/.560	411
H0750046	2/0	131300	325/24	0.055	.565/.585	478
H0750048	3/0	181800	450/24	0.055	.665/.685	651
H0750050	4/0	222200	550/24	0.055	.715/.735	776

FLEXRAD™ RT 110°C 2000V WIRE

JUDD PART NUMBER	CONDUCTOR SIZE	CIRCULAR MILS	STRANDING NO./SIZE	INSULATION THICKNESS (INCH)	INSULATED DIAMETER (INCH) MIN/MAX	MINIMUM WT. (LBS/K')
H0755020	18	1900	19/30	0.045	.138/.152	15.5
H0755022	16	2413	19/29	0.045	.146/.162	18.5
H0755024	14	3831	19/27	0.045	.160/.174	24.6
H0755026	12	6088	19/25	0.045	.178/.194	34.2
H0755028	10	10910	27/24	0.045	.207/.228	49.9
H0755030	8	14950	37/24	0.055	.245/.275	69.7
H0755032	6	24640	61/24	0.055	.287/.367	105
H0755034	5	36760	91/24	0.055	.340/.360	149
H0755036	4	42420	105/24	0.055	.372/.386	170
H0755038	3	50550	125/24	0.055	.394/.412	199
H0755040	2	60600	150/24	0.055	.425/.455	237
H0755042	1	90900	225/24	0.065	.517/.540	347
H0755044	1/0	111100	275/24	0.065	.560/.585	424
H0755046	2/0	131300	325/24	0.065	.585/.640	491
H0755048	3/0	181800	450/24	0.065	.685/.715	666
H0755050	4/0	222200	550/24	0.065	.735/.790	792
H0755052	262MCM	262600	650/24	0.105	.865/.905	980
H0755054	313MCM	313100	775/24	0.105	.920/.970	1162
H0755056	373MCM	373700	925/24	0.105	.980/1.030	1385
H0755058	444MCM	444400	1100/24	0.105	1.070/1.105	1625



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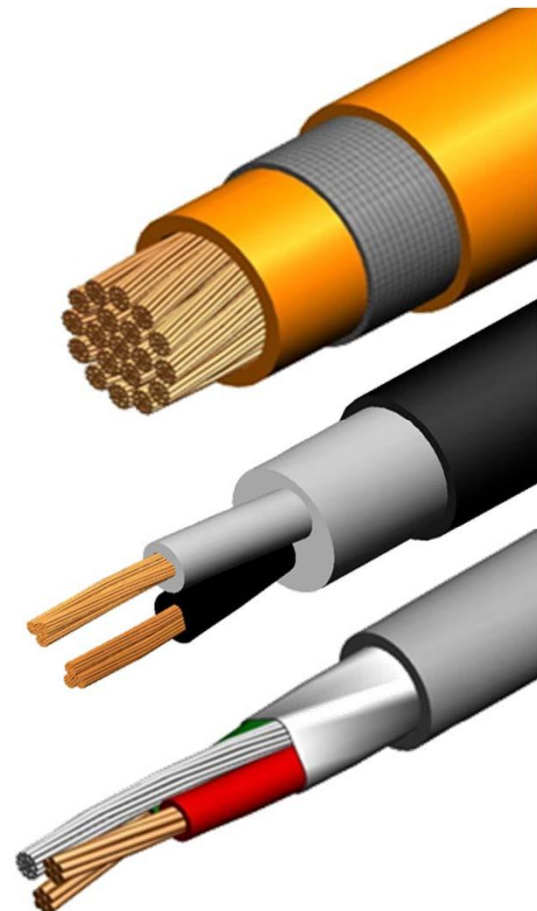
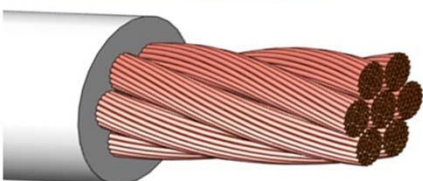
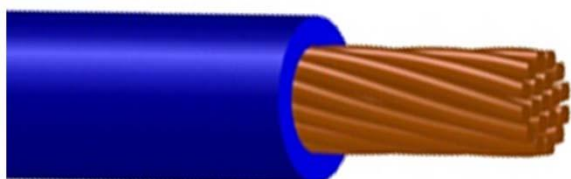
A member of the Sumitomo Electric Industries group of companies

Automotive Wire and Cable Products

- Primary Wires:
ISO: *Classes B - H*
JASO: *AEX, AESSX, AVX, AVSSX*
SAE: *TXL, GXL, STX*
- Engine Harness Wire:
AutoRad®
- Transmission Wire:
Silicone & Non-Silicone Blocked
- Sensor Cables:
ABS, Crank Sensor, Transmission
- Fuel Tank Wire
- Active/Passive Sensor Cables
- Hybrid Electric Vehicle Cables
FlexradXF®
- Air Bag Wire
- Battery Cable
- Shielded and Blocked Wires
- Databus- J1939

Jacket & Insulation Materials

Material	Temperature Rating
PUR	(85°C up to 125°C)
XLPU	(85°C up to 150°C)
XLPVC	(100°C up to 115°C)
XLPE	(120°C up to 150°C)
XLPO	(120°C up to 150°C)
XLFE	(150°C up to 200°C)
XLETFE	(150°C up to 200°C)



Wire Type	Standard	Judd Specification	Temperature Ratings	Conductor Range	Insulation Type	Application
TXL	SAE J1128	JW1427	135°C	0.22mm ² - 8.00mm ²	HFXLPO	Engine Harness
		JW573	135°C		XLPE: G12	Gas Tank Wire
		JW1067	150°C		XLFE: J5 & J7	Transmission Wire
		JW1072	200°C		XLFE: R5	
AVSSX	JASO D611	JW1052	105°C	0.30mm ² - 2.00mm ²	XLPVC	Passenger Compartment
AVX		JW1198				0.50mm ² - 8.00mm ²
AESSX		JW881	125°C	0.30mm ² - 2.00mm ²	XLPE	Engine Harness
AEX		JW1151				0.22mm ² - 8.00mm ²
Thin-Wall 60V (FLR)	ISO 6722	JW1202	105°C T2	0.13mm ² - 6.0mm ²	XLPVC	Passenger Compartment
		JW1223	125°C T3		HFXLPO	Engine Harness
		JW1109	150°C T4		XLPE	Engine Harness
		JW1669	200°C T6		XLFE	Engine Harness Transmission Wire
		JW1193	225°C T7		XLFP	Oxygen Sensor
		JW1657	125°C T3	8.00mm ² - 120.0mm ²	XLPO	Battery Cable
		JW1658	150°C T4		XLFE	
		JW1659	200°C T6			
Thin-Wall 600V (FLR)	ISO 6722	JW1660	125°C T3	2.00mm ² - 120.0mm ²	XLPO	HV Battery Cable
		JW1608	150°C T4		XLFE	
		JW1619	200°C T6		XLPO	Shielded HV Battery Cable
		JW1663	125°C T3		XLFE	
		JW1606	150°C T4		XLPO	
		JW1435	200°C T6		XLFE	

Engine Harness Wire

Product Characteristics

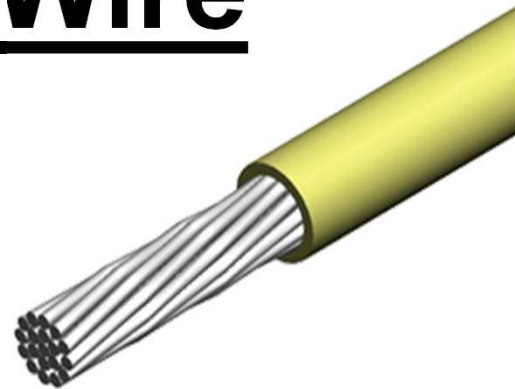
- Halogen-free insulation types
- Deca Bromine-free insulation types
- High abrasion resistant properties
- Excellent chemical resistance
- Multiple conductor stranding options
 - Symmetric or Asymmetric
- -40°C up to 200°C, 3000hr Temperature Rating

Standard	Wire Type	Judd Spec	Temp Rating	Size	Insulation Type
SAE J1128	TXL	JW1427	135°C	0.22mm ²	HFXLPO
	GXL	JW1335		8.00mm ²	HFXLPO
JASO D618	AESSX	JW881	120°C	0.30mm ² - 2.00mm ²	XLPE
	AEX	JW1151	120°C	0.30mm ² - 8.00mm ²	XLPE
ISO 6722	AutoRad125	JW1223	125°C	0.22mm ² - 6.00mm ²	XLPE
	AutoRad150	JW1109	150°C		XLPE
	AutoRad200	JW1669	200°C		XLFE

Fuel Systems Wire

Applications

- Fuel Pump
- Fuel Level Sensor
- Diesel Exhaust Reduction Sensor



Materials

- G12 - Proprietary Formulated Crosslinked Polyethylene
- TXL or ISO Thin Wall Constructions
- 3000hr 125°C Rated Material
- Low Cost Solution to PTFE
- Competitive to Nylon

Specifications

	JW573	JW1266	JW1416
Standard	SAE	SAE	ISO
Temp. Rating	125°C	125°C	125°C
Conductor(s)	BC, TPC or SPC	BC, SILBLK	BC, SILBLK
Size Range	24awg – 12awg	0.50mm ² – 2.00mm ²	0.35mm ² – 3.00mm ²
Wall Thickness	TXL	TXL	ISO Thin Wall
Voltage Rating	50V	60V	60V
Fluid Compatibility	Standard + Ford Flex Fuel	Standard + Ford Flex Fuel and Diesel Fuel	Standard + Ford Flex Fuel, Diesel Fuel, GMW16848, E25, Oxidized Gasoline, E85 and E100

Fuel Systems Wire

Fuel Resistance Properties

Ethanol and Methanol Based Results

- Diameter Change: <10%
- Tensile Strength Retention: >80%
- Elongation Retention: >50%

Diesel Based Results

- Diameter Change: <30%
- Tensile Strength Retention: >70%
- Elongation Retention: >50%

Ethanol Fuels		
60°C	336hrs	960hrs
E10	Pass	NR
E22A	Pass	NR
E25	Pass	Pass
E85	Pass	Pass
E93A	Pass	NR
E100	Pass	Pass

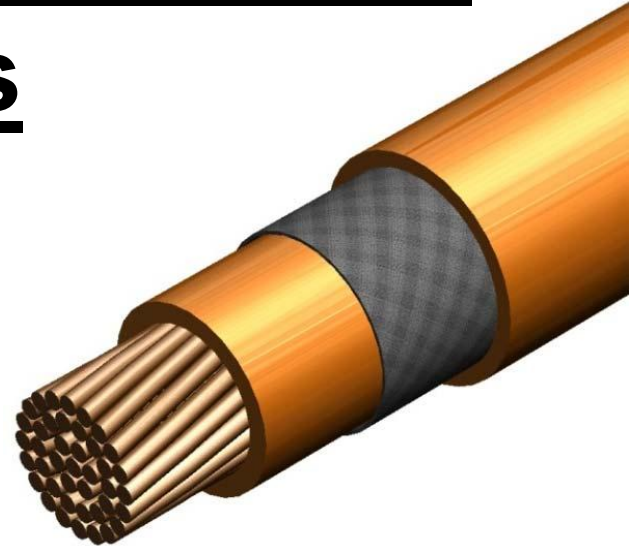
Methanol Fuels		
60°C	336hrs	960hrs
M15	Pass	Pass
M15A	Pass	NR
M30A	Pass	NR
M50A	Pass	NR
M85A	Pass	NR

Diesel Fuels		
90°C	336hrs	960hrs
B20	Pass	Pass
ULS B20	Pass	Pass
B30A	Pass	NR

600V Automotive Battery Cables

Applications

- 2mm² up to 10mm²
 - Auxiliary power supply cables
- 12mm² up to 120mm²
 - Power unit cables
 - Power control cables
 - Battery cables



Product Characteristics

- 600V rated per SAE & ISO
- Bare Copper Conductors
 - Symmetric or Asymmetric Options
- 95% Braid Shield Coverage
- Flexible Insulation Systems
- 125°C, 150°C & 200°C
- 3,000hr Rated
- High Abrasion Resistance
- High Current Carrying Capacity

Spec	JW1660	JW1663	JW1608	JW1606	JW1619	JW1435
Construction	Unshielded	Shielded	Unshielded	Shielded	Unshielded	Shielded
Temperature Rating	125°C		150°C		200°C	
Materials	XLPE		XLPO (EX-50)		XLFE	

Judd Wire's, 600V battery cables are designed based on ISO thin-wall dimensions and are 3,000 hour rated at 125°C, 150°C and 200°C temperature classes

	3mm ²	5mm ²	12mm ²	16mm ²	35mm ²	50mm ²
BC Conductor Stranding	44	105	154	133	665	798
Insulated Conductor Wall Thickness (mm)	0.40	0.40	0.60	0.65	0.80	0.90
Insulated Conductor Diameter (mm)	3.25	4.05	6.15	6.80	9.90	11.60
Shield Single End Size (AWG)	36	36	36	36	34	34
Shield Diameter (mm)	4.0	4.8	7.3	8.0	11.2	13.0
Sheath Thickness (mm)	0.40	0.60	0.65	0.80	1.00	1.10
Shielded and Sheathed Diameter (mm)	4.50	5.70	8.30	9.30	12.90	14.90
Total Weight (kg/km)	55.7	87.6	180.0	219.0	455.7	636.2

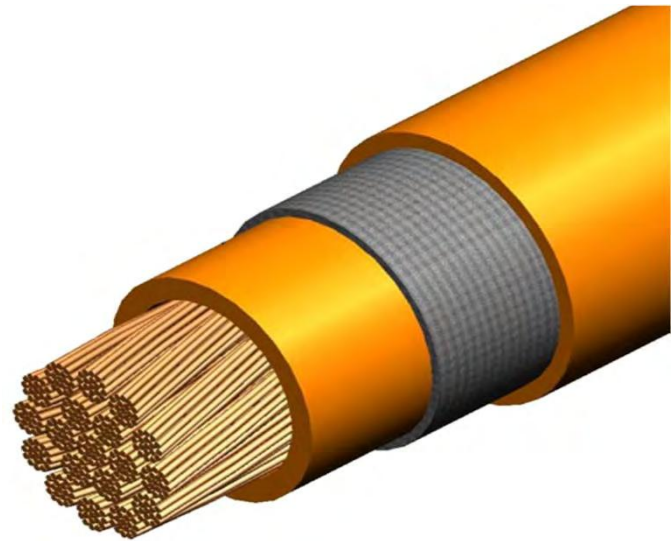
Custom designs and conductor stranding available up to 120mm²

FlexradXF[®]

Judd Wire, a high technology, specialty wire and cable manufacturer, introduces FlexradXF[®], our newest irradiation cross-linked high flex insulation system for battery applications

Applications

- 2mm² up to 10mm²
 - Auxiliary power supply cables
- 12mm² up to 120mm²
 - Power unit cables
 - Power control cables
 - Battery cables



Product Characteristics

- Irradiation Crosslinked Polyolefin Insulation System
 - **10% more flexible than EPDM/Silicone**
- 600V & 1kV Options
- Thin Wall Designs
- Shielded and Unshielded Constructions
- 10,000hr 120°C
- 3,000hr 150°C

	JW1661 <i>Unshielded HV</i>				JW1664 <i>Shielded HV</i>			
Size	12mm ²	16mm ²	35mm ²	50mm ²	12mm ²	16mm ²	35mm ²	50mm ²
BC Conductor Stranding	154	133	665	798	154	133	665	798
Diameter (mm)	6.15	6.80	9.90	11.60	8.30	9.30	12.90	14.90

FlexradXF[®]

	JW1661 <i>Unshielded HV</i>				JW1664 <i>Shielded HV</i>			
Size	12mm ²	16mm ²	35mm ²	50mm ²	12mm ²	16mm ²	35mm ²	50mm ²
BC Conductor Stranding	154	133	665	798	154	133	665	798
Insulated Conductor Wall Thickness (mm)	0.60	0.65	0.80	0.90	0.60	0.65	0.80	0.90
Insulated Conductor Diameter (mm)	6.15	6.80	9.90	11.60	6.15	6.80	9.90	11.60
Shield Single End Size (AWG)	-	-	-	-	36	36	34	34
Shield Diameter (mm)	-	-	-	-	7.3	8.0	11.2	13.0
Sheath Thickness (mm)	-	-	-	-	0.65	0.80	1.00	1.10
Shielded and Sheathed Diameter (mm)	-	-	-	-	8.30	9.30	12.90	14.90
Total Weight (kg/km)	128.3	153.1	343.3	497.1	180.4	219.7	456.8	638.7
Bend Force* (N)	-	-	38.0	56.9	-	-	52.8	96.3
Current Carrying Capacity @ 22°C (Amps)	135	161	278	356	135	161	278	356

Custom designs and conductor stranding available up to 120mm²

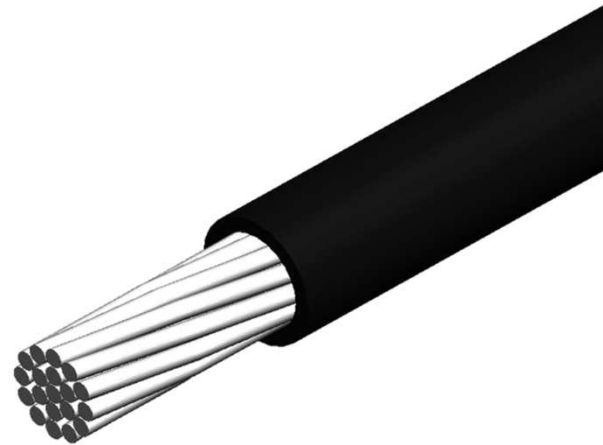
*Flexibility data obtained by using the test method outlined in ISO/WD 19642-2 sec 4.3.5

Transmission Wire

Materials

- Conductors
 - Bare Copper
 - Tinned Copper
 - Silicone Blocked
 - Bare Copper
 - Tinned Copper
- 3000hr Rated Insulations
 - Crosslinked Fluoroelastomer
 - 150°C: J5, J7
 - 200°C: R5
 - Crosslinked ETFE
 - 200°C: XLETFE

	J5	J7	R5
Silicone Blocked	JW1067	JW1111	JW1072
SAE	JW1158	JW1342	JW1107
ISO	JW1339	JW1407	JW1355



Transmission Wire

ATF 212-B

72hr Immersion at 150°C

	J5	J7	R5	XLETFE
Tensile Retention	80%	90%	80%	95%
Elongation Retention	80%	90%	50%	90%
Volume Swell	<10%	<10%	<5%	0%
180° Bend	Pass	Pass	Pass	Pass

Dexron VI

72hr Immersion at 150°C

	J5	J7	R5	XLETFE
Tensile Retention	90%	90%	80%	95%
Elongation Retention	95%	100%	60%	70%
Volume Swell	<10%	<10%	<5%	0%
180° Bend	Pass	Pass	Pass	Pass

ATF 212-B

1,512hr Immersion at 150°C

	J5	J7	R5	XLETFE
Tensile Retention	70%	90%	80%	90%
Elongation Retention	20%	60%	30%	70%
Volume Swell	10%	10%	5%	1%
180° Bend	Pass	Pass	Pass	Pass
OD Change	<10%	<10%	<5%	<5%
Withstand Voltage	Pass	Pass	Pass	Pass
Pressure Test @ 150°C	Pass	Pass	Pass	Pass

Dexron VI

1,512hr Immersion at 150°C

	J5	J7	R5	XLETFE
Tensile Retention	70%	90%	75%	90%
Elongation Retention	20%	60%	30%	80%
Volume Swell	10%	10%	5%	0%
180° Bend	Pass	Pass	Pass	Pass
OD Change	<10%	<10%	<5%	<5%
Withstand Voltage	Pass	Pass	Pass	Pass
Pressure Test @ 150°C	Pass	Pass	Pass	Pass

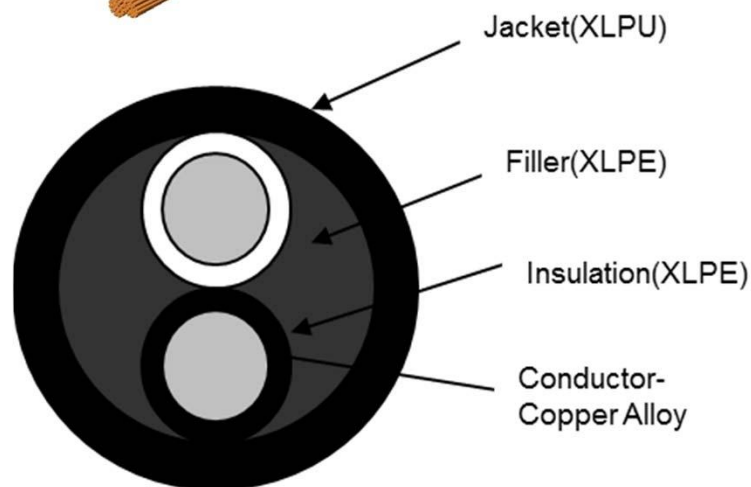
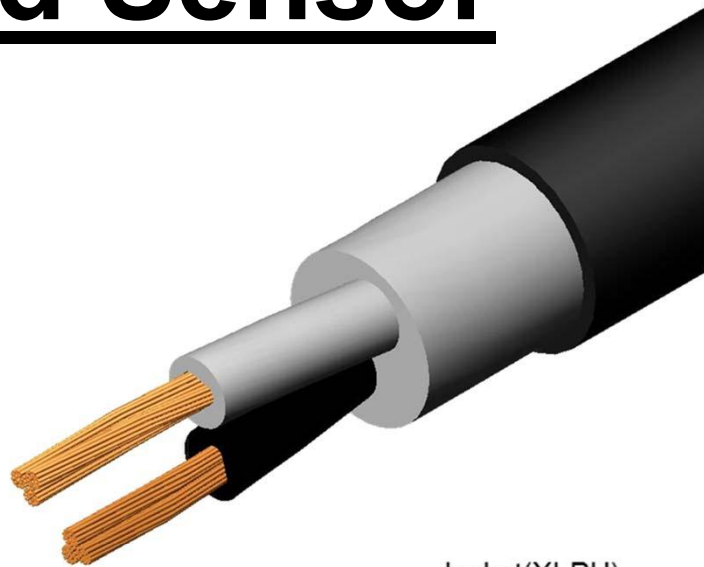
Wheel Speed Sensor

Product Characteristics

- High Tensile Strength
- High Flex Endurance
- High Abrasion Resistance
- Up to 125°C 3000hr rated
- JASO/SAE/ISO Compliant

Materials

- Conductors
 - Annealed Copper
 - Copper Alloy
 - High Strand Count
- Core Insulation
 - Crosslinked Polyethylene
 - Halogen Free
- Jacket Insulation
 - Crosslinked Polyurethane Types
 - Halogen Free
 - Heat Resistant
 - Flame Retardant
 - Heat Adhesive



Standard Sizes

- 0.50mm² – 6.2mm OD
- 0.30mm² – 5.0mm OD
- 0.25mm² – 4.3mm OD
- 0.25mm² – 4.0mm OD

Composite Sensor Cables

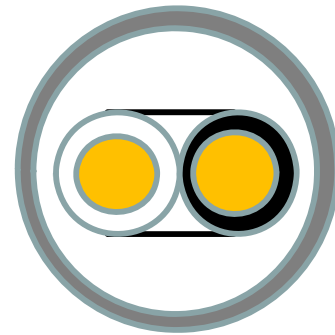
Product Characteristics

- High Tensile Strength
- High Flex Endurance
- High Abrasion Resistance
- Up to 125°C 3000hr rated
- JASO/SAE/ISO Compliant

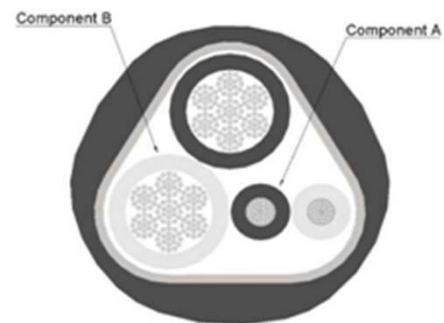
Construction Details

- 2.5mm² 7x72/0.08 Stranding
 - Bare or Tinned Copper
 - Copper Alloy
- WSS Conductor
 - 0.25mm² or 0.30mm²
- XLPE Core
- Polyurethane Jacket
 - Crosslinked – 125°C
 - Non-crosslinked – 120°C
- WSS Diameter: 4.3mm
- OD: 8.4mm – 10.4mm

2 Conductor Filled EPB Cable



4C Composite WSS/EPB (Unjacketed WSS Cable)



4C Composite WSS/EPB (Jacketed WSS Cable)

