

## Ruggedized Fiber Patch Cords

### APPLICATION

Ruggedized Fiber Patch Cords include an additional outer jacket for extra protection and are used for interconnect or cross-connect fiber networks within structured cabling systems. They are ideal for data centers, Broadband CATV, Passive Optical Network PON, WDM or DWDM multiplexing, FTTH, and voice services in ATM and SONET metropolitan and access networks. These cords are made to order and available with duplex connector combinations, custom lengths, standard loss, low loss, and in custom colors. Contact customer service for details.



### SPECIFICATION

Patch cords shall be compliant with ANSI/TIA-568.3-D. Standard insertion loss shall be a maximum of 0.25 dB for multimode and single-mode. Low loss shall be a maximum of 0.15 dB for multimode and single-mode connectors. Multimode return loss shall be greater than 26 dB and greater than 50 dB for single UPC mode connectors. Single-mode angled physical contact connectors (APC) shall have a minimum of 60 dB return loss. Patch cords shall have a pull force of at least 50 N per IEC 61300-2-4. Connector durability of greater than 500 matings for both multimode and single-mode. Patch cords shall be LSZH (Low Smoke Zero Halogen) rated. Patch cords shall be individually packaged with part numbers, descriptions, optical performance, code 39 barcode part number printed on each package, and QR code to access supporting documentation. Patch cords shall include wrap labels including length, end designation, and serial number, providing traceability to factory collected test data.

### FEATURES

- Available in simplex, duplex, and pigtail configurations
- LC, LC/APC, SC, SC/APC, ST, FC, and FC/APC connector options
- Stock and Make-to-Order
- TIA compliant color-coded connectors and boots
- Cable jacket and boots color-coded for easy ID of fiber
- Fiber options: OS2, OM1, OM3, and OM4
- 100% tested for insertion loss, and single-mode for return loss
- Patch cords include a Limited Lifetime Warranty when used with other Leviton cabling and installed by a Leviton certified contractor
- Other jacket colors available as custom with MOQ and lead time applicable
- Custom configurations via [Levitonemea.com/mto](https://Levitonemea.com/mto)

### DESIGN CONSIDERATIONS

- Standard polarity is A-B
- LSZH (Low Smoke Zero Halogen) rated
- Single-mode UPC and APC polish
- FC and ST connectors have metal bodies
- Duplex clips included with duplex configurations
- Bend-insensitive glass (OS2, OM3, and OM4)

### STANDARDS & REGULATIONS

- ANSI/TIA-568.3-D
- ISO/IEC 11801-1
- ANSI/TIA-598-D
- Fiber Optic Connector Intermaturity Standards (FOCIS)
  - TIA-604-10B (LC)
  - TIA-604-3B (SC)
  - TIA-604-2B (ST)
  - TIA-604-4B (FC)
- End face geometry:
  - IEC 61755-3-1 (UPC/PC)
  - IEC 61755-3-2 (APC)
- Fiber compliance:
  - OS2: IEC 60793-2-50, ITU-T G.657.A1
  - OM1: IEC 60793-2-10
  - OM3: IEC 60793-2-10, ITU-T G.651.1
  - OM4: IEC 60793-2-10, ITU-T G.651.1
- Jacket flame rating:
  - LSZH / HFFR-LS
  - IEC 60332-3-24, IEC 60332-1-2
- RoHS

**PRODUCT SPECIFICATIONS**  
**Ruggedized Fiber Patch Cords**



**WARRANTY INFORMATION**

For a copy of product warranties, visit [www.leviton.com/warranty](http://www.leviton.com/warranty)

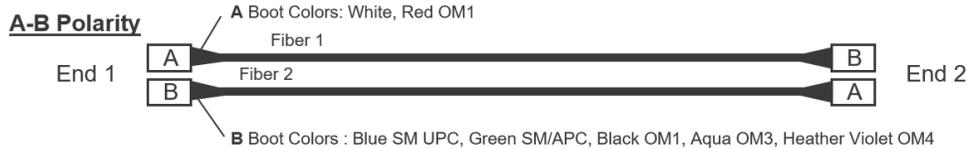
**PHYSICAL SPECIFICATIONS**

Connector Durability > 500 Matings  
 Connector Cable Retention 50 N (11.24 lbf)

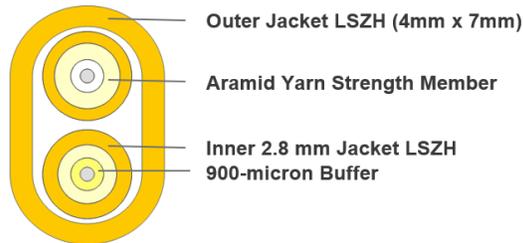
Ruggedized Fiber Patch Cords

**FIBER PERFORMANCE**

Cable Type	Fiber Count	Nominal Diameter (mm)	Weight (kg/km)	Tension (N)		Bend radius (mm)		Temperature Range (C°)	
				Installation	Long Term	Installation	Long Term	Operational	Storage
2.8 mm Ruggedized Duplex	2	4.0 x 7.0	28 kg/km	180	90	56 mm	28 mm	-20°C to +60°C	-20°C to +70°C



**Cord Cross Section**



**PRODUCT SPECIFICATIONS**  
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Ruggedized Fiber Patch Cords

OPTICAL SPECIFICATIONS			
	Insertion Loss: Standard Performance	Insertion Loss: Low Loss	Return Loss
Single-Mode	≤ 0.25 dB	≤ 0.15 dB	UPC: ≥ 50 dB, APC: ≥ 60 dB
Multimode	≤ 0.25 dB	≤ 0.15 dB	≥ 26 dB

**PERFORMANCE SPECIFICATIONS**

FIBER PERFORMANCE											
Fiber Type	Maximum Attenuation (dB/km)				Bandwidth (MHz*km)		Transmission Distance (meters)				
	850 nm	1300 nm	1310 nm	1550 nm	850 nm	1300 nm	100 Mb	1 GbE	10 GbE	40 GbE	100 GbE
8.2/125 μm Single-mode (OS2)	N/A	N/A	0.4	0.3	N/A	N/A	>5,000 @ 1310 nm		>10,000 @ 1310 nm	N/A	N/A
62.5/125 μm MM (OM1)	3.5	3.5	N/A	N/A	200	500	300/300 @ 850/1300 nm	300/600 @ 850/1300 nm	36/300 @ 850/1300 nm	N/A	N/A
50/125 μm LO (10G-300m) MM (OM3)	3.0	3.0	N/A	N/A	2,000*	500**		1,000/600 @ 850/1300 nm	300/300 @ 850/1300 nm	100 @ 850 nm	100 @ 850 nm
50/125 μm LO (10G-550m) MM (OM4)	3.0	3.0	N/A	N/A	4,700*	500**		1,040/600 @ 850/1300 nm	550/300 @ 850/1300 nm	150 @ 850 nm	150 @ 850 nm

\*The effective modal bandwidth is determined based on an overfill launch (OFL) per ANSI/TIA-455-204, except on laser-optimized fiber types.

\*\* 10GbE transmission @ 1,300 nm only applies to 10GBASE-LX4 (CWDM).

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Make-to-order!		RUGGEDIZED FIBER PATCH CORD OPTIONS				
AAA-	BBB	CC	DD	EE	FFFF	-YYY
PRODUCT TYPE	FIBER TYPE	CABLE TYPE	CONNECTOR (1ST END)	CONNECTOR (2ND END)	LENGTH (m)*	CUSTOMIZATION
<ul style="list-style-type: none"> <li>VPC = Standard Fiber Patch Cords</li> <li>LPC = Low Loss Fiber Patch Cords</li> </ul>	<ul style="list-style-type: none"> <li>S2 = OS2 Yellow</li> <li>M1 = OM1 Orange</li> <li>M3 = OM3 Aqua</li> <li>M4 = OM4 H-Violet</li> </ul>	<ul style="list-style-type: none"> <li>G1 = 2.8MM RUG-DUP</li> </ul>	<ul style="list-style-type: none"> <li>LC = LC/UPC</li> <li>L9 = LC/9APC</li> <li>AL = LC/APC</li> <li>SC = SC/UPC</li> <li>AC = SC/APC</li> <li>C9 = SC/9APC</li> <li>ST = ST/UPC</li> <li>FC = FC/UPC</li> <li>AF = FC/APC</li> </ul>	<ul style="list-style-type: none"> <li>LC = LC/UPC</li> <li>L9 = LC/9APC</li> <li>AL = LC/APC</li> <li>SC = SC/UPC</li> <li>AC = SC/APC</li> <li>C9 = SC/9APC</li> <li>ST = ST/UPC</li> <li>FC = FC/UPC</li> <li>AF = FC/APC</li> <li>XX = PTAIL</li> </ul>	<ul style="list-style-type: none"> <li>0005 = 000.5 meters</li> <li>0015 = 001.5 meters</li> <li>0150 = 015.0 meters</li> </ul>	Colors** <ul style="list-style-type: none"> <li>01 = Blue</li> <li>02 = Orange</li> <li>03 = Green</li> <li>04 = Brown</li> <li>05 = Slate</li> <li>06 = White</li> <li>07 = Red</li> <li>08 = Black</li> <li>09 = Yellow</li> <li>10 = Violet</li> <li>11 = Rose</li> <li>12 = Aqua</li> </ul> Polarity <ul style="list-style-type: none"> <li>A = A-A</li> </ul>

For assistance customizing your patch cords, please visit [levitonemea.com/mto](http://levitonemea.com/mto) or call Tech Support +44 (0) 1592 778494.

Notes:

- \*Length ≤ 30 metres are configurable in .2/.4/.5/.6/.8 metre increments
- \*\* Patch cords with custom colors have a 1-km minimum order quantity

For further support information, visit [leviton.com/ns/support](http://leviton.com/ns/support)

**USA**  
 Network Solutions Headquarters  
 +1 (800) 722 2082  
[infoUSA@leviton.com](mailto:infoUSA@leviton.com)  
 Berk-Tek Cable: +1 (800) 237 5835  
[berktek.info@leviton.com](mailto:berktek.info@leviton.com)

**Asia Pacific**  
 +852 3620 2602  
[infoAPAC@leviton.com](mailto:infoAPAC@leviton.com)

**Canada**  
 +1 (800) 461 2002  
[infoCanada@leviton.com](mailto:infoCanada@leviton.com)

**Europe**  
 +44 (0) 1592 772124  
[infoEurope@leviton.com](mailto:infoEurope@leviton.com)

**Latin America**  
 MX: +52 (55) 2128 6286  
 LATAM: +52 (55) 2333 5963  
[infoLATAM@leviton.com](mailto:infoLATAM@leviton.com)

**Middle East & Africa**  
 +971 (4) 247 9800  
[infoMEA@leviton.com](mailto:infoMEA@leviton.com)

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