



FISCHER FIBEROPTIC SERIES

**ROBUST
OPTICAL PERFORMANCE
EASY CLEANING**

CABLE SPECIFICATIONS



A pre-cabled solution ideal for:

- Faultless optic performance
- Indoor, outdoor and extreme applications
- Up to IP67 (unmated) / IP68 (mated)
- Easy field cleaning

THE RELIABLE EXPERT

fischer[®]
C O N N E C T O R S



INTRODUCTION

The Fischer FiberOptic Series offers the best quality and stability needed for an optical link, combined with easy mating and easy field cleaning. It performs perfectly in harsh and extreme environments and have a high ingress protection of IP68 when mated, and IP67 unmated. This rugged push-pull fiber optic connector, for both indoor and outdoor applications, **can also be available** pre-cabled for maximum performance and time saving.

The Fischer FiberOptic Series is available in two versions:

FiberOptic FO1, FO2 & FO4

A rugged connector with one (FO1), two (FO2) or four (FO4) fibers

FiberOptic Hybrid FOH

A rugged hybrid connector with four channels, available pre-cabled with two fiber channels and two electrical contacts.

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CABLE AVAILABILITY

CHOOSE YOUR CABLE

		INDOOR/OUTDOOR			
Supplier Brand	Fiber Count	SM 9/125 G.657.A1	MM 50/125 OM3	MM 62.5/125 OM1 / OM1+	
OCC	1				
	2				
	4				
LEONI	2				
	4				
LEONI	Hybrid 2+2				

		RODENT PROOF			
Supplier Brand	Fiber Count	SM 9/125 G.657.1.A1	MM50/125 OM3	MM 62.5/125 OM1	
LEONI Glass Fiber	2				
	4				

		METAL ARMORED			
Supplier Brand	Fiber Count	SM 9/125 G.657.1.A1	MM50/125 OM3	MM 62.5/125 OM1 / OM1+	
KAIPHONE Metal Armored	1				
BRUGG Metal Armored	2				
	4				

 Available  Available under special lead time - please contact your local sales department for details



OUTDOOR CABLE FEATURES

Features	OCC		LEONI
Available for	F01	F02, F04	F02, F04
Best for	Premium application		High load application
	- Overall ruggedness - Easy deployment - High end tactical cable		- High load resistance - Easy deployment - High end tactical cable
Technology	- Tight buffered fibers - Aramid yarn - PUR jacket		- Tight buffered fibers - Aramid yarn - PUR jacket
Outer diameter	2.9 mm	5.5 mm	5.5 mm
Weight	8 kg/km	27 kg/km	28 kg/km
Operating tensile load	300 N	600 N	1500 N
Crush resistance	500 N/cm	1800 N/cm	800 N/cm
Min. bending radius	1.5 cm	3.3 cm	5.5 cm
Operating temperature	-40°C to +85°C	-40°C to +85°C	-55°C to +85°C

Features	LEONI	KAIPHONE	BRUGG
Available for	F02, F04	F01	F02, F04
Best for	Rodent proof	Metal armored	Metal armored
	- Semi-static applications - Easy deployment - Dielectric rodent protection - High flexibility	- High rodent protection - Static & deployable applications - Ultra-light armored technology - Sensing applications	- High rodent protection - Static & deployable applications - Self supporting applications - Ultra-light armored technology - Direct burial
Technology	- Tight buffered fibers - Aramid yarn / - PUR double skin jacket	- Stainless steel loose tube - Aramid yarn - LDPE jacket	- Stainless steel loose tube - Stainless steel yarn - PA Jacket
Outer diameter	9.4 mm	3.0 mm	3.8 mm
Weight	105 kg/km	18 kg/km	25 kg/km
Operating tensile load	2000 N	300 N	900 N
Crush resistance	800 N/cm	300 N/cm	800 N/cm
Min. bending radius	9.4 cm	3.0 cm	5.7 cm
Operating temperature	-55°C to +85°C	-40°C to + 85°C	-40°C to + 70°C

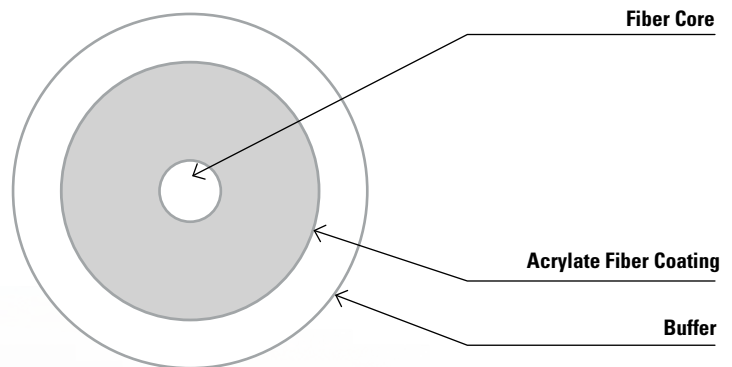
Please consult detailed specifications on next pages for detailed information.



OCC 1 CHANNEL - 900µm cable diameter

Tight buffered optical fiber

Part #: FX001DSLA9YA



Laser Ultra-Fox™ Fiber Performance

Fiber Code	SLA
Industry Standard Designation	Bend Tolerant Single Mode ITU-T G.657.A1 ITU-T G.652.D
Core/Cladding Diameter (µm)	9/125
Wavelength (nm)	1310/1550
Maximum Cabled Attenuation (dB/km)	0.5/0.5
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Zero Dispersion Slope (ps/nm ² -km)	0.092
Proof Test Level (kpsi)	100

Mechanical and Environmental

Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +85°C
Flame Retardancy	UL 94 V-0

Cable Characteristics

Buffer Color	Yellow
Buffer Material	Indoor/Outdoor PVC
Buffer Fiber Weight	0.9 kg/km (0.6 lbs/1000')

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	15 N	5 N
Min Bend Radius	2 cm	1 cm

NOTE

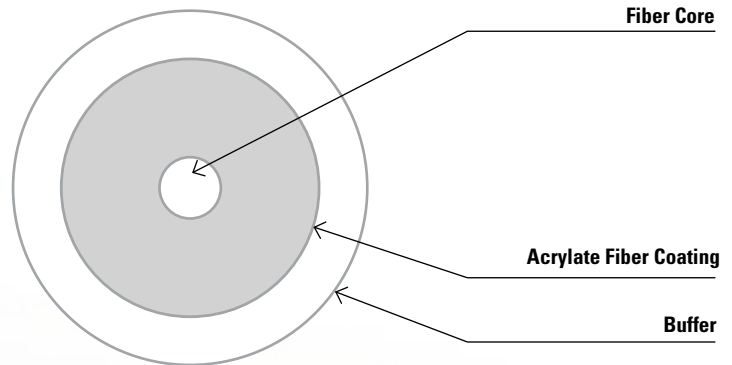
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OCC 1 CHANNEL - 900µm cable diameter

Tight buffered optical fiber

Part #: FX001DALT9BA



Laser Ultra-Fox™ Fiber Performance

Fiber Code	ALT
Industry Standard Designation	Bend Insensitive OM3 ISO/IEC 11801
Core/Cladding Diameter (µm)	50/125
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	1000/600
10-Gigabit Ethernet Distance (m)	300/300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Minimum Laser EMB Bandwidth (Mhz-km)	2000/500
Minimum OFL LED Bandwidth (Mhz-km)	1500/500
Primary Coating Diameter (µm)	245
Secondary coating Diameter (µm)	900
Proof Test Level (kpsi)	100

Mechanical and Environmental

Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +85°C
Flame Retardancy	UL 94 V-0

Cable Characteristics

Buffer Color	Blue
Buffer Material	Indoor/Outdoor PVC

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	15 N	5 N
Min Bend Radius	2 cm	1 cm

NOTE

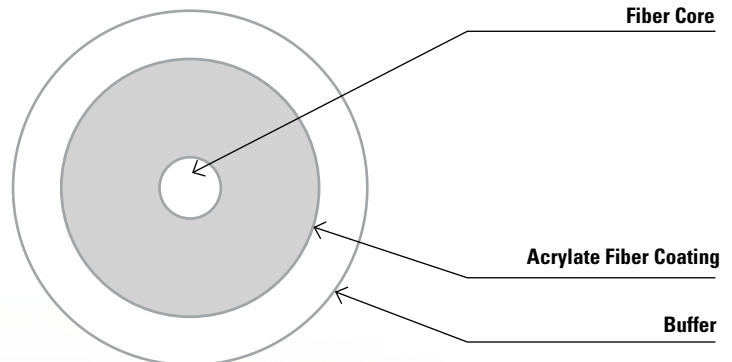
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OCC 1 CHANNEL - 900µm cable diameter

Tight buffered optical fiber

Part #: FX001DWLS90A



Laser Ultra-Fox™ Fiber Performance

Fiber Code	WLS
Industry Standard Designation	OM1 ISO/IEC 11801
Core/Cladding Diameter (µm)	62.5/125
Numeric Aperture	0.275
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	300/600
10-Gigabit Ethernet Distance (m)	33/300
Maximum Cabled Attenuation (dB/km)	3.5/1.5
Minimum Laser EMB Bandwidth (Mhz-km)	220/500
Minimum OFL LED Bandwidth (Mhz-km)	200/500
Primary Coating Diameter (µm)	245
Proof Test Level (kpsi)	100

Mechanical and Environmental

Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +85°C
Flame Retardancy	UL 94 V-0

Cable Characteristics

Buffer Color	Orange
Buffer Material	Indoor/Outdoor PVC

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	15 N	5 N
Min Bend Radius	2 cm	1 cm

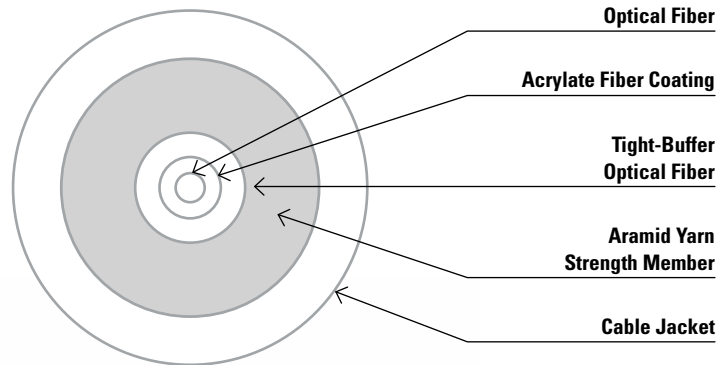
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**OCC 1 CHANNEL - 2.0mm cable diameter**

**A-Series Micro Assembly
LSZH Cables
(2.0mm & 1.6mm)**

Part #: AE001ZSLA9YZ

**Laser Ultra-Fox™ Fiber Performance**

Fiber Code	SLA
Industry Standard Designation	Low Water Peak Single Mode ITU-T G.657.A1 and ITU-T G.652.D
Core/Cladding Diameter (μm)	9/125
Wavelength (nm)	1310/1550
Maximum Cabled Attenuation (dB/km)	0.5/0.5
Primary Coating Diameter (μm)	245
Secondary Buffer Diameter (μm)	900
Zero Dispersion Slope (ps/nm ² -km)	0.092
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	300 N (67 lbs)	160 N (36 lbs)
Min Bend Radius	3.8 cm (1.5 in)	2.5 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	200 Impacts
Crush Resistance TIA/EIA-455-41A	500 N/cm
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +70°C
Installation Temperature (actual temp. of cable)	0°C to +60°C

Cable Characteristics

Jacket Color	Yellow
Jacket Material	Low Smoke Zero Halogen
Buffer Material	Hard Elastomeric
Cable Weight	5 kg/km (3 lbs/1000')
Cable Diameter	2.0 mm (0.08 in)

- Suitable for general purpose indoor use, such as routing connections in patching systems.
- Compatible with all standard fiber optic connectors designed for small form-factor simplex and duplex connectors such as MY-RJ and LC connectors.
- High performance tight-buffered coating on each optical fiber for environmental and mechanical protection.
- Zero-halogen cables (Z jacket) meet the requirements of IEC 60754-2.

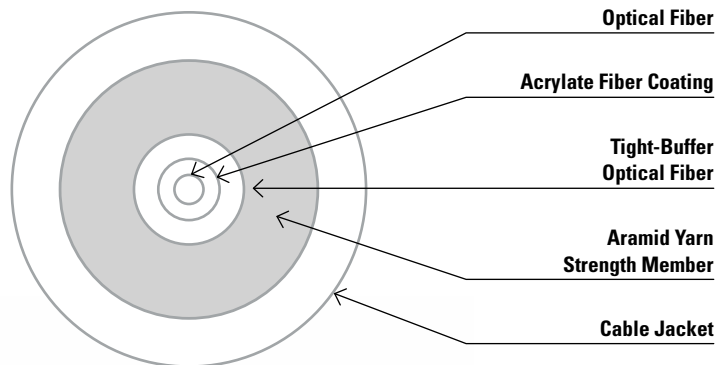
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**OCC 1 CHANNEL - 2.0mm cable diameter**

**A-Series Micro Assembly
LSZH Cables
(2.0mm & 1.6mm)**

Part #: AE001ZABT9QZ

**Laser Ultra-Fox™ Fiber Performance**

Fiber Code	ABT
Industry Standard Designation	Bend Tolerant Laser Optimized OM3 ISO/IEC 11801
Core/Cladding Diameter (µm)	50/125
Numeric Aperture	0.20
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	1000/600
10-Gigabit Ethernet Distance (m)	300/300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Minimum Laser EMB Bandwidth (MHz-km)	2000/500
Minimum OFL LED Bandwidth (MHz-km)	1500/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	300 N (67 lbs)	160 N (36 lbs)
Min Bend Radius	3.8 cm (1.5 in)	2.5 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	200 Impacts
Crush Resistance TIA/EIA-455-41A	500 N/cm
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +70°C
Installation Temperature (actual temp. of cable)	0°C to +60°C

Cable Characteristics

Jacket Color	Aqua
Jacket Material	Low Smoke Zero Halogen
Buffer Material	Hard Elastomeric
Cable Weight	5 kg/km (3 lbs/1000')
Cable Diameter	2.0 mm (0.08 in)

- Suitable for general purpose indoor use, such as routing connections in patching systems.
- Compatible with all standard fiber optic connectors designed for small form-factor simplex and duplex connectors such as MY-RJ and LC connectors.
- High performance tight-buffered coating on each optical fiber for environmental and mechanical protection.
- Zero-halogen cables (Z jacket) meet the requirements of IEC 60754-2.

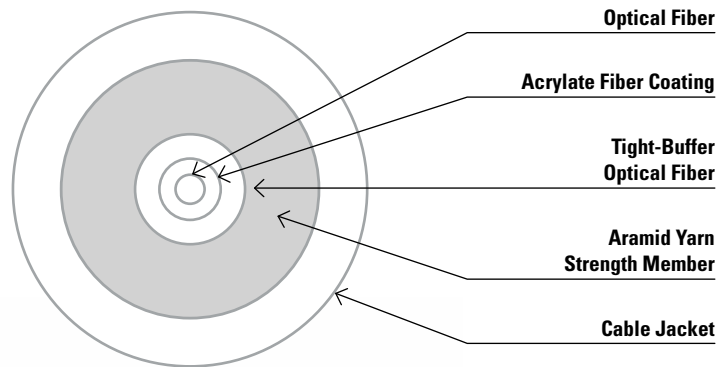
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**OCC 1 CHANNEL - 2.0mm cable diameter**

**A-Series Micro Assembly
LSZH Cables
(2.0mm & 1.6mm)**

Part #: AE001ZW LX90Z

**Laser Ultra-Fox™ Fiber Performance**

Fiber Code	WLX
Industry Standard Designation	OM1+ ISO/IEC 11801
Core/Cladding Diameter (µm)	62.5/125
Numeric Aperture	0.275
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	500/1000
10-Gigabit Ethernet Distance (m)	33/300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Minimum Laser EMB Bandwidth (MHz-km)	385/500
Minimum OFL LED Bandwidth (MHz-km)	200/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	300 N (67 lbs)	160 N (36 lbs)
Min Bend Radius	3.8 cm (1.5 in)	2.5 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	200 Impacts
Crush Resistance TIA/EIA-455-41A	500 N/cm
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +70°C
Installation Temperature (actual temp. of cable)	0°C to +60°C

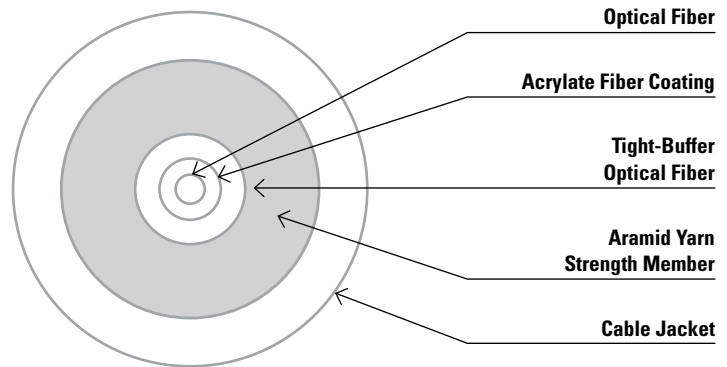
Cable Characteristics

Jacket Color	Orange
Jacket Material	Low Smoke Zero Halogen
Buffer Material	Hard Elastomeric
Cable Weight	5 kg/km (3 lbs/1000')
Cable Diameter	2.0 mm (0.08 in)

- Suitable for general purpose indoor use, such as routing connections in patching systems.
- Compatible with all standard fiber optic connectors designed for small form-factor simplex and duplex connectors such as MY-RJ and LC connectors.
- High performance tight-buffered coating on each optical fiber for environmental and mechanical protection.
- Zero-halogen cables (Z jacket) meet the requirements of IEC 60754-2.

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**OCC 1 CHANNEL - 2.9mm cable diameter****A-Series Assembly****Part #: AX001CLSA9KA****Laser Ultra-Fox™ Fiber Performance**

Fiber Code	SLA
Industry Standard Designation	Bend Tolerant Single Mode ITU-T G.657.A1 and ITU-T G.652.D
Core/Cladding Diameter (µm)	9/125
Wavelength (nm)	1310/1550
Maximum Cabled Attenuation (dB/km)	0.5/0.5
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Zero Dispersion Slope (ps/nm ² -km)	0.092
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	500 N (110 lbs)	300 N (70 lbs)
Min Bend Radius	2.9 cm (1.1 in)	1.5 cm (0.6 in)

Mechanical and Environmental

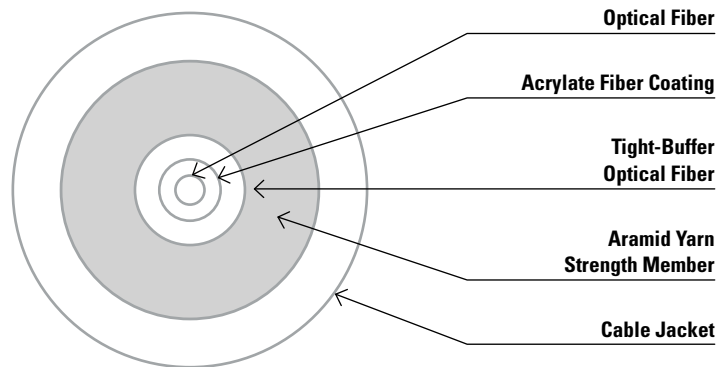
Impact Resistance EIA/TIA-455-25A	750 Impacts
Crush Resistance TIA/EIA-455-41A	500 N/cm
Operating Temperature	-40 C to +85 C
Storage Temperature	-55 C to +85 C
Installation Temperature (actual temp. of cable)	-10 C to +60 C

Cable Characteristics

Jacket Color	Black
Jacket Material	Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	8.0 kg/km (5 lbs1000')
Cable Diameter	2.9 mm (0.11 in)

NOTE

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**OCC 1 CHANNEL - 2.9mm cable diameter****A-Series Assembly****Part #: AX001CALT9KA****Laser Ultra-Fox™ Fiber Performance**

Fiber Code	ALT
Industry Standard Designation	Laser Optimized OM3 ISO/IEC 11801
Core/Cladding Diameter (µm)	50/125
Numeric Aperture	0.20
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	1000/600
10-Gigabit Ethernet Distance (m)	300/300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Minimum Laser EMB Bandwidth (MHz-km)	2000/500
Minimum OFL LED Bandwidth (MHz-km)	1500/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	750 Impacts
Crush Resistance TIA/EIA-455-41A	500 N/cm
Operating Temperature	-40 C to +85 C
Storage Temperature	-55 C to +85 C
Installation Temperature (actual temp. of cable)	-10 C to +60 C

Cable Characteristics

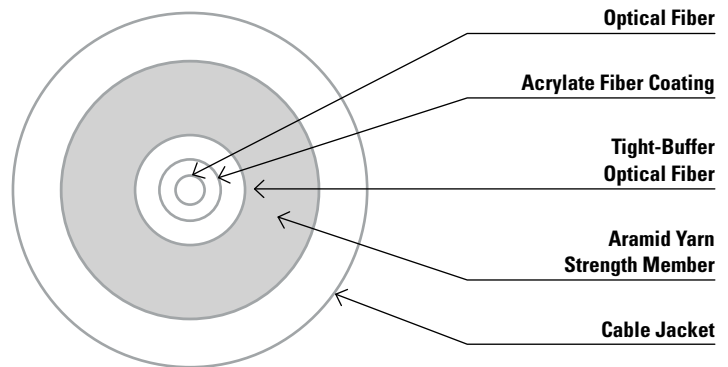
Jacket Color	Black
Jacket Material	Polyurethane
Buffer Material	PVC
Cable Weight	8.0 kg/km (5 lbs/1000')
Cable Diameter	2.9 mm (0.11 in)

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	500 N (110 lbs)	300 N (70 lbs)
Min Bend Radius	2.9 cm (1.1 in)	1.5 cm (0.6 in)

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**OCC 1 CHANNEL - 2.9mm cable diameter****A-Series Assembly****Part #: AX001CWLX9KA****Laser Ultra-Fox™ Fiber Performance**

Fiber Code	WLX
Industry Standard Designation	OM1+ ISO/IEC 11801
Core/Cladding Diameter (µm)	62.5/125
Numeric Aperture	0.275
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	500/1000
10-Gigabit Ethernet Distance (m)	33/300
Maximum Cabled Attenuation (dB/km)	3.5/1.5
Minimum Laser EMB Bandwidth (MHz-km)	385/500
Minimum OFL LED Bandwidth (MHz-km)	200/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	500 N (110 lbs)	300 N (70 lbs)
Min Bend Radius	2.9 cm (1.1 in)	1.5 cm (0.6 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	750 Impacts
Crush Resistance TIA/EIA-455-41A	500 N/cm
Operating Temperature	-40 C to +85 C
Storage Temperature	-55 C to +85 C
Installation Temperature (actual temp. of cable)	-10 C to +60 C

Cable Characteristics

Jacket Color	Black
Jacket Material	Polyurethane
Buffer Material	PVC
Cable Weight	8.0 kg/km (5 lbs1000')
Cable Diameter	2.9 mm (0.11 in)

NOTE

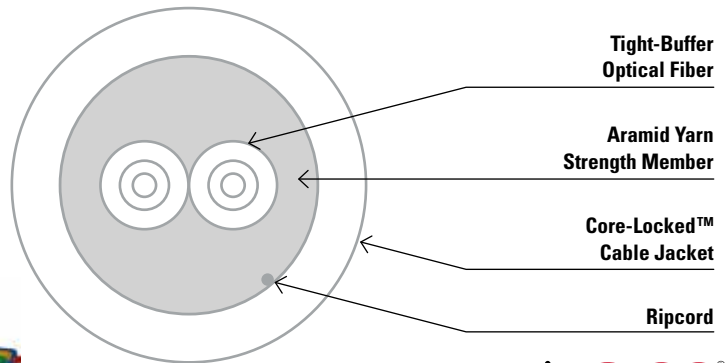
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OCC 2 CHANNEL

**D-Series Distribution
Field Broadcast Cables**

Part #: DX002GSLA9KB



Laser Ultra-Fox™ Fiber Performance

Fiber Code	SLA
Industry Standard Designation	Low Water Peak Single Mode ITU-T G.657.A1 and ITU-T G.652.D
Core/Cladding Diameter (µm)	9/125
Wavelength (nm)	1310/1550
Maximum Cabled Attenuation (dB/km)	0.5/0.5
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Zero Dispersion Slope (ps/nm ² -km)	0.092
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	1,800 N (400 lbs)	600 N (130 lbs)
Min Bend Radius	5.0 cm (2.0 in)	2.5 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	1,500 Impacts
Crush Resistance TIA/EIA-455-41A	1,800 N/cm
Operating Temperature	-40°C to +85°C
Storage Temperature	-70°C to +85°C

Cable Characteristics

Jacket Color	Black
Jacket Material	Low Smoke Zero Halogen Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	21 kg/km (14 lbs/1000')
Cable Diameter	5.0 mm (0.20 in)

NOTE

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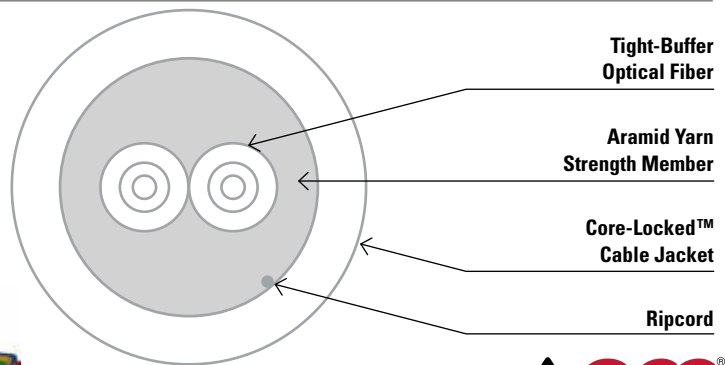
- Deployable cable that is ideal for use in harsh environments where deployment and retrieval for reuse are required.
- Extremely strong, lightweight, rugged, survivable tight-buffered cables are designed for broadcast field use and commercial applications.
- Compact, round cable design for ease of transportation and deployment.
- Core-locked jacket for improved mechanical performance.
- Designed for use in adverse environments where reduced size and weight are important.
- Helically stranded cable core for flexibility, survival in difficult pulls, and exceptional mechanical protection for the optical fibers.
- Cables have been tested and are in use in broadcast data communications applications worldwide.
- Can be used outdoors for temporary deployment directly on the ground in all terrains, including severe environments.
- Suitable for industrial, mining and petrochemical environments; chemical resistant.
- Crush resistant and resilient with a thick layer of aramid strength members.
- Polyurethane jacketed for abrasion, cut and chemical resistance.
- Most commonly used with ruggedized multiway military tactical field connectors, for maximum connector retention (400lbs.).
- Tactical Polyurethane (C) outer jacket materials is standard; Flame-Retardant Tactical (V) and Low-Smoke Zero-Halogen (G) outer jacket materials are available.



OCC 2 CHANNEL

D-Series Distribution Field Broadcast Cables

Part #: DX002GABT9KB



Laser Ultra-Fox™ Fiber Performance

Fiber Code

ABT

Industry Standard Designation	Bend Tolerant Laser Optimized OM3 ISO/IEC 11801
Core/Cladding Diameter (µm)	50/125
Numeric Aperture	0.20
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	1000/600
10-Gigabit Ethernet Distance (m)	300/300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Minimum Laser EMB Bandwidth (MHz-km)	2000/500
Minimum OFL LED Bandwidth (MHz-km)	1500/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	1,800 N (400 lbs)	600 N (130 lbs)
Min Bend Radius	5.0 cm (2.0 in)	2.5 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	1,500 Impacts
Crush Resistance TIA/EIA-455-41A	1,800 N/cm
Operating Temperature	-40°C to +85°C
Storage Temperature	-70°C to +85°C

Cable Characteristics

Jacket Color	Black
Jacket Material	Low Smoke Zero Halogen Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	21 kg/km (14 lbs/1000')
Cable Diameter	5.0 mm (0.20 in)

NOTE

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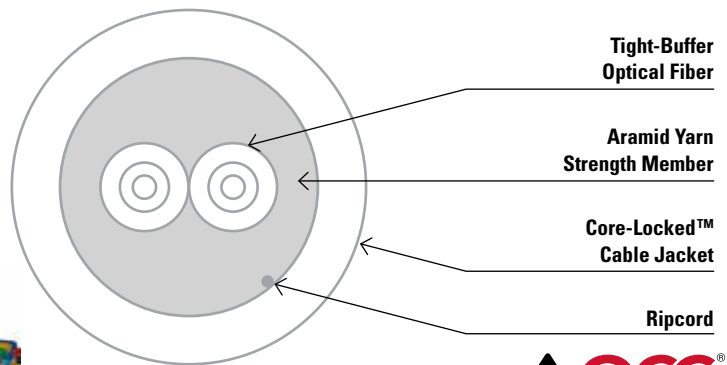
- Deployable cable that is ideal for use in harsh environments where deployment and retrieval for reuse are required.
- Extremely strong, lightweight, rugged, survivable tight-buffered cables are designed for broadcast field use and commercial applications.
- Compact, round cable design for ease of transportation and deployment.
- Core-locked jacket for improved mechanical performance.
- Designed for use in adverse environments where reduced size and weight are important.
- Helically stranded cable core for flexibility, survival in difficult pulls, and exceptional mechanical protection for the optical fibers.
- Cables have been tested and are in use in broadcast data communications applications worldwide.
- Can be used outdoors for temporary deployment directly on the ground in all terrains, including severe environments.
- Suitable for industrial, mining and petrochemical environments; chemical resistant.
- Crush resistant and resilient with a thick layer of aramid strength members.
- Polyurethane jacketed for abrasion, cut and chemical resistance.
- Most commonly used with ruggedized multiway military tactical field connectors, for maximum connector retention (400lbs.).
- Tactical Polyurethane (C) outer jacket materials is standard; Flame-Retardant Tactical (V) and Low-Smoke Zero-Halogen (G) outer jacket materials are available.



OCC 2 CHANNEL

**D-Series Distribution
Field Broadcast Cables**

Part #: DX002GWLX9KB



Laser Ultra-Fox™ Fiber Performance

Fiber Code	WLX
Industry Standard Designation	OM1+ ISO/IEC 11801
Core/Cladding Diameter (µm)	62.5/125
Numeric Aperture	0.275
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	500/1000
10-Gigabit Ethernet Distance (m)	33/300
Maximum Cabled Attenuation (dB/km)	3.5/1.5
Minimum Laser EMB Bandwidth (MHz-km)	385/500
Minimum OFL LED Bandwidth (MHz-km)	200/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	1,800 N (400 lbs)	600 N (130 lbs)
Min Bend Radius	5.0 cm (2.0 in)	2.5 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	1,500 Impacts
Crush Resistance TIA/EIA-455-41A	1,800 N/cm
Operating Temperature	-40°C to +85°C
Storage Temperature	-70°C to +85°C

Cable Characteristics

Jacket Color	Black
Jacket Material	Low Smoke Zero Halogen Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	21 kg/km (14 lbs/1000')
Cable Diameter	5.0 mm (0.20 in)

NOTE

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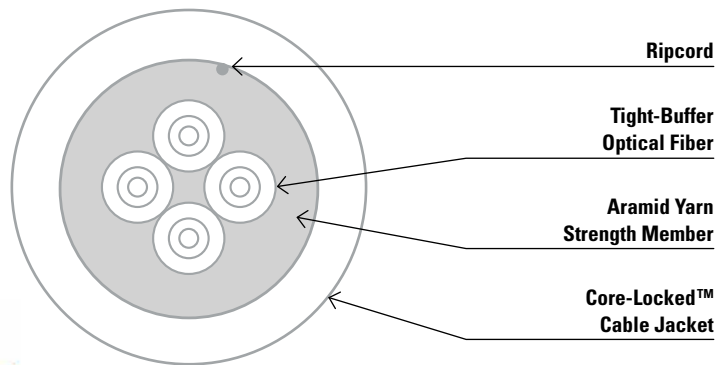
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- Cables have been tested and are in use in broadcast data communications applications worldwide.
- Can be used outdoors for temporary deployment directly on the ground in all terrains, including severe environments.
- Suitable for industrial, mining and petrochemical environments; chemical resistant.
- Crush resistant and resilient with a thick layer of aramid strength members.
- Polyurethane jacketed for abrasion, cut and chemical resistance.
- Most commonly used with ruggedized multiway military tactical field connectors, for maximum connector retention (400lbs.).
- Tactical Polyurethane (C) outer jacket materials is standard; Flame-Retardant Tactical (V) and Low-Smoke Zero-Halogen (G) outer jacket materials are available.



OCC 4 CHANNEL

D-Series Distribution Field Broadcast Cables

Part #: DX004GSLA9KB



Laser Ultra-Fox™ Fiber Performance

Fiber Code	SLA
Industry Standard Designation	Low Water Peak Single Mode ITU-T G.657.A1 and ITU-T G.652.D
Core/Cladding Diameter (μm)	9/125
Wavelength (nm)	1310/1550
Maximum Cabled Attenuation (dB/km)	0.5/0.5
Primary Coating Diameter (μm)	245
Secondary Buffer Diameter (μm)	900
Zero Dispersion Slope (ps/nm ² -km)	0.092
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	1,800 N (400 lbs)	600 N (130 lbs)
Min Bend Radius	5.5 cm (2.2 in)	2.8 cm (1.0 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	1,500 Impacts
Crush Resistance TIA/EIA-455-41A	1,800 N/cm
Operating Temperature	-40°C to +85°C
Storage Temperature	-70°C to +85°C

Cable Characteristics

Jacket Color	Black
Jacket Material	Low Smoke Zero Halogen Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	27 kg/km (18 lbs/1000')
Cable Diameter	5.5 mm (0.22 in)

- Deployable cable that is ideal for use in harsh environments where deployment and retrieval for reuse are required.
- Extremely strong, lightweight, rugged, survivable tight-buffered cables are designed for broadcast field use and commercial applications.
- Compact, round cable design for ease of transportation and deployment.
- Core-locked jacket for improved mechanical performance.
- Designed for use in adverse environments where reduced size and weight are important.
- Helically stranded cable core for flexibility, survival in difficult pulls, and exceptional mechanical protection for the optical fibers.
- Cables have been tested and are in use in broadcast data communications applications worldwide.
- Can be used outdoors for temporary deployment directly on the ground in all terrains, including severe environments.
- Suitable for industrial, mining and petrochemical environments; chemical resistant.
- Crush resistant and resilient with a thick layer of aramid strength members.
- Polyurethane jacketed for abrasion, cut and chemical resistance.
- Most commonly used with ruggedized multiway military tactical field connectors, for maximum connector retention (400lbs.).
- Tactical Polyurethane (C) outer jacket materials is standard; Flame-Retardant Tactical (V) and Low-Smoke Zero-Halogen (G) outer jacket materials are available.

NOTE

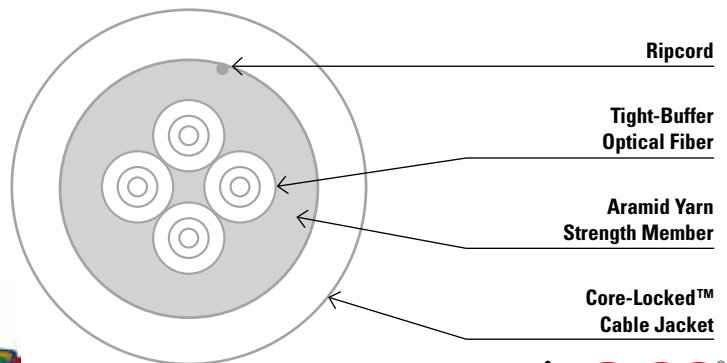
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OCC 4 CHANNEL

**D-Series Distribution
Field Broadcast Cables**

Part #: DX004GABT9KB



Laser Ultra-Fox™ Fiber Performance

Fiber Code	ABT
Industry Standard Designation	Bend Tolerant Laser Optimized OM3, ISO/IEC 11801
Core/Cladding Diameter (µm)	50/125
Numeric Aperture	0.20
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	1000/600
10-Gigabit Ethernet Distance (m)	300/300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Minimum Laser EMB Bandwidth (MHz-km)	2000/500
Minimum OFL LED Bandwidth (MHz-km)	1500/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	1,800 N (400 lbs)	600 N (130 lbs)
Min Bend Radius	5.5 cm (2.2 in)	2.8 cm (1.1 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	1,500 Impacts
Crush Resistance TIA/EIA-455-41A	1,800 N/cm
Operating Temperature	-40°C to +85°C
Storage Temperature	-70°C to +85°C

Cable Characteristics

Jacket Color	Black
Jacket Material	Low Smoke Zero Halogen Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	27 kg/km (18 lbs/1000')
Cable Diameter	5.5 mm (0.22 in)

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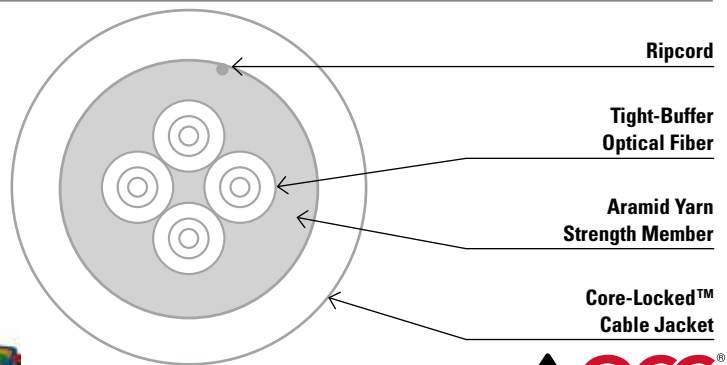
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- Extremely strong, lightweight, rugged, survivable tight-buffered cables are designed for broadcast field use and commercial applications.
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- Core-locked jacket for improved mechanical performance.
- Designed for use in adverse environments where reduced size and weight are important.
- Helically stranded cable core for flexibility, survival in difficult pulls, and exceptional mechanical protection for the optical fibers.
- Cables have been tested and are in use in broadcast data communications applications worldwide.
- Can be used outdoors for temporary deployment directly on the ground in all terrains, including severe environments.
- Suitable for industrial, mining and petrochemical environments; chemical resistant.
- Crush resistant and resilient with a thick layer of aramid strength members.
- Polyurethane jacketed for abrasion, cut and chemical resistance.
- Most commonly used with ruggedized multiway military tactical field connectors, for maximum connector retention (400lbs.).
- Tactical Polyurethane (C) outer jacket materials is standard; Flame-Retardant Tactical (V) and Low-Smoke Zero-Halogen (G) outer jacket materials are available.



OCC 4 CHANNEL

D-Series Distribution Field Broadcast Cables

Part #: DX004GWLX9KB



Laser Ultra-Fox™ Fiber Performance

Fiber Code	WLX
Industry Standard Designation	OM1+ ISO/IEC 11801
Core/Cladding Diameter (µm)	62.5/125
Numeric Aperture	0.275
Wavelength (nm)	850/1310
Gigabit Ethernet Distance (m)	500/1000
10-Gigabit Ethernet Distance (m)	33/300
Maximum Cabled Attenuation (dB/km)	3.5/1.5
Minimum Laser EMB Bandwidth (MHz-km)	385/500
Minimum OFL LED Bandwidth (MHz-km)	200/500
Primary Coating Diameter (µm)	245
Secondary Buffer Diameter (µm)	900
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	1,800 N (400 lbs)	600 N (130 lbs)
Min Bend Radius	5.5 cm (2.5 in)	2.8 cm (1.1 in)

Mechanical and Environmental

Impact Resistance EIA/TIA-455-25A	1,500 Impacts
Crush Resistance TIA/EIA-455-41A	1,800 N/cm
Operating Temperature	-40°C to +85°C
Storage Temperature	-70°C to +85°C

Cable Characteristics

Jacket Color	Black
Jacket Material	Low Smoke Zero Halogen Polyurethane
Buffer Material	Hard Elastomeric
Cable Weight	27 kg/km (18 lbs/1000')
Cable Diameter	5.5 mm (0.22 in)

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- Tactical Polyurethane (C) outer jacket materials is standard; Flame-Retardant Tactical (V) and Low-Smoke Zero-Halogen (G) outer jacket materials are available.



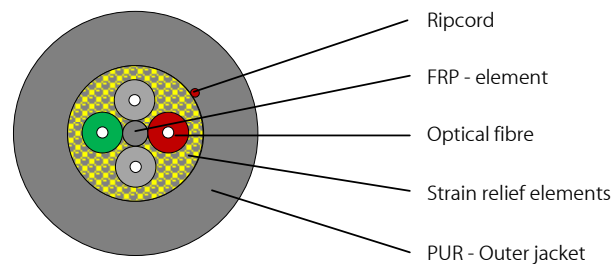
LEONI 2 FIBERS

LEONI

LEONI Part No.: **84951035#**

FiberConnect® A-V(ZN)11Y 2 ... TB900L

Profile view:



Design:

Cable core:

- Tight buffered fibres (9/125), (50/125) or (62.5/125) bend insensitive, with diameter 0.9 mm colours: red, grey (filler), green and grey (filler) stranded around a central strength member
- Strain relief elements (aramid) with additional compression relief elements

Outer jacket:

- Polyurethane (TPE-U) with approx. 1.2 mm wall, colour: black, or according customer requirement Outer diameter approx. 5.5 mm
- Ripcord under the jacket
- Inkjet-marking (white):
LEONI - FiberConnect® A-V(ZN)11Y 2 (fibre type) TB900L (alternating current symbol twice), (order no.), (reel no.), (sequential length in metres)

Application/Installation:

- Flexible cable for moved application indoor and outdoor
- Indoor cable for the installation in cable ducts and in tubes and also suitable for interconnections in harsh industrial environments
- Good installation through ripcords to open the jackets
- For direct connector assembly
- Ruggedized for industrial application, chemical resistance, abrasion resistance and crush resistance
- Not suitable for underground laying (direct buried)

Transmission properties:

- Transmission characteristics see separate fibre data-sheet

NOTE

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**LEONI 2 FIBERS****LEONI**LEONI Part No.: **84951035#****Mechanical properties:**

- Min. bending radius acc. to IEC 60794-1-2, method E11, procedure 1
 - static 10 x outside diameter
 - dynamic 15 x outside diameter
- Max. tensile strength acc. to IEC 60794-1-2, method E1
 - short-term max. 2500 N
 - long-term max. 1500 N
- Max. crush resistance acc. to IEC 60794-1-2, method E3
 - short-term max. 8000 N/dm
 - long-term max. 4000 N/dm
- Impact resistance acc. to IEC 60794-1-2, method E4 3 Impacts, 1.5 Nm
- Flexing test acc. IEC 60794-1-2 E8 (2000 cycles, D = 80 mm, F = 10 N, L (pulling path) = 1.5 m)
- Weight approx. 28.0 kg/km
- Drag chain test 1 000 000 cycles

Thermal properties:

- Transport and storage - 55 °C to + 85 °C
- Installation - 20 °C to + 60 °C
- Operation - 55 °C to + 85 °C

Fire performance:

- Cable is flame-retardant acc. to IEC 60332-1-2
- Halogen-free acc. to IEC 60754-1
- Acidity of the combustion gases acc. to IEC 60754-2

Chemical properties:

- Resistance to oil, petrol, acid and leach
- UV - resistant

Standardisation:

- IEC 60 794-2

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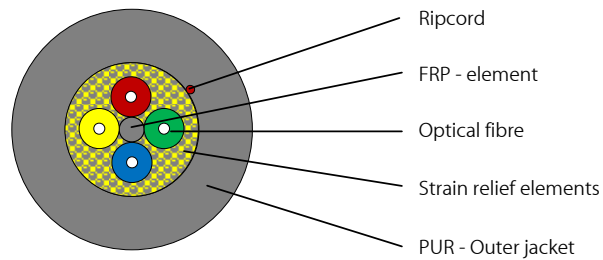
LEONI 4 FIBERS

LEONI

LEONI Part No.: **84951036#**

FiberConnect® A-V(ZN)11Y 4 ... TB900L

Profile view:



Design:

Cable core:

- Tight buffered fibres (9/125), (50/125) or (62.5/125) bend insensitive, with diameter 0.9 mm colours: red, green, blue and yellow stranded around a central strength member
- Strain relief elements (aramid) with additional compression relief elements

Outer jacket:

- Polyurethane (TPE-U) with approx. 1.2 mm wall, colour: black, or according customer requirement
- Outer diameter approx. 5.5 mm
- Ripcord under the jacket
- Inkjet-marking (white):
LEONI - FiberConnect® A-V(ZN)11Y 4 (fibre type) TB900L (alternating current symbol twice), (order no.), (reel no.), (sequential length in metres)

Application/Installation:

- Flexible cable for moved application indoor and outdoor
- Indoor cable for the installation in cable ducts and in tubes and also suitable for interconnections in harsh industrial environments
- Good installation through ripcords to open the jackets
- For direct connector assembly
- Ruggedized for industrial application, chemical resistance, abrasion resistance and crush resistance
- Not suitable for underground laying (direct buried)

Transmission properties:

- Transmission characteristics see separate fibre data-sheet

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**LEONI 4 FIBERS****LEONI**LEONI Part No.: **84951036#****Mechanical properties:**

- Min. bending radius acc. to IEC 60794-1-2, method E11, procedure 1
 - static 10 x outside diameter
 - dynamic 15 x outside diameter
- Max. tensile strength acc. to IEC 60794-1-2, method E1
 - short-term max. 2500 N
 - long-term max. 1500 N
- Max. crush resistance acc. to IEC 60794-1-2, method E3
 - short-term max. 8000 N/dm
 - long-term max. 4000 N/dm
- Impact resistance acc. to IEC 60794-1-2, method E4 3 Impacts, 1.5 Nm
- Flexing test acc. IEC 60794-1-2 E8 (2000 cycles, D = 80 mm, F = 10 N, L (pulling path) = 1.5 m)
- Weight approx. 28.0 kg/km
- Drag chain test 1 000 000 cycles

Thermal properties:

- Transport and storage - 55 °C to + 85 °C
- Installation - 20 °C to + 60 °C
- Operation - 55 °C to + 85 °C

Fire performance:

- Cable is flame-retardant acc. to IEC 60332-1-2
- Halogen-free acc. to IEC 60754-1
- Acidity of the combustion gases acc. to IEC 60754-2

Chemical properties:

- Resistance to oil, petrol, acid and leach
- UV - resistant

Standardisation:

- IEC 60 794-2

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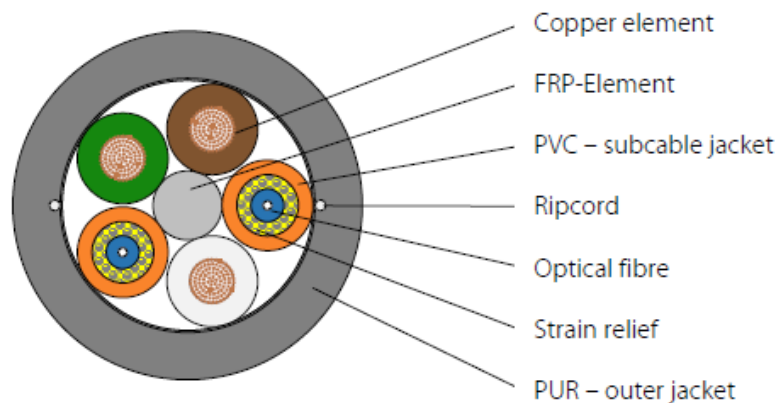
LEONI HYBRID 2-2

LEONI

LEONI Part No.: **84951029#**

FiberConnect® AT-VQ(ZN)Y11Y 2... + 3x1 mm²

Profile view:



Design:

Subcable:

- Tight buffered fibre (TB900L), outer diameter 0.9 mm colour: yellow (E9/125), green (G50/125), blue (G62.5/125)
- Strain relief elements (aramid), damp-proof
- Subcable-jacket Polyvinylchloride (PVC) with approx. 0.5 mm wall, with approx. 0.4 mm wall, colour: orange
- Diameter 2.5 mm with numeric coding

Copper element:

- Flexible core LiY 1.0 mm², outer diameter 2.5 mm, colour: brown, green, white

Stranding:

- FRP-element (Fibre Reinforced Plastic) in centre, two break-out-subcables and three copper elements stranded in one layer

Cable jacket:

- Polyurethane (PUR) with approx. 1.3 mm wall, colour: black
- Outer diameter 9.6 mm
- Two diametrically opposed ripcords under the jacket
- Inkjet-marking white:
LEONI - FiberConnect® AT-VQ(ZN)Y11Y 2 fibre type + 3x1.0 qmm, buffer type (alternating current symbol twice), (Order No.), (Reel No.), (sequential length in metres)

Application/Installation:

- For indoor and outdoor applications as well as for using in harsh industrial environments
- The subcables are longitudinally water protected
- For direct connector assembly

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LEONI HYBRID 2-2

LEONI

LEONI Part No.: **84951029#**

Transmission characteristics:

- Transmission characteristics see separate fibre data-sheet

Mechanical characteristics:

- Min. bending radius
static 10 x outside diameter
dynamic 15 x outside diameter
- Max. crush resistance long term 1500 N/dm
- Max. pull force long term 1200 N
- Weight 100.7 kg/km

Thermal characteristics:

- Transport and storage - 25 °C to + 80 °C
- Installation - 5 °C to + 50 °C
- In use - 20 °C to + 80 °C

Chemical characteristics:

- Good resistance to oil, petrol, acid and leach
- UV-resistance of outer-jacket in according to DIN EN ISO 4892-2, Procedure A, UV-application 500 hours

Standardisation:

- None

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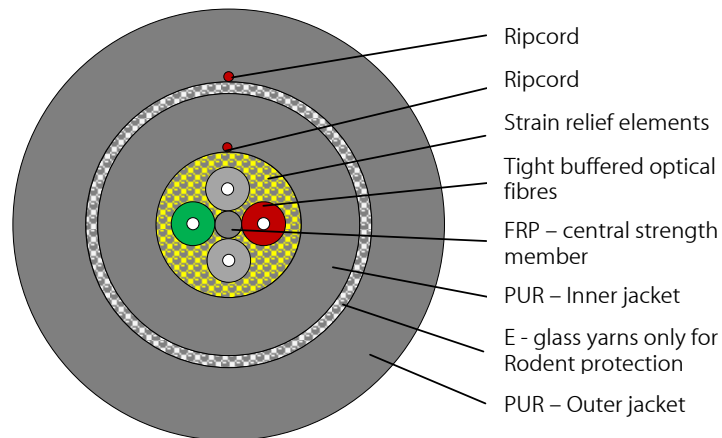
LEONI RODENT PROOF 2 FIBERS

LEONI

LEONI Part No.: **84951135#**

FiberConnect® **A-V(ZN)11Y(ZN)B11Y 2 ... TB900L**

Profile view / Querschnittszeichnung:



Design / Aufbau:

Cable core / Kabellesele:

Tight buffered fibre (E9/125), (G50/125) or (G62.5/125) bend insensitive, outer diameter 0.9 mm

Festader (E9/125), (G50/125) oder (G62,5/125) biegeunempfindlich, Außendurchmesser 0,9 mm

Core colours: red, grey (filler), green and grey (filler)

Farbcode Adern: rot, grau (Blindelement), grün und grau (Blindelement)

Stranding / Verseilung:

Tight buffered fibres stranded around a central strength member (FRP).

Festadern um zentrales Stützelement aus glasfaserverstärktem Kunststoff (GFK) verseilt.

Strain relief elements (aramid) with additional compression relief elements

Zugentlastungselemente (Aramid) mit zusätzlichen Druckentlastungselementen

Inner jacket / Innenmantel:

Polyurethane (TPE-U), wall thickness approx. 1.2 mm

Outer diameter approx. 5.5 mm

Colour: black, or according customer requirement

Polyurethan (TPE-U), Nennwandstärke ca. 1,2 mm

Außendurchmesser ca. 5,5 mm

Farbe: Schwarz, oder nach Kundenwunsch

One ripcord under the jacket

Ein Reißfaden unter dem Mantel

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LEONI RODENT PROOF 2 FIBERS

LEONI

LEONI Part No.: **84951135#**

Armour / Bewehrung:

Multifunctional E-glass yarns, swellable, wrapped in two layers (left and right spin), not as strain relief elements, only as non-metallic rodent protection

Multifunktionale Glasrovingumspinnung, feuchtigkeitssperrend, zweilagig (links und rechts Drall), nicht als Zugentlastungselemente, nur als nichtmetallischer Nagetierschutz

Outer jacket / Außenmantel:

Polyurethan (TPE-U), wall thickness approx. 1.5 mm

Outer diameter approx. 9.4 mm

Colour: black, or according customer requirement

Polyurethan (TPE-U), Nennwandstärke ca. 1,5 mm

Außendurchmesser ca. 9,4 mm

Farbe: schwarz, oder nach Kundenanforderung

One ripcord under the jacket

Ein Reißfaden unter dem Mantel

Inkjet-marking (white):

Inkjet - Aufdruck (weiß):

LEONI - FiberConnect® A-V(ZN)11Y(ZN)B11Y 2 fibre type TB900L (alternating current symbol twice), (Order No.), (Reel No.), (sequential length in metres)

LEONI - FiberConnect® A-V(ZN)11Y(ZN)B11Y 2 Fasertyp TB900L (zweimal Wechselstromsymbol), (Auftragsnummer), (Trommelnummer), (Metermarkierung)

Application/Installation / Anwendung/Verlegung:

Flexible cable for moved application indoor and outdoor

Flexibles Kabel für den bewegten Einsatz im Innen- und Außenbereich

Indoor cable for the installation in cable ducts and in tubes and also suitable

for interconnections in harsh industrial environments

Innenkabel für ortsfeste Verlegung in Kabelkanälen und Rohren, sowie

für Rangierzwecke in rauer Industrieumgebung

Fiber optic cable with additional rodent proof

LWL-Kabel mit zusätzlichem Nagetierschutz

Good installation through ripcords to open the jackets

Montagefreundlich durch Reißfäden zum Öffnen der Mäntel

For direct connector assembly

Für direkte Steckerkonfektion

Ruggedized for industrial application, chemical resistance, abrasion resistance and crush resistance

Widerstandsfähig, für raue Industrieanwendung, hinsichtlich Chemikalienbeständigkeit, Abriebfestigkeit und Querdrukfestigkeit

Not suitable for underground laying (direct buried)

Direkte Erdverlegung nicht zulässig

Transmission characteristics / Übertragungseigenschaften:

Transmission characteristics see separate fibre data-sheet

Übertragungseigenschaften siehe gesondertes Faserdatenblatt

Mechanical characteristics / Mechanische Eigenschaften:

Min. bending radius fixed (static)

10 x outer diameter

with bend able robust fibre acc. IEC 60794-1-2 E11A

Min. Biegeradius fest verlegt (statisch)

mit biege-resistenter Faser nach IEC 60794-1-2 E11A

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**LEONI RODENT PROOF 2 FIBERS****LEONI**LEONI Part No.: **84951135#**

Min. bending radius during assembly (dynamic), with additional tensile strain acc. IEC 60794-1-2 E6 Min. Biegeradius bei Montage (dynamisch), mit zusätzlicher Zugbelastung nach IEC 60794-1-2 E6	15 x outer diameter
Max. tensile force acc. IEC 60794-1-2 E1, long term Max. Zugkraft nach IEC 60794-1-2 E1, langfristig	2000 N
Max. tensile force acc. IEC 60794-1-2 E1, short term Max. Zugkraft nach IEC 60794-1-2 E1, kurzzeitig	2500 N
Max. crush resistance acc. IEC 60794-1-2 E3, long term Max. Querdrukfestigkeit nach IEC 60794-1-2 E3, langfristig	4000 N/dm
Max. crush resistance acc. IEC 60794-1-2 E3, short term Max. Querdrukfestigkeit nach IEC 60794-1-2 E3, kurzzeitig	8000 N/dm
Impact resistance acc. IEC 60794-1-2 E4 Schlagfestigkeit nach IEC 60794-1-2 E4	50 impacts, 2.0 Nm, R = 12.5 mm
Flexing test acc. IEC 60794-1-2 E8 Wechselbiegeprüfung nach IEC 60794-1-2 E8	(2000 cycles, D = 80 mm, F = 10 N, L (pulling path) = 1.5 m)
Cable weight Kabelgewicht	approx. 105 kg/km
Drag chain test Schleppkettentest	1 000 000 cycles

Thermal characteristics / Thermische Eigenschaften:

Transport and storage Transport und Lagerung	- 55°C to + 85°C
Installation Verlegung	- 20°C to + 60°C
In use acc. IEC 60794-1-2 F1 Im Betrieb nach IEC 60794-1-2 F1	- 55°C to + 85°C

Fire performance / Brandverhalten:

Cable is flame-retardant Flammwidrigkeit	acc. to IEC 60332-1-2
Halogen-free Halogenfreiheit	acc. to IEC 60754-1
Acidity of the combustion gases Azidität der Brandgase	acc. to IEC 60754-2

Chemical characteristics / Chemische Eigenschaften:

Very good resistance to oil, petrol, acid and leach
Sehr gute Beständigkeit gegen Öl, Fett, Säuren und Laugen
UV-resistance of outer-jacket
UV-Beständigkeit des Außenmantels

Standardisation / Normung:

IEC 60794-2

NOTE

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This specification is valid as of 08/26/13, however, the specification is subject to change at any time.



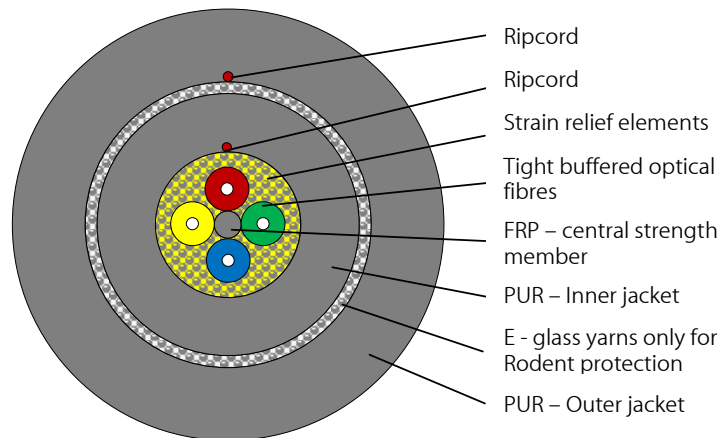
LEONI RODENT PROOF 4 FIBERS

LEONI

LEONI Part No.: **84951136#**

Fiber**Connect**® **A-V(ZN)11Y(ZN)B11Y 4 ... TB900L**

Profile view / Querschnittszeichnung:



Design / Aufbau:

Cable core / Kabelseele:

Tight buffered fibre (E9/125), (G50/125) or (G62.5/125) bend insensitive, outer diameter 0.9 mm

Festader (E9/125), (G50/125) oder (G62,5/125) biegeunempfindlich, Außendurchmesser 0,9 mm

Core colours: red, green, blue and yellow

Farbcode Adern: rot, grün, blau und gelb

Stranding / Verseilung:

Tight buffered fibres stranded around a central strength member (FRP).

Festadern um zentrales Stützelement aus glasfaserverstärktem Kunststoff (GFK) verseilt.

Strain relief elements (aramid) with additional compression relief elements

Zugentlastungselemente (Aramid) mit zusätzlichen Druckentlastungselementen

Inner jacket / Innenmantel:

Polyurethane (TPE-U), wall thickness approx. 1.2 mm

Outer diameter approx. 5.5 mm

Colour: black, or according customer requirement

Polyurethan (TPE-U), Nennwandstärke ca. 1,2 mm

Außendurchmesser ca. 5,5 mm

Farbe: Schwarz, oder nach Kundenwunsch

One ripcord under the jacket

Ein Reißfaden unter dem Mantel

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**LEONI RODENT PROOF 4 FIBERS****LEONI**LEONI Part No.: **84951136#****Armour / Bewehrung:**

Multifunctional E-glass yarns, swellable, wrapped in two layers (left and right spin),
not as strain relief elements, only as non-metallic rodent protection

Multifunktionale Glasrovingumspinnung, feuchtigkeitsperrend, zweilagig (links und rechts Drall),
nicht als Zugentlastungselemente, nur als nichtmetallischer Nagetierschutz

Outer jacket / Außenmantel:

Polyurethan (TPE-U), wall thickness approx. 1.5 mm

Outer diameter approx. 9.4 mm

Colour: black, or according customer requirement

Polyurethan (TPE-U), Nennwandstärke ca. 1,5 mm

Außendurchmesser ca. 9,4 mm

Farbe: schwarz, oder nach Kundenanforderung

One ripcord under the jacket

Ein Reißfaden unter dem Mantel

Inkjet-marking (white):

Inkjet - Aufdruck (weiß):

LEONI - FiberConnect® A-V(ZN)11Y(ZN)B11Y 4 fibre type TB900L (alternating current symbol twice),
(Order No.), (Reel No.), (sequential length in metres)

LEONI - FiberConnect® A-V(ZN)11Y(ZN)B11Y 4 Fasertyp TB900L (zweimal Wechselstromsymbol),
(Auftragsnummer), (Trommelnummer), (Metermarkierung)

Application/Installation / Anwendung/Verlegung:

Flexible cable for moved application indoor and outdoor

Flexibles Kabel für den bewegten Einsatz im Innen- und Außenbereich

Indoor cable for the installation in cable ducts and in tubes and also suitable

for interconnections in harsh industrial environments

Innenkabel für ortsfeste Verlegung in Kabelkanälen und Rohren, sowie

für Rangierzwecke in rauer Industrieumgebung

Fiber optic cable with additional rodent proof

LWL-Kabel mit zusätzlichem Nagetierschutz

Good installation through ripcords to open the jackets

Montagefreundlich durch Reißfäden zum Öffnen der Mäntel

For direct connector assembly

Für direkte Steckerkonfektion

Ruggedized for industrial application, chemical resistance, abrasion resistance and crush resistance

Widerstandsfähig, für raue Industrieanwendung, hinsichtlich Chemikalienbeständigkeit, Abriebfestigkeit und Querdrukfestigkeit

Not suitable for underground laying (direct buried)

Direkte Erdverlegung nicht zulässig

Transmission characteristics / Übertragungseigenschaften:

Transmission characteristics see separate fibre data-sheet

Übertragungseigenschaften siehe gesondertes Faserdatenblatt

Mechanical characteristics / Mechanische Eigenschaften:

Min. bending radius fixed (static)

10 x outer diameter

with bend able robust fibre acc. IEC 60794-1-2 E11A

Min. Biegeradius fest verlegt (statisch)

mit biege-resistenter Faser nach IEC 60794-1-2 E11A

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**LEONI RODENT PROOF 4 FIBERS****LEONI**LEONI Part No.: **84951136#**

Min. bending radius during assembly (dynamic), with additional tensile strain acc. IEC 60794-1-2 E6 Min. Biegeradius bei Montage (dynamisch), mit zusätzlicher Zugbelastung nach IEC 60794-1-2 E6	15 x outer diameter
Max. tensile force acc. IEC 60794-1-2 E1, long term Max. Zugkraft nach IEC 60794-1-2 E1, langfristig	2000 N
Max. tensile force acc. IEC 60794-1-2 E1, short term Max. Zugkraft nach IEC 60794-1-2 E1, kurzzeitig	2500 N
Max. crush resistance acc. IEC 60794-1-2 E3, long term Max. Querdruckfestigkeit nach IEC 60794-1-2 E3, langfristig	4000 N/dm
Max. crush resistance acc. IEC 60794-1-2 E3, short term Max. Querdruckfestigkeit nach IEC 60794-1-2 E3, kurzzeitig	8000 N/dm
Impact resistance acc. IEC 60794-1-2 E4 Schlagfestigkeit nach IEC 60794-1-2 E4	50 impacts, 2.0 Nm, R = 12.5 mm
Flexing test acc. IEC 60794-1-2 E8 Wechselbiegeprüfung nach IEC 60794-1-2 E8	(2000 cycles, D = 80 mm, F = 10 N, L (pulling path) = 1.5 m)
Cable weight Kabelgewicht	approx. 105 kg/km
Drag chain test Schleppkettentest	1 000 000 cycles

Thermal characteristics / Thermische Eigenschaften:

Transport and storage Transport und Lagerung	- 55°C to + 85°C
Installation Verlegung	- 20°C to + 60°C
In use acc. IEC 60794-1-2 F1 Im Betrieb nach IEC 60794-1-2 F1	- 55°C to + 85°C

Fire performance / Brandverhalten:

Cable is flame-retardant Flammwidrigkeit	acc. to IEC 60332-1-2
Halogen-free Halogenfreiheit	acc. to IEC 60754-1
Acidity of the combustion gases Azidität der Brandgase	acc. to IEC 60754-2

Chemical characteristics / Chemische Eigenschaften:

Very good resistance to oil, petrol, acid and leach
Sehr gute Beständigkeit gegen Öl, Fett, Säuren und Laugen
UV-resistance of outer-jacket
UV-Beständigkeit des Außenmantels

Standardisation / Normung:

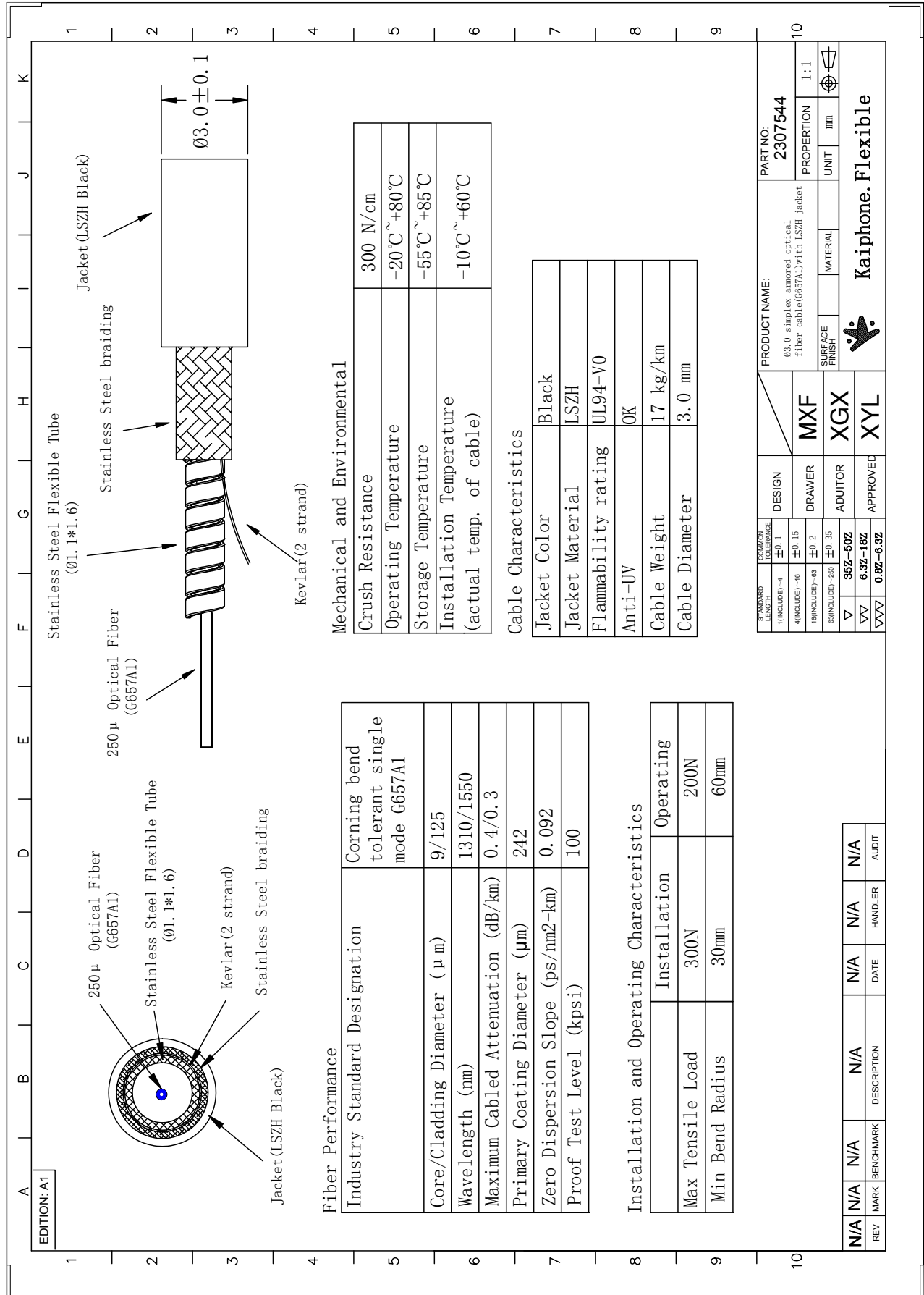
IEC 60794-2

NOTE

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KAIPHONE METAL ARMORED



[illegible]



Jacket (LSZH Black)

Stainless Steel Flexible Tube
(Ø1.1±1.6)

250 µ Optical Fiber OM1

Stainless Steel braiding

Kevlar (2 strand)

Ø3.0 ± 0.1

Mechanical and Environmental

Crush Resistance	300 N/cm
Operating Temperature	-20°C ~ +80°C
Storage Temperature	-55°C ~ +85°C
Installation Temperature (actual temp. of cable)	-10°C ~ +60°C

Cable Characteristics

Jacket Color	Black
Jacket Material	LSZH
Flammability rating	UL94-V0
UV resistance	OK
Cable Weight	17 kg/km
Cable Diameter	3.0 mm

Fiber Performance

Industry Standard Designation	Corning multimode optical fiber OM1
Core/Cladding Diameter (µm)	62.5/125
Wavelength (nm)	850/1300
Maximum Cabled Attenuation (dB/km)	3.0/1.0
Primary Coating Diameter (µm)	242
Zero Dispersion Slope (ps/nm²-km)	0.097
Proof Test Level (kpsi)	100

Installation and Operating Characteristics

	Installation	Operating
Max Tensile Load	300N	200N
Min Bend Radius	30mm	60mm

EDITION: A1

A **B** **C** **D** **E** **F** **G** **H** **I** **J** **K**

1 **2** **3** **4** **5** **6** **7** **8** **9** **10**

PRODUCT NAME:
Ø3.0 1 core multimode(OM1)
armored optical fiber cable with LSZH

PART NO:
6901001

PROPORTION
1:1

SURFACE FINISH
JACKET MATERIAL UNIT

DESIGN
MXF XGX XYL

DRAWER
ADULTOR APPROVED

COMMON TOLERANCE
LENGTH ±0.1
ANGLE ±0.15
RADIUS ±0.2
Diameter ±0.35

362-50Z
6.3Z-18Z
0.8Z-6.3Z

N/A **N/A** **N/A** **N/A** **N/A** **N/A** **N/A** **N/A** **N/A** **N/A**

REV **MARK** **BENCHMARK** **DESCRIPTION** **DATE** **HANDLER** **AUDIT**

Kaiphone. Flexible

**BRUGG METAL ARMORED****Fibre Optic Metallic Cables / Ropes****BRUsteel**

Flexible mini fibre optic cable - armoured, with stainless steel loose tubes with up to 8 fibres, metal strength members and outer sheath

Construction

- PA outer sheath
- Steel wires
- Gel-filled steel loose tube
- Fibres with primary coating

Description

- Central steel loose tube
- High permissible tensile strength
- High crush resistance
- Longitudinally and laterally watertight
- Excellent rodent protection
- Compact design, high flexibility
- Low weight
- Robust sheath
- Halogen-free cable sheath
- Connected with standard dead-ends and suspension fittings

Application

- Indoors, indoors and outdoors, outdoors
- Broadcast, FTTH and sensing applications
- Temporary applications
- Self-supporting applications

Temperature range

Operating temperature -40° ... +70°C
Storage temperature -40° ... +70°C
Installation temperature -5° ... +50°C

Jacket colour

Blue similar to RAL 5005

Standards

IEC 60794
Standards, see also data sheet 3_0_9

Remarks

Cable is available with different fibre types
2_1_2x_x and 2_1_3x_x
Special labelling of outer sheath on request

- Accessories (on request):•
Pre-assembled cables with:
 - Standard ferrule connector
 - Connector with IP protection class
- Dead-ends
- Repair kit
- Fibre and loose tube colour acc. to data sheet 3_0_3
- Instructions for installation and use see data sheet 3_6_0

3_7_4

LLK-BST, patented

**Technical data**

Type	Max. no. of fibres units	Cable ø mm	Weight kg/km	Max. tensile strength	
				short term N	long term N
1F	1	3.4	18	1000	750
2F	2	3.8	25	1500	1100
4F	4	3.8	25	1300	900
8F	8	4.8	46	3500	2600

Type	Min. bending radius		Max. crush resistance N/cm
	with tensile mm	without tensile mm	
1F	20xD	15xD	2000
2F	20xD	15xD	960
4F	20xD	15xD	800
8F	20xD	15xD	1000

NOTE

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LEONI SINGLEMODE G.657.A1

LEONI

Reliable tried and tested singlemode fiber for LAN, FTTX and long distance applications



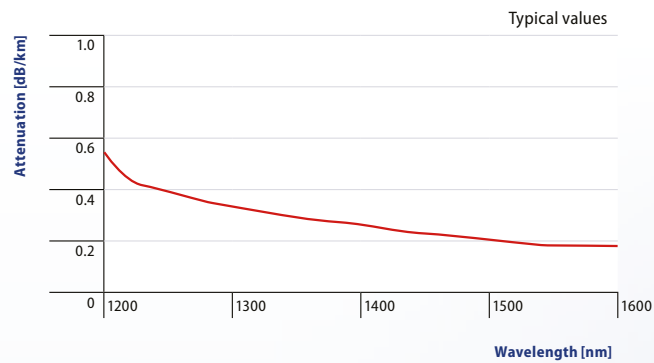
Description

For the bridging of larger distances in LAN cabling as well as for FTTX applications we offer reliable high-performance singlemode fibers.

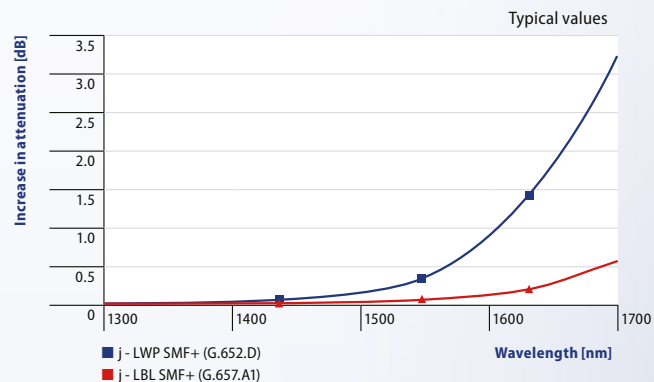
The G.657.A1 compliant fibers are compatible with installed networks and offer optimized bending properties. With lowest attenuation, perfect fiber geometry and tight fiber diameter tolerances, they are perfectly suited for the system demands in LAN networks.

In FTTX applications they meet the requirements for robust and cost-efficient fiber solutions with a future-proof perspective.

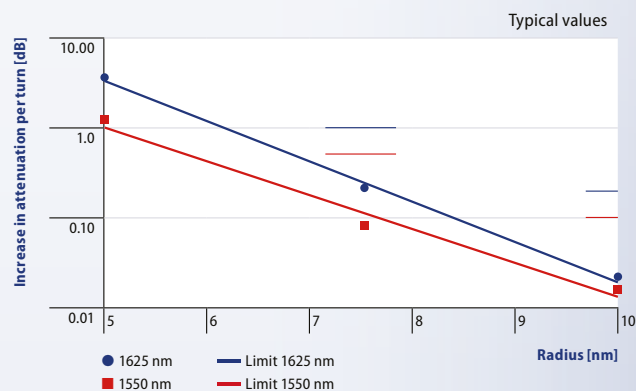
In long-distance applications our G.652.D singlemode fibers guarantee cost advantages and performance consistency as required for the transmission of high data rates over long distances.

Typical spectral attenuation for LWP SMF⁺

Comparison of bend-performance of the LBL singlemode fiber to other G.652.D SMF (10 mm radius, 1 turn)



Typical bend-performance of ULBL SMF (G.657.B2)



NOTE

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LEONI SINGLEMODE G.657.A1

LEONI

		LWP SMF ⁺ (ITU-T G.652.D)	LBL SMF (ITU-T G.657 A.1)	ULBL SMF (ITU-T G.657.B2)
Optical properties		Specific values		
Attenuation coefficient ¹⁾ [dB/km]	1310 nm	≤ 0.33 to ≤ 0.35	≤ 0.33 to ≤ 0.36	≤ 0.38
	1383 nm ²⁾	≤ 0.31 to ≤ 0.35	≤ 0.31 to ≤ 0.36	–
	1550 nm	≤ 0.19 to ≤ 0.21	≤ 0.19 to ≤ 0.21	≤ 0.25
	1625 nm	≤ 0.20 to ≤ 0.23	≤ 0.20 to ≤ 0.23	≤ 0.25
Attenuation variance range ³⁾ [dB/km]	1285–1330 nm	≤ 0.03	≤ 0.03	–
	1530–1570 nm	≤ 0.02	≤ 0.02	
	1460–1625 nm	≤ 0.04	≤ 0.04	
Mode field Ø [µm]	1310 nm	9,2 ± 0.4	8,6 ± 0.4	7,5 ± 0.4
	1550 nm	10,4 ± 0.5	9,8 ± 0.5	
Discontinuity (tp = 1 µs) [dB]	1310 nm	≤ 0.05	≤ 0.05	–
	1550 nm	≤ 0.05	≤ 0.05	–
Attenuation uniformity [dB]		≤ 0.05	≤ 0.05	–
Macrobending loss				
Bend-induced attenuation [dB]				
100 turns Radius 50 mm	1310 nm	≤ 0.05	–	–
	1550 nm	≤ 0.05	–	–
1 turn Radius 32 mm	1550 nm	≤ 0.05	–	–
			–	–
10 turns Radius 15 mm	1550 nm	–	≤ 0.03	≤ 0.03
	1625 nm	–	≤ 0.2	≤ 0.1
1 turn Radius 10 mm	1550 nm	–	≤ 0.3	≤ 0.1
	1625 nm	–	≤ 1.0	≤ 0.2
1 turn Radius 7.5 mm	1550 nm	–	–	≤ 0.5
	1625 nm	–	–	≤ 1.0
Fiber cut-off wavelength λ _c [nm]		1200–1330	≤ 1340	–
Cable cut-off wavelength λ _{cc} [nm]		≤ 1260	≤ 1260	–
Zero crossing of dispersion λ ₀ [nm]		1300 ≤ λ ₀ ≤ 1324	1300 ≤ λ ₀ ≤ 1324	–
Slope at zero crossing of dispersion S ₀ [ps/nm ² ×km]		≤ 0.092	≤ 0.092	–
Chromatic dispersion [ps/nm×km]	1270–1340 nm	≤ 5.00	≤ 5.00	–
	1285–1330 nm	≤ 3.00	≤ 3.00	–
	1550 nm	≤ 18.00	≤ 18.00	–
Effective group index	1310 nm	1.467	1.467	–
	1383 nm	1.467	1.467	–
	1550 nm	1.467	1.467	–
Value of polarization mode dispersion link ⁴⁾ [ps/√km]		≤ 0.06	≤ 0.06	–
Individual fiber ⁵⁾ [ps/√km]		≤ 0.10	≤ 0.10	–
Mechanical properties		Specified values		
Proof test	[kpsi]	≥ 100		
	[N]	≥ 8.8		
	[GPa]	≥ 0.7		
Dynamic tensile strength in an unaged fiber (0.5 m) [GPa]	Median tensile strength	≥ 3.8		
	Tensile strength 15 %	≥ 3.3		
Dynamic tensile strength in an aged fiber (0.5 m) [GPa]	Median tensile strength	≥ 3.03		
	Tensile strength 15 %	≥ 2.76		
Dynamic fatigue	Stress-corrosion parameter n _d	≥ 20		
Operating temperature [°C]		–60 to +85		
Average coating strip force (typ.) [N]		1.9		

¹⁾ Special attenuation cells on request.²⁾ Attenuation values for 1383 nm represent values after hydrogen charging and are always lower or equal to the attenuation value for 1310 nm.³⁾ Fiber attenuation in specified areas exceeds the nominal values at 1310/1550 nm no more than the declared value.⁴⁾ M = 20, Q = 0.01 %⁵⁾ Individual values can change during the cabling.

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LEONI MULTIMODE 50µm OM3



50/125 μm j-BendAble / OptiGrade / GigaGrade		Multimode fiber specifications	Test methods	Industrial standards								
				IEC 60793-2-10	ISO/IEC 11801	ITU G651.1	TIA/EIA 492AAD OM4	TIA/EIA 492AAAC-B OM3	TIA/EIA 492AAAB-A OM2			
Performance properties												
Attenuation [dB/KM]	at 850 nm	≤ 2.2 to ≤ 2.4	FOTP 78 IEC 60793-1-40	2.4 to 3.5 (A1a.1) 2.5 (A1a.2)	≤ 3.5 (cabled)	≤ 3.5 (cabled)	≤ 2.5	≤ 2.5	≤ 3.0			
	at 1300 nm	≤ 0.6 to 0.7		0.7 to 1.5 (A1a.1) 0.8 (A1a.2)	≤ 1.5 (cabled)	≤ 1 (cabled)	≤ 0.8	≤ 0.8	≤ 1.0			
	at 1385 nm (OH peak)	< 2.0		—	—	—	≤ 3.0	≤ 3.0	≤ 3.0			
Discontinuity [dB]	at 850 nm	≤ 0.1	FOTP 78	—	—	—	≤ 0.2	≤ 0.2	≤ 0.2			
	at 1300 nm	≤ 0.1	IEC 60793-1-40	—	—	—	≤ 0.2	≤ 0.2	≤ 0.2			
Bend-induced attenuation [dB] for OptiGrade / GigaGrade												
100 turns Radius 37.5 mm	at 850 / 1300 nm	≤ 0.5	FOTP 62 IEC 60793-1-47	≤ 0.5	—	—	—	—	—			
Bend-induced attenuation [dB] for j-Bendable												
100 turns Radius 37.5 mm	at 850 nm	≤ 0.05	FOTP 62 IEC 60793-1-47	≤ 0.5	—	—	—	—	—			
2 turns Radius 15 mm	at 1300 nm	≤ 0.15		≤ 0.5	—	—	—	—	—			
	at 850 nm	≤ 0.1		—	—	< 1	—	—	—			
2 turns Radius 7.5 mm	at 1300 nm	≤ 0.3		—	—	< 1	—	—	—			
	at 850 nm	≤ 0.2		—	—	—	—	—	—			
	at 1300 nm	≤ 0.5		—	—	—	—	—	—			
Modal bandwidth [MHz×km]												
		OM2	OM2+	OM3	OM4							
		Giga- Grade	OptiGrade / j-Bendable									
OFL	at 850 nm	≥ 500 to 600	≥ 750	≥ 1500	≥ 3500	FOTP 204 IEC 60793-1-41	200 to 800 (A1a.1) 1500 (A1a.2)	≥ 200 (OM1) ≥ 500 (OM2) ≥ 1500 (OM3) ≥ 3500 (OM4)	≥ 500	≥ 3500	≥ 1500	≥ 500
OFL	at 1300 nm	≥ 500 to 1200	≥ 500	≥ 500	≥ 500		500	≥ 500 (OM1/2/3/4)	≥ 500	≥ 500	≥ 500	≥ 500
EMB	at 850 nm	–	≥ 1000	≥ 2000	≥ 4700	FOTP 220 IEC 60793-1-49	≥ 2000 (A1a.2)	≥ 2000 (OM3)	≥ 4700	≥ 2000		
Transmission link length 1 Gb/s [m]	at 850 nm	550 to 750	750	1000	1100	—	—	—	—	—	—	—
	at 1300 nm	550 to 2000	550	550	550	—	—	—	—	—	—	—
Transmission link length 10 Gb/s [m]	at 850 nm	n.a.	150	300	550	—	—	—	—	—	—	—
	at 1300 nm	n.a.	300	300	300	—	—	—	—	—	—	—
Chromatic dispersion												
Slope at zero crossing of dispersion ~λ ₀ [nm]		1295≤ λ ₀ ≤ 1340		FOTP 175 IEC 60793-1-32	1295≤ λ ₀ ≤ 1340		—	1295≤ λ ₀ ≤ 1340	1295≤ λ ₀ ≤ 1340	1295≤ λ ₀ ≤ 1340	1295≤ λ ₀ ≤ 1340	
Slope at zero crossing of dispersion – S ₀ [ps/(nm ² ×km)] from 1295 ≤ λ ₀ ≤ 1310 from 1310 ≤ λ ₀ ≤ 1340		≤ 1.105 ≤ 0.000375×(1590-λ ₀)			≤ 1.105 ≤ 0.000375×(1590-λ ₀)		—	≤ 0.105 ≤ 0.000375 × (1590-λ ₀)				
Geometrical properties												
Core Ø [μm]		50 ± 2.5		FOTP 176 IEC 60793-1-20	50 ± 2.5		50 ± 3.0	50 ± 2.5	50 ± 2.5	50 ± 2.5	50 ± 3.0	
Cladding Ø [μm]		125 ± 1.0			125 ± 2.0		125 ± 2.0	125 ± 2.0	125 ± 2.0	125 ± 2.0		
Cladding non-circularity [%]		≤ 1.0			≤ 2.0		≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0		
Core non-circularity [%]		≤ 5			≤ 6		≤ 6	≤ 6	≤ 6	≤ 6		
Core/cladding concentricity error [μm]		≤ 1.5			≤ 3.0		≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0		
Coating Ø [μm]		242 ± 7		FOTP 176 IEC 60793-1-20	245 ± 10		245 ± 10	245 ± 10	245 ± 10	245 ± 10	245 ± 10	
Numerical aperture		0.200 ± 0.015		FOTP 177 IEC 60793-1-43	0.200 ± 0.015		0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	0.200 ± 0.015	
Length [km]	j-BendAble/ OptiGrade	1.1 to 8.8		Calibrated Winder IEC 60793-1-22	—		—	min. 1.1	min. 1.1	min. 1.1		
	GigaGrade 50/125	1.1 to 17.6			—		—	—	—	—		
Proof test [GPa]	j-BendAble	≥ 200 (kpsi) ≥ 1.38 (GPa)		FOTP 31 IEC 60793-1-30	≥ 0.69		—	≥ 0.69	≥ 0.69	≥ 0.69	≥ 0.69	
	OptiGrade/ GigaGrade	≥ 100 (kpsi) ≥ 0.69 (GPa)			—		—	—	—	—		
Coating strip force [N]	peak value	1.0 ≤ x ≤ 8.9		FOTP 178 IEC 60793-1-32	1.0 ≤ x ≤ 8.9		—	1.0 ≤ x ≤ 9.0	1.0 ≤ x ≤ 9.0	1.0 ≤ x ≤ 9.0		
	average value	1.0 ≤ x ≤ 5.0			1.0 ≤ x ≤ 5.0		—	—	—	—		

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LEONI MULTIMODE 62.5µm OM1

LEONI

62.5/125 µm GigaGrade	Multimode fiber specifications	Test methods	IEC 60793-2-10 A1b	ISO/IEC 11801	TIA/EIA 492AAAA-A (OM1)
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Performance properties					
Attenuation [dB/KM]	at 850 nm	≤ 2.7 to ≤ 2.9	FOTP 78 IEC 60793-1-40	2.8 to 3.5	≤ 3.5 (cabled)
	at 1300 nm	≤ 0.6 to 0.7		0.7 to 1.5	≤ 1.5 (cabled)
	at 1385 nm (OH peak)	< 2.0		—	—
Discontinuity [dB]	at 850 nm	≤ 0.1	FOTP 78	—	≤ 0.2
	at 1300 nm	≤ 0.1	IEC 60793-1-40	—	≤ 0.2
Modal bandwidth [MHz×km]					
OFL	at 850 nm	≥ 200 to 300	FOTP 78	100 to 800	≥ 200 (OM1)
OFL	at 1300 nm	≥ 500 to 1000	IEC 60793-1-41	200 to 1000	≥ 500
Transmission link length 1 Gb/s [m]	at 850 nm	300	—	—	—
	at 1300 nm	500	—	—	—
Chromatic dispersion		1320 ≤ λ ₀ ≤ 1365	FOTP 175 IEC 60793-1-32	1320 ≤ λ ₀ ≤ 1365	—
Zero crossing of dispersion - λ ₀ [nm]					1320 ≤ λ ₀ ≤ 1365
Slope at zero crossing of dispersion - S ₀ [ps/(nm ² ×km)]		≤ 0.11		—	—
from 1320 ≤ λ ₀ ≤ 1345		≤ 0.001×(1458-λ ₀)		≤ 0.11	≤ 0.11
from 1345 ≤ λ ₀ ≤ 1365				≤ 0.001×(1458-λ ₀)	≤ 0.001×(1458-λ ₀)

Geometrical properties					
Core Ø [µm]		62.5 ± 2.5	FOTP 176 IEC 60793-1-20	62.5 ± 3.0	62.5 ± 3.0
Cladding Ø [µm]		125 ± 1.0		125 ± 2.0	125 ± 2.0
Cladding non-circularity [%]		≤ 1.0		≤ 2.0	≤ 2.0
Core non-circularity [%]		≤ 5		≤ 6	≤ 6
Core/cladding concentricity error [µm]		≤ 1.5		≤ 3.0	≤ 3.0
Numerical aperture		0.275 ± 0.015	FOTP 177 IEC 60793-1-43	0.275 ± 0.015	0.275 ± 0.015
Length [km]	GigaGrade 62.5/125	1.1 to 17.6	Calibrated Winder IEC 60793-1-22	—	min. 1.1
Proof test [GPa]	GigaGrade 62.5/125	≥ 100 (kpsi) ≥ 0.69 (GPa)	FOTP 31 IEC 60793-1-30	≥ 0.69	≥ 0.69
Coating	peak value	1.0 ≤ x ≤ 8.9	FOTP 178	1.0 ≤ x ≤ 8.9	—
strip force [N]	average value	1.0 ≤ x ≤ 5.0	IEC 60793-1-32	1.0 ≤ x ≤ 5.0	—

50/125 62.5/125 μm j-BendAble / OptiGrade / GigaGrade 50 / GigaGrade 62.5	Multimode fiber specifications	Test methods	Industrial standards				
			IEC 60793-2-10	ISO/IEC 11801	TIA/EIA 492AAD OM4	TIA/EIA 492AAAC-B OM3	TIA/EIA 492AAAB-A OM3



Change of attenuation in environmental test [dB/km] at 850 nm and 1300 nm								
Damp heat attenuation increase 30 days at 85 °C / 85 % R.H.	≤ 0.10	FOTP 72 IEC 60793-1-50	≤ 0.20	—	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20
Dry heat attenuation increase 30 days at 85 °C		FOTP 72 IEC 60793-1-51						
Change of temperature attenuation increase from -60 °C to +85 °C		FOTP 72 IEC 60793-1-52						
Water immersion attenuation increase, 30 days, 23 °C		FOTP 72 IEC 60793-1-53						

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BRUGG SINGLEMODE G.657.A1



Optical Single Mode Fibres

Fibre, single-mode - bend optimized

2_1_21

According to ITU-T G.657 A1

Construction

- Step index glass/glass optical fiber
- Primary coating with polyacrylate

Description

- The attenuation at 1383 nm is equal to the value at 1310 nm.

Standards

These fibers are compatible with fibers corresponding to ITU-T G.652 D

On request other bend optimized fibers are available

Remarks

Available on request



Optical data (cabled)

Type	Attenuation dB/km 1310 nm	Attenuation dB/km 1550 nm	Chromatic dispersion ps/(nm x km) 1310 nm	Chromatic dispersion ps/(nm x km) 1550 nm	Zero dispersion wavelength nm	Cut-off wavelength nm	PMD ps/√km
FSB	≤0.36	≤0.25	≤3.5	≤18	1304...1324	≤1260	≤0.2

Geometric values

Type	Mode field ø µm 1310 nm	Mode field ø µm 1550 nm	Cladding Ø µm	Primary coating ø µm	Mode field non-circularity %	Cladding non-circularity %	MFD/cladding/-concentricity µm
FSB	8.6±0.4	9.8±0.5	125±1	245±10	≤6	≤2	≤0.8

NOTE

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BRUGG MULTIMODE 50µm OM1



Optical Multi Mode Fibres

Fibre, multi-mode - application

2_1_32

Optimised for 10 Gigabit Ethernet application

Construction

- Graded index glass/glass optical fibre
- Primary coating with polyacrylate



Optical data (cabled)

Type	Attenuation dB/km 850 nm	Attenuation dB/km 1300 nm	Bandwidth/- length product MHz x km (OFL) 850 nm	Bandwidth/- length product MHz x km (OFL) 1300 nm	Bandwidth/- length product MHz x km (LA- SER) 850 nm	Numeric aper- ture	DMD character- istics
→ FG5M - OM3	≤2.7	≤0.9	≥1500	≥500	≥2000	0.200±0.02	TIA-492 AAAC
FG5N - OM4	≤2.7	≤0.9	≥3500	≥500	≥4700	0.200±0.02	TIA-492AAD

Geometric values

Type	Core Ø µm	Cladding Ø µm	Primary coating ø µm	Core non-circularity %	Cladding non-circu- larity %	Core/sheath con- centricity µm
→ FG5M - OM3	50±2.5	125±2.0	245±10	≤6	≤1	≤1.5
FG5N - OM4	50±2.5	125±1.0	245±10	≤5	≤1	≤1.5

These values correspond to following standards

Type	ITU-T G.651 (50/125µm)	DIN VDE 0888	EN 50173	ISO / IEC 11801	IEC 60793	IEEE 802.3ae
→ FG5M - OM3	x	x	x	x	x	x
FG5N - OM4	x	x	x	x	x	x

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LEONI MULTIMODE 62.5µm OM3

Optical Multi Mode Fibres

Fibre, multi-mode - standard

2_1_30_1

For standard LAN applications

Construction

- Graded index glass/glass optical fiber
- Primary coating with polyacrylate



Optical data (cabled)

Type	Attenuation dB/km 850 nm	Attenuation dB/km 1300 nm	Bandwidth/length prod- uct MHz x km (OFL) 850 nm	Bandwidth/length prod- uct MHz x km (OFL) 1300 nm	Numeric aperture
FG5 - OM2	≤2.7	≤0.8	≥500	≥800	0.200±0.02
FG5F - OM2	≤2.5	≤0.7	≥600	≥1200	0.200±0.02
→ FG6 - OM1	≤3.5	≤1.0	≥200	≥500	0.275±0.02
FG6A - OM1	≤3.0	≤0.8	≥250	≥800	0.275±0.02

Geometric values

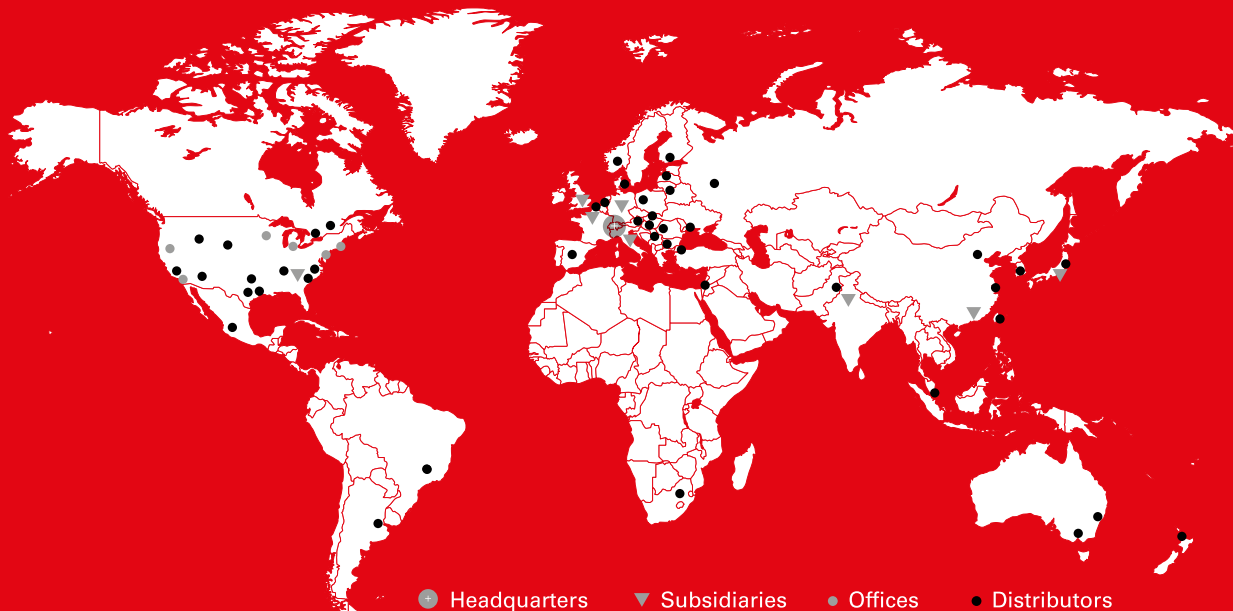
Type	Core Ø µm	Cladding Ø µm	Primary coating ø µm	Core non-circular- ity %	Cladding non-cir- cularity %	Core/sheath con- centricity µm
FG5 - OM2	50±3	125±2	250±15	≤6	≤2	≤1.5
FG5F - OM2	50±3	125±2	250±15	≤6	≤2	≤1.5
→ FG6 - OM1	62.5±3	125±2	250±15	≤6	≤2	≤1.5
FG6A - OM1	62.5±3	125±2	250±15	≤6	≤2	≤1.5

These values correspond to following standards

Type	ITU-T G.651 (50/125µm)	DIN VDE 0888	EN 50173	ISO / IEC 11801	IEC 60793
FG5 - OM2	x	x	x	x	x
FG5F - OM2	x	x	x	x	x
→ FG6 - OM1			x	x	x
FG6A - OM1			x	x	x

NOTE

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