



UFC9204LSZH  
UFC9206LSZH  
UFC9208LSZH  
UFC9212LSZH

UFC5204LSZH  
UFC5206LSZH  
UFC5208LSZH  
UFC5212LSZH

UFC4204  
UFC4206  
UFC4212

UFC3204  
UFC3206  
UFC3212

UFC2204  
UFC2206  
UFC2212

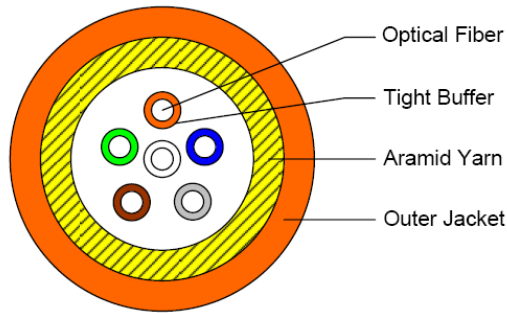


### Scope of Application

This specification covers the general requirements for fiber optic telecommunication cables used for campus backbone (inter-building), building backbone (intra-building), indoor installation. LINK fiber optic cable support application such as 40/100Gbps Ethernet, IEEE802.3ae, 10G Ethernet, IEEE802.3z, Gigabit Ethernet, Fast Ethernet, Ethernet, 100BASE-F, 52/155/622Mbps and 1.2Gbps ATM, FDDI, Fiber channel and others.

LINK INDOOR, Distribution, LSZH, fiber optic cable, 900µm tight-buffered optical fibers surrounded by aramid strength member with a flame-retardant LSZH outer jacket.

### Drawing



### Technical Standard

- ANSI/TIA-568.3-D
- ANSI/TIA-568-D.3
- ANSI/ICEA 596
- Telcordia (Bellcore) GR-409-CORE
- ITU-T G.652D (Singlemode)
- ITU-T G.651 (Multimode)
- RoHS Compliant
- ISO/IEC 11801:2011
- ISO/IEC 11801:2017
- IEC 60332-1, IEC 60332-3
- IEC 61034-2, IEC 60754-2
- IEC 60793, IEC 60794-1-2
- EN 50173-1, UL-1666, FR-LSZH, OFNR



## OPTICAL FIBER

Items		Specifications
Fiber Type		9/125 $\mu\text{m}$ (OS2)
Max. / Typ. Attenuation	1310 nm	$\leq 0.35/0.33$ dB/km
	1383 nm	$\leq 0.35/0.31$ dB/km
	1550 nm	$\leq 0.21/0.19$ dB/km
	1625 nm	$\leq 0.23/0.20$ dB/km
Core	Mode Field Diameter	9.2 $\pm$ 0.4 $\mu\text{m}$ @ 1310 nm 10.4 $\pm$ 0.5 $\mu\text{m}$ @ 1550 nm
Cladding Diameter		125 $\pm$ 0.7 $\mu\text{m}$
Coating Diameter, Primary		242 $\pm$ 5 $\mu\text{m}$
Coating Diameter, Secondary		250 $\pm$ 5 $\mu\text{m}$
Cladding Non-circularity		$\leq 0.7$ %
Core/Cladding Concentricity error		$\leq 0.5$ $\mu\text{m}$
Coating/Cladding Concentricity error		$\leq 12$ $\mu\text{m}$
Attenuation (Homogeneity)		Max 0.1 dB/km
Zero Dispersion Wavelength		1300 ~ 1324 nm
Zero Dispersion Slope		$\leq 0.092$ ps/(nm <sup>2</sup> .km)
Cut-off Wavelength	$\lambda_0$ (Fiber)	1150 ~ 1330 nm
	$\lambda_\infty$ (Cable)	$\leq 1260$ nm
Proof Test Stress		100 Kpsi
Chromatic Dispersion	$\lambda$ ; 1285~1340 nm	$\leq 3.5$ ps/nm.km
	$\lambda = 1550$ nm	$\leq 18$ ps/nm.km
	$\lambda = 1625$ nm	$\leq 22$ ps/nm.km
Polarization mode dispersion (PMD)		$\leq 0.20$ ps/ $\sqrt{\text{km}}$
Fiber Curl		$\geq 4\text{M}$
Numerical Aperture		0.130 $\pm$ 0.010
Group refractive index	1310 nm	1.4676
	1550 nm	1.4682

**Table 1** The Optical, Geometrical Performance of the Singlemode Fiber (The specification conforms to the requirement of ISO/IEC11801, ANSI/TIA-568.3-D, IEC 60793-2B1.3, ITU-T G.652D)



## OPTICAL FIBER

Items		Specifications			
		50/125 $\mu$ m	50/125 $\mu$ m	50/125 $\mu$ m	50/125 $\mu$ m
Fiber Type		(OM2)	(OM3)	(OM4)	(OM5)
Max./ Typ. Attenuation (dB/km)	850 nm	$\leq 2.7 / \leq 2.5$	$\leq 2.7 / \leq 2.3$	$\leq 2.7 / \leq 2.3$	$\leq 2.7 / \leq 2.3$
	1300 nm	$\leq 0.8 / \leq 0.7$	$\leq 0.8 / \leq 0.6$	$\leq 0.8 / \leq 0.6$	$\leq 0.8 / \leq 0.6$
	953 nm	N.A	N.A	N.A	$\leq 2.3 / \leq 2.0$
Bandwidth (MHz/km)	850 nm	$\geq 500$	$\geq 1500$	$\geq 3500$	$\geq 3500$
	1300 nm	$\geq 500$	$\geq 500$	$\geq 500$	$\geq 500$
	953 nm	N.A	N.A	N.A	$\geq 1850$
850nm Laser Bandwidth (MHz/km)		N.A	$\geq 2000$	$\geq 4700$	$\geq 4700$
953nm Laser Bandwidth (MHz/km)		N.A	N.A	N.A	$\geq 2470$
Core Diameter ( $\mu$ m)		$50.0 \pm 2.5$	$50.0 \pm 2.5$	$50.0 \pm 2.5$	$50.0 \pm 2.5$
Cladding Diameter ( $\mu$ m)		$125 \pm 1$	$125 \pm 1$	$125 \pm 1$	$125 \pm 1$
Core Non-circularity (%)		$\leq 5$	$\leq 5$	$\leq 5$	$\leq 5$
Cladding Non-circularity (%)		$\leq 1.0$	$\leq 1.0$	$\leq 1.0$	$\leq 1.0$
Core/Cladding Concentricity error ( $\mu$ m)		$\leq 1.5$	$\leq 1.5$	$\leq 1.5$	$\leq 1.5$
Coating Diameter, Primary ( $\mu$ m)		$242 \pm 5$	$242 \pm 5$	$242 \pm 5$	$242 \pm 5$
Coating Diameter, Secondary ( $\mu$ m)		$250 \pm 5$	$250 \pm 5$	$250 \pm 5$	$250 \pm 5$
Coating Non-Circularity (%)		$\leq 5$	$\leq 5$	$\leq 5$	$\leq 5$
Coating/Cladding Concentricity error ( $\mu$ m)		$\leq 12$	$\leq 12$	$\leq 12$	$\leq 12$
Attenuation (Homogeneity)		Max 0.1 dB/km	Max 0.1 dB/km	Max 0.1 dB/km	Max 0.1 dB/km
Proof Test Stress (kpsi)		100	100	100	100
Bending Loss @ 850 & 1300 nm (100 turns,		$\leq 0.5$ dB	$\leq 0.5$ dB	$\leq 0.5$ dB	$\leq 0.5$ dB
Zero-Dispersion Wavelength		1295~1315nm	1295~1315nm	1295~1315nm	1295~1315nm
Zero-Dispersion Slope (ps/(nm <sup>2</sup> .km))		$\leq 0.101$	$\leq 0.101$	$\leq 0.101$	$\leq 0.101$
Numerical Aperture		$0.200 \pm 0.015$	$0.200 \pm 0.015$	$0.200 \pm 0.015$	$0.200 \pm 0.015$
Group refractive index	850 nm	1.482	1.482	1.482	1.482
	1300 nm	1.477	1.477	1.477	1.477

**Table 2** The optical, Geometrical Performance of the Multimode Fiber (The specification conforms to the requirement of ISO/IEC11801, ANSI/TIA-568.3-D, IEC 60793-2A1a, IEC 60793-2A1b, ITU -T G.651)



## CABLE CONSTRUCTION

The construction of the cable shall be in accordance with Table 3 below.

Items		Specifications			
Number of fiber		4 Core	6 Core	8 Core	12 Core
Tight Buffer	Material	FR-PVC with color coding			
	Outer Diameter	900 μm			
Strength Member		Aramid Yarn			
Outer Jacket	Material	FR-LSZH			
Cable Diameter (Approx.)		4.8 ± 0.2 mm	5.4 ± 0.2 mm	5.9 ± 0.2 mm	6.8 ± 0.2 mm
Cable Weight (Approx.)		21 kg/km	26 kg/km	33 kg/km	42 kg/km

**Table 3** Construction of INDOOR, DISTRIBUTION, LSZH, FIBER OPTIC CABLE.

## TEMPERATURE RANGE

For the cables covered by this specification, the following temperature ranges apply.

- Operation Temperature : -40°C to +80°C
- Installation Temperature : -40°C to +80°C
- Storage/Shipping Temperature : -40°C to +85°C

## MECHANICAL SPECIFICATION

Item		Specification			
Number of fibers		4 Core	6 Core	8 Core	12 Core
Maximum Tensile load	Installation	600N	600N	600N	600N
	Operation	300N	300N	300N	300N
Minimum bending Radius	Installation	15x	15x	15x	15x
	Operation	10x	10x	10x	10x

**Table 4** Mechanical Specification of the cable.



## MECHANICAL PERFORMANCE TEST

- Tensile loading Test TIA/EIA-455-33A and IEC 60794-1-2-E1A
- Compression Test TIA/EIA-455-41A and IEC 60794-1-2-E3
- Repeated Bending Test TIA/EIA-455-104A and IEC 60794-1-2-E6
- Impact Test TIA/EIA-455-25B and IEC 60794-1-2-E4
- Cable Bending Test IEC 60794-1-2-E11B
- Cable Twist or Torsion Test TIA/EIA-455-85A and IEC 60794-1-2-E7
- Temperature Cycling Test TIA/EIA-455-3A and IEC 60794-1-2-F1
- Water Penetration Test TIA/EIA-455-82B and IEC 60794-1-2-F5

## ORDER INFORMATION

### INDOOR, DISTRIBUTION, FR-LSZH, FIBER OPTIC CABLE

Descriptions	OS2, SM 9/125 μm	OM2, MM 50/125 μm	OM3, MM 50/125 μm	OM4, MM 50/125 μm	OM5, MM 50/125 μm
4 Core	UFC9204LSZH	UFC5204LSZH	UFC4204	UFC3204	UFC2204
6 Core	UFC9206LSZH	UFC5206LSZH	UFC4206	UFC3206	UFC2206
8 Core	UFC9208LSZH	UFC5208LSZH	UFC4208	UFC3208	UFC2208
12 Core	UFC9212LSZH	UFC5212LSZH	UFC4212	UFC3212	UFC2212

Specifications subject to change without notice.

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