



UFC9304
UFC9306
UFC9312

UFC5304
UFC5306
UFC5312

UFC4304
UFC4306
UFC4312

UFC3304
UFC3306
UFC3312

UFC2304
UFC2306
UFC2312

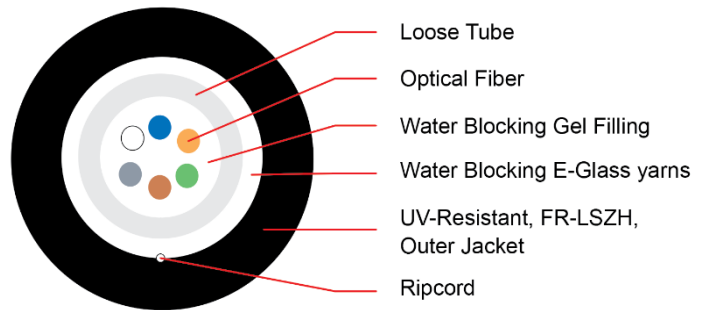


General Requirements

This specification covers the general requirements for fiber optic telecommunication cables used for campus back bone (inter-building), building backbone (intra-building), indoor and outdoor in duct or lash aerial installation. LINK fiber optic cable supports application such as 25/40/50/100/200/400Gbps Ethernet, IEEE802.3ae 10G Ethernet, IEEE802.3z Gigabit Ethernet, IEEE802.3u Fast Ethernet, 52/155/622Mbps, 1.2Gbps ATM, FDDI, Fiber channel, FTTx, CATV, CCTV and others

LINK OUTDOOR/INDOOR, Duct, All-Dielectric, FR-LSZH, fiber optic cable, Singlemode and Multimode color coded fibers, single loose tube, the interstices between the optical fibers filled with a suitable waterproof compound. The water blocking E-glass yarns provide for tensile strength, water blocking and rodent protection. The ripcord for easy to strip. The outer sheath is UV-Resistant black PE with FR-LSZH.

Construction



References

- ANSI/TIA-568.3-D ISO/IEC 11801:2017, EN 50173-1
- ANSI/TIA-568-C.3 IEC 60332-1-2
- ANSI/ICEA 696, ANSI/ICEA 596 IEC 61034-2, IEC60754-2
- Telcordia (Bellcore) GR-20-CORE, GR-409-CORE IEC 60793, IEC60794-1-2
- ITU-T G.651 (Multimode) TIS 2165
- ITU-T G.652D (Single mode) RoHS Compliant





QRVIECN'HIDGT

Kgo u		Ur gethievqpu
Fiber Type		9/125 μ 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 μ m @ 1310 nm 10.4 \pm 0.5 μ m @ 1550 nm
Cladding Diameter		125 \pm 0.7 μ m
Coating Diameter, Primary		242 \pm 5 μ m
Coating Diameter, Secondary		250 \pm 5 μ m
Cladding Non-circularity		≤ 0.7 %
Core/Cladding Concentricity error		≤ 0.5 μ m
Coating/Cladding Concentricity error		≤ 12 μ m
Attenuation (Homogeneity)		Max 0.1 dB/km
Zero Dispersion Wavelength		1300 ~ 1324 nm
Zero Dispersion Slope		≤ 0.092 ps/(nm ² .km)
Cut-off Wavelength	λ_0 (Fiber)	1150 ~ 1330 nm
	λ_∞ (Cable)	≤ 1260 nm
Proof Test Stress		100 Kpsi
Chromatic Dispersion	λ ; 1285~1340 nm	≤ 3.5 ps/nm.km
	$\lambda = 1550$ nm	≤ 18 ps/nm.km
	$\lambda = 1625$ nm	≤ 22 ps/nm.km
Polarization mode dispersion (PMD)		≤ 0.20 ps/ \sqrt km
Fiber Curl		≥ 4 M
Numerical Aperture		0.130 \pm 0.010
Group refractive index	1310 nm	1.4676
	1550 nm	1.4682

Vcdry'3 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)



QRVIECN'HIDGT

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

Vcdrg'4 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)



EC DNG'EQPUVTWEVKQP

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

Kgo u		Ur gelltecvkqp	
Number of fibers		4, 6, 8	12
Loose tube	Material	PBT (Polybutylene Terephthalate)	
	Color	White	
	Filling Compound	Thixotropic jelly compound	
Additional Strength Member	Material	Water blocking E-Glass yarns (To provide the required tensile strength, water blocking and rodent protection)	
Rip Cord	Material	Plastic thread	
Outer Jacket	Material	UV-resistant, Black PE with FR-LSZH (Flame Retardant Low Smoke Zero Halogen)	
	Thickness (Approx.)	1.6 mm.	
Cable Diameter (Approx.)		7.2 ± 0.5 mm.	7.7 ± 0.5 mm.
Cable Weight (Approx.)		53 ± 5 kg. /km.	60 ± 5 kg. /km.

Vcdrg'5 Construction of OUTDOOR/INDOOR, DUCT, All-Dielectric, FR-LSZH, Fiber optic cable.

VGORGT CVWT G'T CPI G

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

- Operation Temperature : -40°C to +70°C
- Installation Temperature : -40°C to +70°C
- Storage/Shipping Temperature : -40°C to +75°C

OGEJ CPIECN'URGE KIKIECVIQP

Kgo		Ur gelltecvkqp
Maximum Tensile load	Installation	1,800 N.
	Operation	900 N.
Maximum Crush resistance		1,500 N./10 cm.
Minimum bending Radius	Installation	15 x Cable Diameter
	Operation	10 x Cable Diameter

Vcdrg'6 Mechanical Specification of the cable.



HIDGT 'CPF 'NQUG'VWDG'IE GP VIKIE CVIQP

The color code of the loose tubes and the individual fibers within each loose tube shall be in accordance with Table 5 TIA/EIA-598-C (Rev. TIA/EIA-598-A) and EIA-359-A Color Code for Fiber and Loose tube Identification.

Pq0	Hldgt 'eqrqt
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

Vcdrg'7 TIA/EIA-598-C Color Code for Fiber and Loose tube Identification.

OGEJ CP IECN'RGTHQT OCPEG'VGUV

- 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

QTFGT 'R'RHQT OCVIQP

OUTDOOR/INDOOR, DUCT, ALL-DIELECTRIC, FR-LSZH, FIBER OPTIC CABLE

F guetk vqpu	QU4.'OO ; 1347'-'o	QO4.'OO 721347'-'o	QO5.'OO 721347'-'o	QO6.'OO 721347'-'o	QO7.'OO 721347'-'o
4 Core	UFC9304	UFC5304	UFC4304	UFC3304	UFC2304
6 Core	UFC9306	UFC5306	UFC4306	UFC3306	UFC2306
8 Core	UFC9308	UFC5308	UFC4308	UFC3308	UFC2308
12 Core	UFC9312	UFC5312	UFC4312	UFC3312	UFC2312

Specifications subject to change without notice.

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