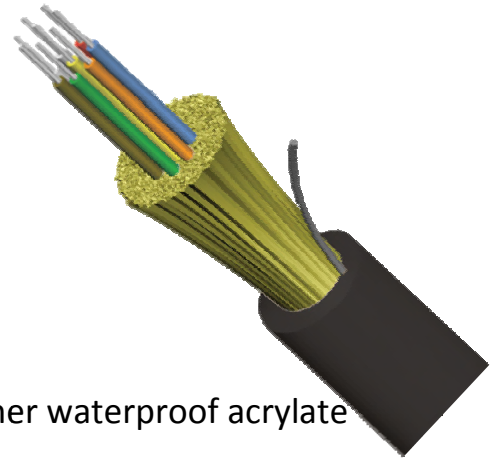




Tight Buffered Optical Fiber



Tight buffered are best suited for

- Moderate length LAN or WAN connection
- Long indoors run
- Direct burial
- Underwater use

It has two-layer coating the first is plastic and the other waterproof acrylate. The Acrylate keeps moisture away from the cable.

The second coating till 900µm provides additional protection and facilitates the handling during terminating the cable in patch panel.

Easy Strip tight buffer's design allows stripping the fibre over 10 cm in one action

The Core is never exposed when bend or compressed under water

Tight Buffered cables are easy to install, no need for fan out cut for splicing or termination.

Structure & Environmental Characteristics

Feature	Description
Mechanical resistance to impacts	10 impacts of 3 N.m
Crush resistance (IEC 60794-1-E3)	100 N/cm
Flame retardant	IEC 60332-1
Fire retardant	IEC 60332-3
Ambient installation temperature, range	0 .. 40 °C
Operating temperature, range	-40 .. 70 °C
Storage temperature, range	-40 .. 70 °C
Gases toxicity	IEC 61034
Gases corrosivity	IEC 60754-1, IEC 60754-2

Mechanical Characteristics

Fibre Count	Nom. outer diam. [mm]	Approx. weight [kg/km]	Static bending rad. [mm]	Min. dynamic operating bending rad. [mm]	Maximum pulling force (IEC 60794-1-2- E1) [N]	Maximum operating pulling force [N]
02	5.3	33	55	85.0	700	200
04	5.3	33	55	85.0	700	200
06	5.3	33	55	85.0	700	200
08	5.9	41	65	95.0	1000	300
12	6.5	47	70	100.0	1000	300
24	7.8	71	80	120.0	1500	450



Mechanical resistance to impacts
10 impacts of 3 N.m



Gases toxicity
IEC 61034



Fire retardant
IEC 60332-3



Flame retardant
IEC 60332-1



Gases corrosivity
IEC 60754-1, IEC 60754-2



Storage temperature, range -40 .. 70 °C



Operating temperature, range -40 .. 70 °C



Ambient installation temperature, range 0 .. 40 °C

N-numbers for Tight Buffer Universal

No. of Fibers	SO2	50/125(OM3)	50/125(OM4)
02	V122002025	V123002021	-----
04	V122004025	V123004021	V124004021
06	V122006025	V123006021	V124006021
08	V122008025	V123008021	V124008021
12	V122012025	V123012021	V124012021
24	V122024025	V123024021	V124024021
36	V122036025	V123036021	V124036021
48	V122048025	V123048021	V124048021
64	V122064025	V123064021	V124064021
96	V122096025	V123096021	V124096021
128	V122128025	V123128021	V124128021

Single Mode Optic Fiber

Optical Characteristics		1	2
Attenuation	@1310 nm	≤0.35 dB/KM	≤0.35 dB/KM
	@1383 nm	≤0.35 dB/KM (after H ₂ aging)	≤0.35 dB/KM (after H ₂ aging)
	@1550 nm	≤0.22 dB/KM	≤0.21 dB/KM
	@1625 nm	≤0.24 dB/KM	≤0.23 dB/KM
Attenuation vs. Wavelength	@1310 nm 1285~1330 nm	≤0.03 dB/KM	≤0.03 dB/KM
	@1550 nm 1525~1375 nm	≤0.02 dB/KM	≤0.02 dB/KM
Dispersion Coefficient	1530~1565 nm	-	-
	1565~1625 nm	-	-
	1285~1340 nm	-3.0~3.0 ps/(nm.km)	-
	@1550 nm	≤18 ps/(nm.km)	≤18 ps/(nm.km)
	@1625 nm	≤22 ps/(nm.km)	≤22 ps/(nm.km)
Zero DispersionWavelength		1302~1322 nm.km	1300~1324 nm.km
Zero DispersionSlope		≤0.090ps/(nm ² .km)	≤0.092ps/(nm ² .km)
Zero DispersionSlope (Typical)		≤0.086ps/(nm ² .km)	-
Polarization Mode Dispersion	Max. Individual Fiber	≤0.2 ps/√km	≤0.2 ps/√km
	Design Link (Value M=20.0=0.01%)	≤0.1 ps/√km	≤0.1 ps/√km
Cable Cut-offWavelength		≤1260 nm	≤1260 nm
Mode Field Diameter	@1310 nm	9.2±0.4 μm	8.8±0.4 μm
	@1550 nm	10.4±0.5 μm	9.8±0.5 μm
Group Index of Refraction	@1310 nm	1.466	1.466
	@1550 nm	1.467	1.467
Geometrical Characteristics			
Cladding Diameter		124.8±0.7 μm	124.8±0.7 μm
Cladding Non-Circularity		≤0.7%	≤0.7%
Coating Diameter		245±5 μm	245±5 μm
Coating/Cladding Concentricity Error		≤12.0 μm	≤12.0 μm
Coating Non-Circularity		≤6.0%	≤6.0%
Core/Cladding Concentricity Error		≤0.5 μm	≤0.5 μm
Curl (Radius)		≥4 m	≥4 m
Environmental Characteristics (@1310 nm/@1550 nm)			
Attenuation at Temperature cycling Δα (-60°C~+85°C)		≤0.05 dB/KM	≤0.05 dB/KM
Attenuation at Temperature-Humidity Cycling (-10°C~+85°C, 98% R.H.)		≤0.05 dB/KM	≤0.05 dB/KM
Attenuation at Damp Heat Dependence (85°C, 98% R.H., 30 days)		≤0.05 dB/KM	≤0.05 dB/KM
Attenuation at Watersoak Dependence (23°C, 30 days)		≤0.05 dB/KM	≤0.05 dB/KM
Mechanical Characteristics			
Proof Test (Off Line)		≥9.0N (≥100 Kpsi)	≥9.0N (≥100 Kpsi)
Attention at Bending Dependence	1 Turn, 7.5 mm Radius	-	≤0.5 dB
	1Turn, 10 mm Radius	-	≤0.1 dB
	1Turn, 15 mm Radius	-	≤0.03 dB
	1Turn, 25 mm Radius	≤0.05 dB	-
Coating Strip Force (Typical)		1.7N	1.7N
Dynamics Stress Corrosion Susceptibility Parameter (Nd, Typical)		>20	>20



Multi-Mode Optic Fiber

Optical Characteristics		OM1	OM2	OM3	OM4
Attenuation	@ 850 nm	≤3.0 dB/KM	≤3.0 dB/KM	≤2.8 dB/KM	≤2.8 dB/KM
	@1300 nm	≤0.8 dB/KM	≤0.8 dB/KM	≤0.7 dB/KM	≤0.7 dB/KM
Bandwidth	@ 850 nm	≥200 Mhz.KM	≥500 Mhz.KM	≥1500 Mhz.KM@LED ≥2000 Mhz.KM@laser	≥3500 Mhz.KM@LED ≥4700 Mhz.KM@laser
	@1300 nm	≥500 Mhz.KM	≥500 Mhz.KM	≥500 Mhz.KM	≥500 Mhz.KM
10Gb/s Ethernet Link Distance (10GBASE-SR)	@ 850 nm	33 M	82 M	300 M	300 M
Zero Dispersion Wavelength		1320~1365 nm	1295~1320 nm	1295~1320 nm	1295~1320 nm
Group Index of Refraction (Typical)	@ 850 nm	1.496	1.482	1.482	1.482
	@1300 nm	1.491	1.477	1.477	1.477
Geometrical Characteristics					
Core Diameter		62.5±2.5 μm	50±2.5 μm	50±2.5 μm	50±2.5 μm
Cladding Diameter		124.8±1.0 μm	124.8±1.0 μm	124.8±1.0 μm	124.8±1.0 μm
Cladding Non-Circularity		≤1.0%	≤1.0%	≤1.0%	≤1.0%
Coating Diameter		245.8±7 μm	245.8±7 μm	245.8±7 μm	245.8±7 μm
Coating/Cladding Concentricity Error		≤12.0 μm	≤12.0 μm	≤12.0 μm	≤12.0 μm
Coating Non-Circularity		≤6.0%	≤6.0%	≤6.0%	≤6.0%
Core/Cladding Concentricity Error		≤1.5 μm	≤1.5 μm	≤1.5 μm	≤1.5 μm
Environmental Characteristics (@850 nm/@1300nm)					
Attenuation at Temperature cycling Δα (-60°C~+85°C)		≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km
Attenuation at Temperature-Humidity Cycling (-10°C~+85°C, 98% R.H.)		≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km
Attenuation at Damp Heat Dependence (85°C, 98% R.H., 30 days)		≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km
Attenuation at Watersoak Dependence (23°C, 30 days)		≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km	≤0.10 dB/km
Mechanical Characteristics					
Proof Test (Off Line)		≥9.0 N (≥100 kpsi)	≥9.0 N (≥100 kpsi)	≥9.0 N (≥100 kpsi)	≥9.0 N (≥100 kpsi)
Macrobend Loss (100 Turn, 25mm Radius)	850 nm	≤0.05 dB	≤0.05 dB	≤0.05 dB	≤0.05 dB
	1300 nm	≤0.05 dB	≤0.05 dB	≤0.05 dB	≤0.05 dB
Coating Strip Force (Typical)		1.5 N	1.5 N	1.5 N	1.5 N
Dynamics Stress Corrosion Susceptibility Parameter(Nd, Typical)		≥27	≥27	≥27	≥27