



AKSH OPTIFIBRE LIMITED

TL:9000:2016, ISO 9001:2015, ISO 10002:2014, ISO 14001:2015 & ISO 45001:2018
Certified Company

Product: Aksh Single Mode Ultra Low Bend Fibre

Product Description:

Aksh Ultra Low Bend Single Mode Fibre enables customers to construct high performance wired networks upto home for voice, video and data transmission. Its low bend characteristics and excellent stability performance against hydrogen provide broad-range operational bandwidth and is ideal for use in Access and Fibre to the Home (FTTH) application.

International Standards:

Aksh Ultra Low bend fibre complies or exceeds the ITU-T recommendation G.657A2 & G-657B2 Optical fibre specifications.

Product Specification:

Material Properties:

Glass Composition	Core: Germania (GeO_2) doped Silica (SiO_2)
Primary Coating	Cladding: Silica (SiO_2) 2 layers of UV curable resin

Attenuation Coefficient:

At 1310 nm	0.35 dB/km
At 1383 nm	0.33 dB/km
At 1550 nm	0.21 dB/km
At 1625 nm	0.23 dB/km
Point Discontinuity at 1550nm	0.05 dB

Attenuation vs. wavelength:

Between 1285-1330 nm	0.38 dB/km
Between 1360-1480 nm	0.34 dB/km
Between 1525-1575 nm	0.24 dB/km

Cable Cutoff Wavelength:

< 1260 nm

Mode Field Diameter

At 1310nm:	8.6 ± 0.4 μm
At 1550nm:	9.8 ± 0.5 μm

Chromatic Dispersion:

1270-1340 nm band:	< 5.3 ps/nm.km
1285-1330 nm band:	< 3.5 ps/nm.km
At 1550 nm:	< 18.6 ps/nm.km
At 1625 nm:	< 17.2 ps/nm.km
Zero Dispersion Wavelength	1302-1324 nm
Zero Dispersion slope	0.092 ps/(nm ² .km)

Polarization Mode Dispersion at 1550nm:

Individual Fibre	0.15 ps/ $\sqrt{\text{km}}$
Link Design Value	0.10 ps/ $\sqrt{\text{km}}$

Geometrical Specification:

Cladding Diameter	125 \pm 0.7 μm
Core Clad Concentricity Error	0.5 μm
Cladding Non-Circularity	0.8 %
Coating Diameter	245 \pm 7 μm
Coating-Cladding Concentricity Error	10 μm
Fibre Curl	4 m radius of curvature

Mechanical Characteristics:

Proof Test	1 %
Coating Strip force	1.3 \leq F \leq 5.0
Dynamic Fatigue Parameter	20
Static Fatigue Parameter	20
Dynamic Tensile Strength	
Unaged	> 550 Kpsi (3.8 Gpa)
Aged (85 $^{\circ}$ C, 95 % RH for 30 days)	> 440 Kpsi (3.0 Gpa)

Macro Bending Loss:

Mandrel Radius (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation (dB)
7.5	1	1550	0.50
7.5	1	1625	1.00
10	1	1550	0.10
10	1	1625	0.20
15	10	1550	0.03
15	10	1625	0.10

Environmental Characteristics:

Environmental Test	Test Condition	Induced Attenuation 1310 nm & 1550 nm (dB/km)
Temperature Dependence	-60 $^{\circ}$ C to +85 $^{\circ}$ C	< 0.05
Temperature Humidity Cycling	-10 $^{\circ}$ C to +85 $^{\circ}$ C, 95% RH	< 0.05
Water Immersion	23 $^{\circ}$ \pm 2 $^{\circ}$ C	< 0.05
Heat Aging	85 $^{\circ}$ \pm 2 $^{\circ}$ C	< 0.05
Damp Heat	85 $^{\circ}$ C at 85% RH	< 0.05

Shipping Information

Reel Length: As Agreed in PO

Reel Identification:

The label with ID number, barcode of ID number, attenuation at 1310 nm and 1550 nm, product code and fibre length shall be attached on each reel.