



AKSH OPTIFIBRE LIMITED

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

Product: Aksh Single Mode Low Bend Fibre

Product Description:

Aksh Single Mode Low Bend Fibre enables customers to construct micro cables and high count cables in lower diameter. 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 Low bend fibre complies or exceeds the ITU-T recommendation G.657A1 Optical fibre specification.

Product Specification:

Material Properties:

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

Attenuation Coefficient:

At 1310 nm	≤ 0.345 dB/km
At 1383 nm	≤ 0.340 dB/km
At 1550 nm	≤ 0.205dB/km
At 1625 nm	≤ 0.225 dB/km
Point Discontinuity	≤ 0.05 dB

Attenuation vs. wavelength:

Between 1285-1330 nm	≤ 0.37 dB/km
Between 1360-1480 nm	≤ 0.34 dB/km
Between 1525-1575 nm	≤ 0.23 dB/km

Cable Cutoff Wavelength:

< 1260 nm

Mode Field Diameter

At 1310nm:	8.9 ± 0.4 μm
At 1550nm:	10.1 ± 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:	< 18.0 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	$\leq 0.15 \text{ ps}/\sqrt{\text{km}}$
Link Design Value	$\leq 0.10 \text{ ps}/\sqrt{\text{km}}$

Geometrical Specification:

Cladding Diameter	$125 \pm 0.7 \mu\text{m}$
Core Clad Concentricity Error	$\leq 0.5 \mu\text{m}$
Cladding Non-Circularity	$\leq 0.8 \%$
Coating Diameter	$245 \pm 7 \mu\text{m}$
Coating-Cladding Concentricity Error	$\leq 10 \mu\text{m}$
Fibre Curl	$\geq 4 \text{ m radius of curvature}$

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	$> 550 \text{ Kpsi (3.8 Gpa)}$
Aged (85°C , 95 % RH for 30 days)	$> 440 \text{ Kpsi (3.0 Gpa)}$

Macro Bending Loss:

Mandrel Radius (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation (dB)
10	1	1550	0.50
10	1	1625	1.00
15	10	1550	0.25
15	10	1625	0.50

Environmental Characteristics:

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