



## AKSH OPTIFIBRE LIMITED

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

### **Product: Aksh Single Mode Micro Ultra Low Bend Fibre**

#### **Product Description:**

Aksh Micro Ultra Low Bend Single Mode Fibre enables customers to construct high count micro cables for high performance wired networks. Its Ultra 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.657A2 & G.657B2 Optical fibre specifications.

#### **Product Specification:**

##### **Material Properties:**

Glass Composition

Core: Germania (GeO<sub>2</sub>) doped Silica (SiO<sub>2</sub>)

Primary Coating

Cladding: Silica (SiO<sub>2</sub>)

2 layers of UV curable resin

##### **Attenuation Coefficient:**

At 1310 nm	≤ 0.35 dB/km
At 1383 nm	≤ 0.34 dB/km
At 1550 nm	≤ 0.21dB/km
At 1625 nm	≤ 0.23 dB/km
Point Discontinuity	≤ 0.05 dB

##### **Attenuation vs. wavelength:**

Between 1285-1330 nm	≤ 0.38 dB/km
Between 1360-1480 nm	≤ 0.35 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 <sup>2</sup> .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	$195 \pm 10 \mu\text{m}$
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	$\geq 20$
Static Fatigue Parameter	$\geq 20$
Dynamic Tensile Strength	
Unaged	$> 550 \text{ Kpsi (3.8 Gpa)}$
Aged ( $85^{\circ}\text{C}$ , 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)
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	$-60^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	$< 0.05$
Temperature Humidity Cycling	$-10^{\circ}\text{C}$ 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	$85^{\circ}\text{C}$ 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.