



## 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 Water Peak Fibre**

#### **Product Description:**

Aksh Single Mode Low Water Peak Fibre enables customers to construct cables for all type of outdoor applications. Its low loss and excellent stability performance against hydrogen provide broad-range operational bandwidth and is ideal for use in long-haul.

#### **International Standards:**

Aksh LWP fibre complies or exceeds the ITU-T recommendation G.652D Optical fibre specification.

#### **Product Specification:**

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

Glass Composition

Core: Germania ( $\text{GeO}_2$ ) doped Silica ( $\text{SiO}_2$ )

Primary Coating

Cladding: Silica ( $\text{SiO}_2$ )

2 layers of UV curable resin

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

At 1310 nm	$\leq 0.340$ dB/km
At 1383 nm	$\leq 0.320$ dB/km
At 1550 nm	$\leq 0.200$ dB/km
At 1625 nm	$\leq 0.230$ dB/km
Point Discontinuity	$\leq 0.05$ dB

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

Between 1285-1330 nm	$\leq 0.36$ dB/km
Between 1525-1625 nm	$\leq 0.23$ dB/km

##### **Cable Cutoff Wavelength:**

$< 1260$  nm

##### **Mode Field Diameter**

At 1310nm:	$9.2 \pm 0.4$ $\mu\text{m}$
At 1550nm:	$10.4 \pm 0.5$ $\mu\text{m}$

##### **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
At 1625 nm:	$< 22.0$ ps/nm.km
Zero Dispersion Wavelength	1302-1324 nm
Zero Dispersion slope	$\leq 0.092$ 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	$\leq 0.8 \%$
Natural fibre Coating Diameter	$245 \pm 7 \mu\text{m}$
Coating-Cladding Concentricity Error	$\leq 10 \mu\text{m}$
Fibre Curl	$\geq 4 \text{ m radius of curvature}$

Effective Group Index of refraction (1310nm)	1.4670
Effective Group Index of refraction (1550nm)	1.4675
Numerical Aperture (NA)	0.14

**Mechanical Characteristics:**

Proof Test	$>1 \%$
Coating Strip force	$1.3 \leq F \leq 5.0$
Dynamic Fatigue Parameter	$\geq 20$
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)
16	1	1550	0.10
16	1	1625	0.10
25	100	1310	0.05
30	100	1550	0.05
30	100	1625	0.10

**Environmental Characteristics:**

Environmental Test	Test Condition	Induced Attenuation 1310 nm & 1550 nm (dB/km)
Temperature Dependence	-60°C to +85°C	$< 0.05$
Temperature Humidity Cycling	-10°C to +85°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.