



AKSH OPTIFIBRE LIMITED

An ISO 9001:2008 & ISO 14001:2004 Certified Company

Product: Aksh Multimode 50 micron Fibre- OM4 Grade

Product Description:

Aksh 50 micron Multimode Fibre-OM4 Grade supports 10 Gb/s serial transmission over 550m length in the 850nm wavelength range. This 10 Gigabit Ethernet capable laser-optimized fibre provides highest bandwidth performance for premises, Local Area Networks (LAN), Metropolitan Area Networks (MAN), Storage Area Networks (SAN) applications while achieving the lowest overall system cost.

International Standards:

Aksh 50 micron Multimode fibre- OM4 Grade complies or exceeds the ISO/IEC 11801(2) as OM4 type or the IEC 60793-2-10 (Type A1a.3) Optical fibre specification. Each fibre is 100% quality measured according to IEC 60793.

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 850 nm	≤ 2.40 dB/km
At 1300 nm	≤ 0.70 dB/km
At 1383 nm	≤ 2.00 dB/km
Point Discontinuity	≤ 0.05 dB

Bandwidth vs. wavelength

At 850 nm	≥ 3500 MHz.km
At 1300 nm	≥ 500 MHz.km

Effective Modal wavelength at 850nm: ≥ 4700 MHz.km

Numerical Aperture: 0.200 ± 0.015

Effective Group Refraction of Index (IOR)

At 850nm:	1.483
At 1300nm:	1.478

Dispersion:

Zero Dispersion Wavelength, λ_0	1295-1320 nm
Zero Dispersion slope	
$1295 \leq \lambda_0 \leq 1300$	≤ 0.001($\lambda_0 - 1190$) ps/nm ² .km
$1300 \leq \lambda_0 \leq 1320$	≤ 0.11 ps/nm ² .km

Geometrical Specification:

Core Diameter	$50 \pm 2.5 \mu\text{m}$
Core Non-Circularity	$\leq 5.0 \%$
Cladding Diameter	$125 \pm 1.0 \mu\text{m}$
Core Clad Concentricity Error	$\leq 1.5 \mu\text{m}$
Cladding Non-Circularity	$\leq 1.0 \%$
Coating Diameter	$245 \pm 10 \mu\text{m}$
Coating-Cladding Concentricity Error	$\leq 10 \mu\text{m}$

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 ⁰ C, 95 % RH for 30 days)	$> 440 \text{ Kpsi (3.0 Gpa)}$

Macro Bending Loss:

Mandrel Diameter (mm)	Number of Turns	Wavelength (nm)	Induced Attenuation (dB)
75	100	850	0.50
75	100	1300	0.50

Environmental Characteristics:

Environmental Test	Test Condition	Induced Attenuation 850 nm & 1300 nm (dB/km)
Temperature Dependence	-60 ⁰ C to +85 ⁰ C	< 0.20
Water Immersion	$23^0 \pm 2^0\text{C}$	< 0.20
Heat Aging	$85^0 \pm 2^0\text{C}$	< 0.20
Damp Heat	85 ⁰ C at 85% RH	< 0.20

Shipping Information

Reel Dimension:	Fibre is available with following type of reel.
	Flange Diameter: 234.9 mm
	Traverse Width: 95.00 mm
	Bore Diameter: 25.45 mm
	Barrel Diameter: 152.4 mm
Reel Length:	Max. fibre length: 8.8 km
	<u>Length distribution</u>
	4.4 km or 8.8 km 100 %

Reel Identification:

The label with ID number, barcode of ID number, attenuation at 850 nm and 1300 nm, product code and fibre length shall be attached on each reel.