Sterlite® DOF-LITE™ (LEA) Single Mode Optical Fiber

PRODUCT DESCRIPTION

Sterlite® DOF-LITE™ (LEA) Single Mode Optical Fiber is a Non-Zero Dispersion Shifted Fiber (NZ-DSF) with large effective area.

PRODUCT APPLICATION

Sterlite® DOF-LITE™ (LEA) is ideal for high data-rate, multi-wavelength long haul transmission. It has a large effective area for improved power handling plus dispersion optimized for dense wavelength division multiplexing (DWDM). IT is suitable for transmission in the conventional C-band (1530-1565 nm) and L-band (1565- 1625 nm). DOF-LITE™ (LEA) exceeds the requirements of today's high-channel-count 2.5 Gb/s and 10 Gb/s systems, and supports migration to next generation 40 Gb/s data rates.

PRODUCT BENEFITS

Sterlite® DOF-LITE™ (LEA) has a large effective area for improved power handling plus dispersion optimized for dense wavelength division multiplexing (DWDM). This combination reduces the onset of non-linear transmission effects such as four-wave mixing and self-phase modulation, whilst also reducing the cost and complexity of dispersion compensation.

PRODUCT SPECIFICATIONS

Attenuation	≤ 0.22 dB/km at 1550 nm ≤ 0.24 dB/km at 1625 nm
Mode field diameter at 1550 nm	9.6 ± 0.4 µm
Cabled cutoff wavelength	≤ 1450 nm
Dispersion slope at 1550 nm	≤ 0.09 ps/nm^2.km
Dispersion at 1460 nm	-4.02 to 0.15 ps/nm.km
Dispersion at 1530 nm	2.00 to 4.00 ps/nm.km
Dispersion at 1550 nm	3.00 to 5.00 ps/nm.km
Dispersion at 1565 nm	4.00 to 6.00 ps/nm.km
Dispersion at 1625 nm	5.77 to 11.26 ps/nm.km
Fiber polarization mode dispersion link design value*	≤ 0.15 ps/√km
Cladding diameter	125.0 ± 1.0 µm
Core-clad concentricity error	≤ 0.5 µm
Cladding non-circularity	≤ 1.0 %
Coating diameter (uncolored)	245 ± 5 µm
Coating-cladding concentricity error	≤ 12 µm

* Individual PMD values may change when cabled

MECHANICAL CHARACTERISTICS

Proof test levels	100 kpsi (0.7 GN/m^2). This is equivalent to 1% strain	
Coating strip force (Force to mechanically strip the dual coating)	≥1.3 N (0.3 lbf) and ≤ 5.0 N (1.2 lbf)	
Fiber curl	≥4 m	
Macrobend loss: The maximum attenuation with bending does not exceed the specified values with the following deployment conditions		
Deployment condition	Wavelength	Induced attenuation
1 turn, 16 mm (0.6 inch) radius	1625 nm	≤ 0.50 dB
100 turns, 30 mm (1.18 inch) radius	1625 nm 1550 nm	≤ 0.10 dB ≤ 0.05 dB

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ENVIRONMENTAL CHARACTERISTICS

Temperature dependence Induced attenuation, -60 °C to +85 °C at 1550 & 1625 nm	≤ 0.05 dB/km
Temperature humidity cycling Induced attenuation, -10 °C to +85 °C and 95% relative humidity at 1550 & 1625 nm	≤ 0.05 dB/km
High temperature and humidity aging 85 °C at 85% RH, 30 days Induced attenuation at at 1550 & 1625 nm due to aging	≤ 0.05 dB/km
Water immersion, 30 days Induced attenuation due to water immersion at 23±2 °C at 1550 & 1625 nm	≤ 0.05 dB/km
Accelerated aging (Temperature), 30 days Induced attenuation due to temperature aging at 85±2 °C at 1550 & 1625 nm	≤ 0.05 dB/km

OTHER PERFORMANCE CHARACTERISTICS*

Core diameter	1.470 at 1550 nm
Attenuation in the wavelength region from 1525 - 1575 nm in reference to the attenuation at 1550 nm	≤ 0.05 dB/km
Point discontinuities at 1550 nm & 1625 nm	≤ 0.05 dB
Dynamic fatigue parameter (Nd)	≥20
Effective area	70 μm^2
Weight per unit length	64 gm/km

*Typical Values

LENGTH & SHIPPING DETAILS

Shipping spool flange diameter	23.50 cm (9.25 inches) or 26.5 cm (10.4 inches)
Shipping spool barrel diameter	15.24 cm (6.0 inches) or 17.0 cm (6.7 inches)
Shipping spool traverse width	9.55 cm (3.76 inches) or 15.0 cm (5.9 inches)
Shipping spool weight	0.50 kg (1.36 lbs) or 0.88 kg (1.93 lbs)
Shipping length: standard length per reel available up to 25.2 km. lengths per reel as per customer request are also available	

MANUFACTURING PROCESS

Sterlite® controls every stage of the manufacturing process so that quality is built in to every meter of fiber, rather than selected out at the end through testing. To ensure the accuracy and precision of the manufacturing process, Sterlite routinely calibrates and recertifies process equipment and measurement benches against internationally traceable standards from NPL/NIST, and follow test methods compliant with EIA/TIA, CEI-IEC and ITU standards.

INTERNATIONAL STANDARDS

Sterlite® DOF-LITE™ (LEA) complies with ITU-T G655 C & D Optical Fiber Specification.

SERVICE USP's

- Complete range of optical fiber for terrestrial networks
- World-wide sales support
- Web-based order tracking & customer support
- Specialized technical support

DISCLAIMER

Sterlite's policy of continuous improvement may result in a change in specifications without prior notice. Any warranty of any nature relating to any Sterlite product is only contained in the written agreement between Sterlite Technologies Limited and the direct purchaser of such product(s).

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