CDSEI

G.652.D/G.657.A1

DurableBand ™ -R 180μm

Large Mode Field Anti-Bending Low Water Peak Single-Mode Fiber

DurableBand™ -R 180μm large mode field anti-bending low water peak single-mode fiber exceeds the requirements of ITU-T G.652.D and ITU-T G.657. A1, which is suitable for high-capacity, long-distance transmission and access network. This fiber has a cross-sectional area that is only 54% of standard fibers and 80% of 200μm ordinary small diameter fibers, which helps to miniaturize equipment or accommodate more fibers under the same laying conditions. While significantly reducing the coating, it maintains the same glass outer diameter and precise geometric size control as conventional fibers, ensures low splicing loss and high splicing efficiency, excellent mechanical properties and environmental characteristics ensure stable performance of optical fibers in various usage environments.

Optical Characteristics

Attenuation	
1310nm	⩽0.35dB/km
1383nm	⩽0.33dB/km
1550nm	⩽0.21dB/km
1625nm	⩽0.23dB/km

Point Discontinuity	
1310/1550nm	⩽0.02dB

Cut-off Wavelength	
Cable cut-off wavelength (λcc)	⩽1260nm

Mode Field Diameter (MFD)	
MFD at 1310nm	9.2±0.4μm

Macro bending Induced Attenuation			
Bending radius	Number of Turns	Wavelength	Attenuation
10mm	1	1550nm	⩽0.75dB
10mm	1	1625nm	⩽1.50dB
15mm	10	1550nm	⩽0.25dB
15mm	10	1625nm	⩽1.00dB

Dispersion	
Zero-dispersion wavelength	1300-1324nm
Zero-dispersion slope	0.073~0.092ps/nm²/km
Dispersionat 1550 wavelength	⩽18.6ps/nm/km

Polarization Mode Dispersion	
Max. individual fiber PMD	$\leqslant 0.2ps/\sqrt{km}$
PMD link design value	$\leqslant 0.1ps/\sqrt{km}$

Geometric Characteristics

Geometrical Parameter	
Cladding diameter	125±0.7μm
Core/clad concentricity error	⩽0.5μm
Cladding non-circularity	⩽1.0%
Fiber curl R	⩾4m
Coating diameter	180±10μm
Coating-Cladding Concentricity	⩽10μm

Mechanical Characteristics

Proof Test	
Proof stress level	0.90GPa (1.3%, 130kpsi, 11.76N)

Strip Force	
Force (peak)	0.6N⩽F⩽8.9N
Force (average)	0.6N⩽F⩽5.0N

Tensile Strength	
Unaged (median; 0.5m)	⩾3.80GPa (⩾550kpsi)
Aged (median; 0.5m)	⩾3.14GPa (⩾460kpsi)

Dynamic fatigue parameters	
Fatigue	⩾20

Environmental Characteristics

Test items	Conditions	Induced Attenuation at 1550, 1625nm
Temperature	-60°C to + 85°C	⩽0.03dB/km
Water Immersion	+ 23°C/30Days	⩽0.03dB/km
Steady damp-heat	+ 85°C/85%RH/30Days	⩽0.03dB/km
Dry heat aging	+ 85°C/30Days	⩽0.03dB/km

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