

Part No. HCLSDSSM



Cable Description

High Capacity Low Slope Dispersion Shifted Single-mode Fiber

HCLSDSSM fiber provides an ideal fiber solution for high bit rate, explosive transmission capacity and long transmission distance. Several key factors affecting fiber performance: chromatic dispersion, dispersion slope, attenuation and effective area were optimized. The transmission bandwidth is extended from C&L band to S-band. At the same time, the O-band of fiber can be applied because the cable cut off wavelength is below to 1260 nm and dispersion is low in 1310 nm transmission window. With low attenuation, PMD value and appropriate chromatic dispersion value this fiber is suitable for long distance and high bit-rate, such as 10Gb/s and 40Gb/s transmission system. Further more, the flatter dispersion slope using commercially available dispersion compensating device. HCLSDSSM fiber is designed and manufactured according to the most advanced level in the world.

Application

HCLSDSSM fiber is applicable in all cable type including ribbon cable, loose tube stranded cable, slotted core cable, unitube cable and tight-buffer cable.

Cable Norms

HCLSDSSM fiber complies with or exceeds the ITU recommendation G.655.B Optical Fiber Specification. Uninet tightens many parameters of fiber products.

Process and Coating

Uninet fibers are manufactured using the advanced Plasma Activated Chemical Vapor Deposition (PCVD) process. Because of the inherent advantages of the process, Uninet fibers show extremely refined refractive index (RI) profile control, excellent geometrical performance, low attenuation, etc. The optical fiber is coated with a double layer UV curable acrylate, type DLPC9, which gives the fiber a good protection. Designed for more stringent tight-buffer cable application, the fiber also performs perfectly in loose buffer constructions and demonstrates a high resistance to micro-bending. The coating offers an excellent stable coating strip force over a wide range of environmental conditions and the coating stripping leaves no residues on the bare glass fiber. Ribbon tests show excellent performance in 60°C water soak tests, exceeding 100 days. The DLPC9 coated optical fibers show high and stable values for dynamic stress corrosion susceptibility parameter (nd), Which offers a greatly improved applicability to the fiber when used in harsh environments.

HCLSDSSM

Cable Characteristic

- Suitable for high bit-rate (10Gb/s and 40Gb/s) and long distance DWDM transmission system in S+C+L bands
- Supporting 1310 nm window transmission on the same fiber
- A low dispersion slope applicable for chromatic dispersion and dispersion slope compensation
- DLPC9 resin offering good protection and excellent strip force stability and bending property
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

Fiber Core Performance

Characteristics	Conditions	Specified Values	Units	
Optical characteristics				
Attenuation	1310 nm	≤0.38	[dB/km] [dB/km]	
	1550 nm	≤0.21	[dB/km]	
	1625 nm	≤0.24	[dB/km]	
Dispersion coefficient	1440 nm	>1.0	[ps/(nm·km)]	
	1530~1565 nm	≥5.5	[ps/(nm·km)]	
	1565~1625 nm	≥7.5	[ps/(nm·km)]	
Zero dispersion wavelength		≥1302	[nm]	
Zero dispersion slope		≤1420	[ps/(nm·km)]	
Zero dispersion slope (Typical)		≤0.06	[ps/(nm·km)]	
Polarization Mode Dispersion				
PMD Maximum Individual Fiber		≤0.08	[ps/√km]	
PMD Link Design Value		≤0.04	[ps/√km]	
Cutoff wavelength λ_c		≤1260	[nm]	
Mode field diameter (MFD)	1550 nm	9.0±0.5	[μm]	
Backscatter characteristics				
	1550 nm			
Step (mean of bidirectional measurement)		≤0.05	[dB]	
Irregularities over fiber length and point discontinuity		≤0.10	[dB]	
Difference in backscatter coefficient (bidirectional measurement)		≤0.05	[dB/km]	
Attenuation uniformity		≤0.01	[dB/km]	
Geometrical characteristics				
Cladding diameter		125.0±1.0	[μm]	
Cladding non-circularity		≤1.0	[%]	
Coating diameter		242±7	[μm]	
Coating/cladding concentricity error		≤12.0	[μm]	
Coating non-circularity		≤6.0	[%]	
Core/cladding concentricity error		≤0.6	[μm]	
Curl (radius)		≥4	[m]	
Delivery length		≥2.1	≤25.2	[km/reel]

HCLSDSSM

Table Content Continued:

Environmental characteristics	1550 nm		
Temperature dependence Induced attenuation	-60°C to +85°C	≤0.05	[dB/km]
Temperature-humidity cycling Induced attenuation	-10°C to +85°C, 90% R.H.	≤0.05	[dB/km]
Damp heat dependence Induced attenuation	85°C, 85% R.H., 30 days	≤0.05	[dB/km]
Water soak dependence Induced attenuation	20°C for 30 days	≤0.05	[dB/km]
Mechanical characteristics			
Proof test	off line	≥9.0 ≥1.0 ≥100	[N] [%] [KPSI]
Bending Dependence Induced Attenuation	1550 nm, 1625 nm 1 turn, 32 mm diameter 100 turns, 75 mm diameter	≤0.50 ≤0.05	[dB] [dB]
Coating strip force	typical average force peak force ≥1.3	1.7 ≤8.9	[N] [N]
Dynamic stress corrosion susceptibility parameter (n _d , Typical)		≥27	