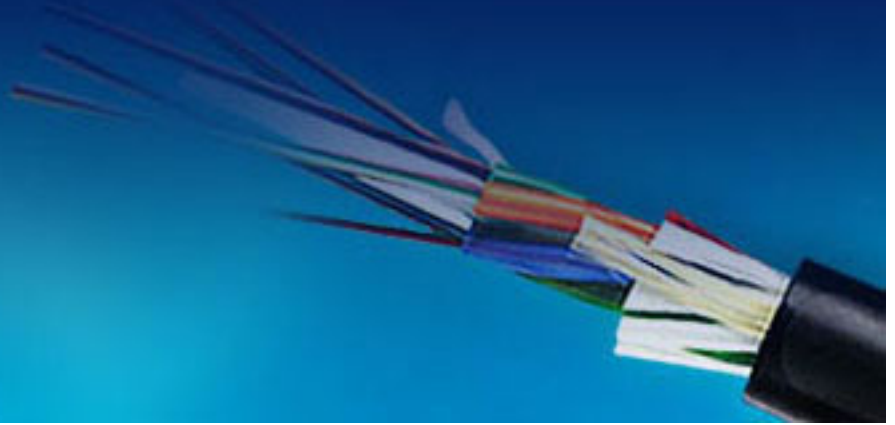


Part No. PDSSM



Cable Description

Positive Dispersion Shifted Single-mode Fiber

PDSSM fiber (Positive Dispersion Shifted Single-mode Fiber) is comprehensively optimized for attenuation and dispersion performance at the 1550 nm operating wavelength. The fiber has the low attenuation and low dispersion at 1550 nm, which is satisfying the demand of new generation transmission system.

Application

PDSSM fiber offer low Polarization Mode Dispersion (PMD) and is suitable for application of high output power Erbium Doped Fiber Amplifier (EDFA) and multi-channel Dense Wavelength Division Multiplex (DWDM). the fiber and can be effectively applied in the high bit-rate single and multi-channel, long distance digital transmission links even without dispersion compensation. Duo to the low PMD. the fiber can satisfying the demand of DWDM transmission system by supporting the non-linear effects, including four-wave mixing, self phase modulation, modulation, instability and cross phase modulation. PDSSM fiber is applicable in all cable type including ribbon cable, loose tube stranded cable, slotted core cable, unitube cable and tight-buffer cable. Uninet optical fibers are compatible with fibers manufactured with other processes.

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 acryl ate, type DLPC7, 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 DLPC7 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.

Cable Characteristic

- Being available in the high bit-rate operation across 1530~1625 nm and 1565-1625 band
- Low attenuation, low dispersion, low PMD and low zero dispersions lop that satisfy the operation demand of transmission links
- DLPC7 coating offering good protection and excellent strip force stability
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

PDSSM

Cable Norms

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

Fiber Core Performance

Characteristics	Conditions	Specified Values	Units
Optical characteristics			
Attenuation	1550 nm	≤0.22	[dB/km]
	1625 nm	≤0.25	[dB/km]
Dispersion coefficient	1530-1565 nm	2.6~6.0	[ps/(nm·km)]
	1565-1625 nm	4.0~8.6	[ps/(nm·km)]
Zero dispersion wavelength		<1520	[nm]
Zero dispersion slope		≤0.055	[ps/(nm·km)]
Polarization Mode Dispersion		≤0.2	[ps/√km]
Cut-off wavelength λ_{cc}		≤1270	[nm]
Mode field diameter (MFD)	1550 nm	8.4±0.6	[μm]
Effective group index of refraction (N_{eff})	1550 nm	1.471	
Backscatter characteristics		1310 nm, 1550 nm	
Step (mean of bidirectional measurement)		≤0.05	[dB]
Irregularities over fiber length		≤0.10	[dB]
Difference in backscatter coefficient (bidirectional measurement)		≤0.05	[dB/km]
Geometrical characteristics			
Cladding diameter		125.0±1.0	[μm]
Cladding non-circularity		≤1.0	[%]
Coating diameter		245±10	[μm]
Coating/cladding concentricity error		≤12	[μm]
Coating non-circularity		≤6.0	[%]
Core/cladding concentricity error		≤0.8	[μm]
Curl		≥4	[m]
Delivery length (Other fiber lengths available on request)		2.1 to 25.2	[km/reel]
Environmental characteristics		1550 nm	
Temperature dependence	$\Delta\alpha$ (-60°C to +85°C)	≤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]

PDSSM



Table Content Continued:

Mechanical characteristics			
Proof test	off line	≥9.0 ≥100	[N] [KPSI]
Macro-bend Dependence Induced Attenuation	1550 nm, 1550 nm	≤0.50	[dB]
	1 turn, 32 mm diameter 100 turns, 75 mm diameter	≤0.05	[dB]
Coating strip force (typical)		1.4	[N]
Dynamic stress corrosion susceptibility parameter (n_d , Typical)		≥20	