

## Part No. LEAHCPSM

### Cable Description

Large Effective Area High Capacity Positive Dispersion Shifted Single-mode Fiber  
LEAHCPSM (Large Effective Area High Capacity Positive Dispersion Shifted Singlemode Fiber) is comprehensively optimized for attenuation and dispersion performance at the 1550 nm operating wavelength. The fiber has the lowest attenuation and moderate dispersion at 1550 nm, which is satisfying the demand of new generation transmission system.

### Application

LEAHCPSM fiber is commercialized fiber that has the largest effective area. The fiber is suitable for application of high output power Erbium Doped Fiber Amplifier (EDFA) and multi-channel Dense Wavelength Division Multiplex (DWDM), and can be effectively applied in the high bit-rate both single and multi-channel, long distance digital transmission links even without dispersion compensation. The fiber offers considerable dispersion and the high power signal is distributed over a large effective area. Through the two ways, the non-linear optical effects such as four-wave mixing, self phase modulation, modulation, instability and cross phase modulation are suppressed. Thus, the fiber can satisfy the demand of DWDM transmission system. LEAHCPSM 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 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.

### Cable Characteristic

- Being available in the high bit-rate operation across 1530~1625 nm band
- Large effective area ensure good economic return from the transmission system
- Low attenuation, low dispersion, low PMD and low zero dispersion satisfy the demand of transmission links
- DLPC9 coating offering good protection and excellent strip force stability
- Accurate geometrical parameters that insure low splicing loss and high splicing efficiency

# LEAHCPDSSM

## Cable Norms

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

## Fiber Core Performance

Characteristics	Conditions	Specified Values	Units
<b>Optical characteristics</b>			
Attenuation	1550 nm 1625 nm	≤0.22 ≤0.25	[dB/km] [dB/km] [dB/km]
Dispersion coefficient	1530~1565 nm 1565~1625 nm	≥2.0 ≥4.5	[ps/(nm·km)] [ps/(nm·km)] [ps/(nm·km)]
Zero dispersion wavelength		≤1520	[nm]
Zero dispersion slope		≤0.084	[ps/(nm·km)]
Zero dispersion slope (Typical)		0.078	[ps/(nm·km)]
Polarization Mode Dispersion		≤0.1	[ps/√km]
Cut-off wavelength $\lambda_c$	1550 nm	≤1480	[nm]
Mode field diameter (MFD)		9.0±0.5	
Group index of refraction (Typical)	1310 nm	1.469	
<b>Backscatter characteristics</b>			
	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]
<b>Geometrical characteristics</b>			
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]

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Table Content Continued:

<b>Environmental characteristics</b>	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]
<b>Mechanical characteristics</b>			
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	