Corning Single Mode Fiber 1260–1650 nm

Regular, Bendable, Ultra, Compensation

DATASHEET

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Corning high-purity silica single-mode fibers are manufactured to stringent industry standards using advanced chemical vapor deposition technology. Featuring germanium-doped silica cores and engineered silica claddings, these fibers offer excellent geometrical precision, optical performance, environmental stability, and mechanical reliability. Their low optical attenuation and high material purity make them particularly suitable for high-power optical transmission and precision fiber-optic applications. We offer a comprehensive selection of Corning single-mode fiber families for operation across the O-, C-, and L-bands, including standard SMF-28 for cost-effective applications, SMF-28 Ultra for reduced attenuation and improved bending performance, SMF-28e and ClearCurve XB for enhanced transmission and bend resistance, and LEAF fiber for applications requiring nonzero dispersion characteristics and chromatic dispersion management.

Features

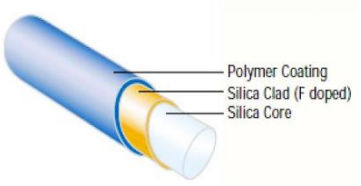
- All Glass Materials
- Low Loss
- Low Cost
- High Reliability

Applications

- High Power delivery
- Sensors
- Instrumentation

Specifications

Parameter	Hi 980	CS980	Unit
Optical properties			
Operating Wavelength	>980	980	nm
Cutoff Wavelength	930 ± 50	930 ± 40	nm
Numerical Aperture	0.21	0.24	dB
Max Attenuation	2.5		dB/km
Geometrical properties			
Mode-filed Diameter @980nm	4.2	5	µm
Cladding diameter	125.0 ± 0.5	124.7 ± 0.5	µm
Coating diameter	25 ± 10	250 ± 10	µm
Core/cladding concentricity	≤3	≤3	µm
Material Composition			
Core	Pure Silica Glass		
Cladding	Pure or Ge doped Silica Glass		
Coating	Dual-layer UV Curable Acrylate		
Mechanic Properties			
Proof Test Level	200	100	kpsi



RoHS COMPLIANT

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Ordering Information (Part Number)

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Prefix	**Type**	**Length**	**Connector**
SMF-	SM28 = SM28R SM28e = SM28E SM28 Ultra = SM28U ClearCurve XB = CLCXB Leaf = LEAFF	1 m = 00001 10 m = 00010 100 m = 00100 1 km = 01000 10 km = 10000 25 km = 25000 99 km = 99000	None = 1

Application Notes

Fiber Core Alignment
Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness
Fibers with smaller core diameters (<5 μm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power
Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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