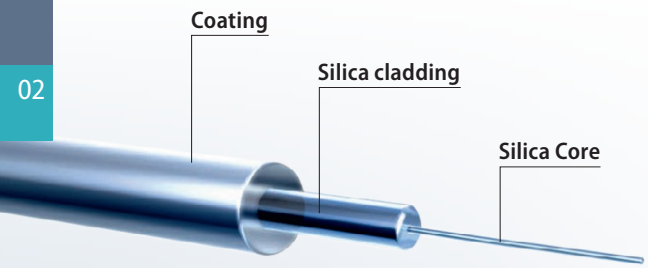
Standard singlemode fiber

Reliable tried and tested singlemode fiber for LAN, FTTX and long distance applications



Description

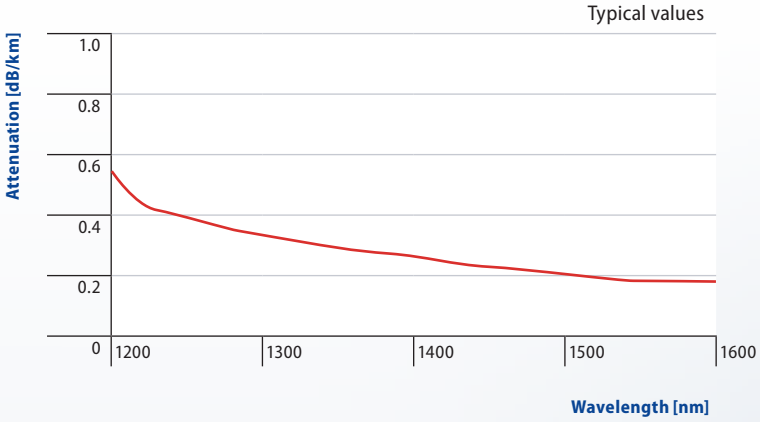
For the bridging of larger distances in LAN cabling as well as for FTTX applications we offer reliable high-performance singlemode fibers.

The G.657.A1 compliant fibers are compatible with installed networks and offer optimized bending properties. With lowest attenuation, perfect fiber geometry and tight fiber diameter tolerances, they are perfectly suited for the system demands in LAN networks.

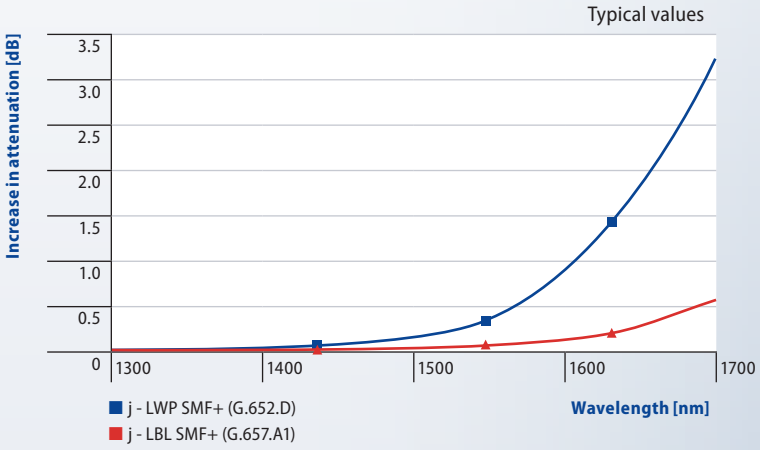
In FTTX applications they meet the requirements for robust and cost-efficient fiber solutions with a future-proof perspective.

In long-distance applications our G.652.D singlemode fibers guarantee cost advantages and performance consistency as required for the transmission of high data rates over long distances.

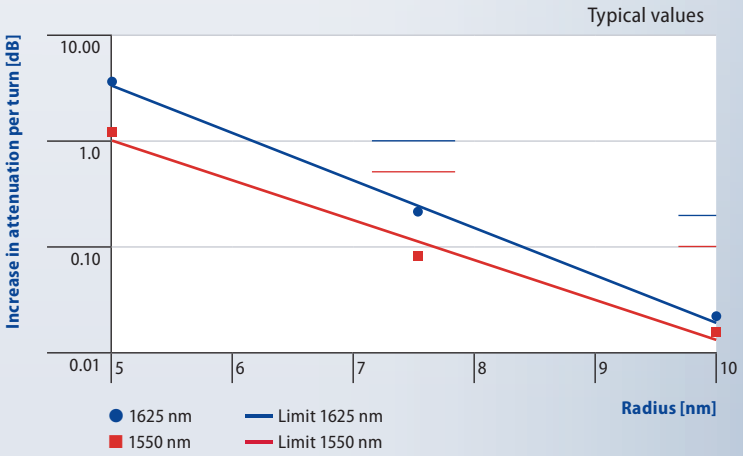
Typical spectral attenuation for LWP SMF+



Comparison of bend-performance of the LBL singlemode fiber to other G.652.D SMF (10 mm radius, 1 turn)



Typical bend-performance of ULBL SMF (G.657.B2)



		LWP SMF+ (ITU-T G.652.D)	LBL SMF (ITU-T G.657 A.1)	ULBL SMF (ITU-T G.657.B2)
Optical properties		Specific values		
Attenuation coefficient [1] [dB/km]	1310 nm	≤ 0.33 to ≤ 0.35	≤ 0.33 to ≤ 0.36	≤ 0.38
	1383 nm [2]	≤ 0.31 to ≤ 0.35	≤ 0.31 to ≤ 0.36	–
	1550 nm	≤ 0.19 to ≤ 0.21	≤ 0.19 to ≤ 0.21	≤ 0.25
	1625 nm	≤ 0.20 to ≤ 0.23	≤ 0.20 to ≤ 0.23	≤ 0.25
Attenuation variance range [3] [dB/km]	1285–1330 nm	≤ 0.03	≤ 0.03	–
	1530–1570 nm	≤ 0.02	≤ 0.02	
	1460–1625 nm	≤ 0.04	≤ 0.04	
Mode field Ø [µm]	1310 nm	9,2 ± 0.4	8,6 ± 0.4	7.5 ± 0.4
	1550 nm	10.4 ± 0.5	9.8 ± 0.5	
Discontinuity (tp = 1 µs) [dB]	1310 nm	≤ 0.05	≤ 0.05	–
	1550 nm	≤ 0.05	≤ 0.05	–
Attenuation uniformity [dB]		≤ 0.05	≤ 0.05	–
Macrobending loss				
Bend-induced attenuation [dB]				
100 turns Radius 50 mm	1310 nm 1550 nm	≤ 0.05	–	–
1 turn Radius 32 mm	1550 nm	≤ 0.05	– –	– –
10 turns Radius 15 mm	1550 nm 1625 nm	–	≤ 0.03 ≤ 0.2	≤ 0.03 ≤ 0.1
1 turn Radius 10 mm	1550 nm 1625 nm	–	≤ 0.3 ≤ 1.0	≤ 0.1 ≤ 0.2
1 turn Radius 7.5 mm	1550 nm 1625 nm	–	– –	≤ 0.5 ≤ 1.0
Fiber cut-off wavelength λ_c [nm]		1200–1330	≤ 1340	–
Cable cut-off wavelength λ_{cc} [nm]		≤ 1260	≤ 1260	–
Zero crossing of dispersion λ_0 [nm]		1300 ≤ λ_0 ≤ 1324	1300 ≤ λ_0 ≤ 1324	–
Slope at zero crossing of dispersion S_0 [ps/nm²×km]		≤ 0.092	≤ 0.092	–
Chromatic dispersion [ps/nm×km]	1270–1340 nm	≤ 5.00	≤ 5.00	–
	1285–1330 nm	≤ 3.00	≤ 3.00	–
	1550 nm	≤ 18.00	≤ 18.00	–
Effective group index	1310 nm	1.467	1.467	–
	1383 nm	1.467	1.467	–
	1550 nm	1.467	1.467	–
Value of polarization mode dispersion link [4] [ps/√km]		≤ 0.06	≤ 0.06	–
Individual fiber [5] [ps/√km]		≤ 0.10	≤ 0.10	–

Mechanical properties		**Specified values**
Proof test	[kpsi]	≥ 100
	[N]	≥ 8.8
	[GPa]	≥ 0.7
Dynamic tensile strength in an unaged fiber (0.5 m) [GPa]	Median tensile strength	≥ 3.8
	Tensile strength 15 %	≥ 3.3
Dynamic tensile strength in an aged fiber (0.5 m) [GPa]	Median tensile strength	≥ 3.03
	Tensile strength 15 %	≥ 2.76
Dynamic fatigue	Stress-corrosion parameter n_d	≥ 20
Operating temperature [°C]		–60 to +85
Average coating strip force (typ.) [N]		1.9

[1] Special attenuation cells on request.
[2] Attenuation values for 1383 nm represent values after hydrogen charging and are always lower or equal to the attenuation value for 1310 nm.
[3] Fiber attenuation in specified areas exceeds the nominal values at 1310/1550 nm no more than the declared value.
[4] M = 20, Q = 0.01 %
[5] Individual values can change during the cabling.