

Fiberdyne Labs, Inc. Bend Insensitive Fiber Minimum Specifications

Part Number Designator		R1, R2, R3, or R4	
ITU-T Compliance		Meets or exceeds ITU recommendations for G.652.D/G.657.A1/G.657.A2/G.657.B2 including the IEC60793-2-50 type B1.3/B6 Optical Fiber Specification	
Characteristics	Conditions	Specified Values	Units
Optical Characteristics			
Attenuation	1310 nm	≤ 0.35	[dB / km]
	1383 nm (after H ₂ -aging)	≤ 0.35	[dB / km]
	1460 nm	≤ 0.25	[dB / km]
	1490 nm	≤ 0.23	[dB / km]
	1550 nm	≤ 0.21	[dB / km]
	1625 nm	≤ 0.23	[dB / km]
Attenuation vs. Wavelength Max. Difference	1285 ~ 1330 nm 1525 ~ 1575 nm	≤ 0.23 ≤ 0.23	[dB / km] [dB / km]
Zero Dispersion wavelength		1300 ~ 1324	[nm]
Zero Dispersion Slope		≤ 0.092	[ps / (nm ² *km)]
PMD			
Max. Individual Fiber		≤ 0.2	[ps / √km]
Link Design Value (M=20, Q=0.01%)		≤ 0.1	[ps / √km]
Typical Value		0.04	[ps / √km]
Cable cutoff wavelength λ _{cc}		≤ 1260	[nm]
Mode Field Diameter (MFD)	1310 nm	8.4 ~ 9.2	[μm]
	1550 nm	9.3 ~	[μm]
	Effective group index of refraction (N _{eff})	1310 nm 1550 nm	1.466 1.467
Point Discontinuities	1310 nm	≤ 0.05	[dB]
	1550 nm	≤ 0.05	[dB]
Geometrical Characteristics			
Cladding diameter		125.0 ± 0.7	[μm]
Cladding non-circularity		≤ 0.7	[%]
Coating diameter		245 ± 5	[μm]
Coating-cladding concentricity error		≤ 12.0	[μm]
Coating non-circularity		≤ 6.0	[%]
Core-cladding concentricity error		≤ 0.5	[μm]
Curl (radius)		≥ 4	[m]
Environmental Characteristics			
(1310nm ,1550nm & 1625nm)			
Temperature dependence Induced attenuation at	-60 °C to +85 °C	≤ 0.05	[dB / km]
Temperature-humidity cycling Induced attenuation at	-10 °C to +85 °C, 98% RH	≤ 0.05	[dB / km]
Watersoak dependence Induced attenuation at	23°C, for 30 days	≤ 0.05	[dB / km]
Damp heat dependence Induced attenuation at	85°C and 85% RH, for 30 days	≤ 0.05	[dB / km]
Dry Heat Aging Induced attenuation at	85°C, for 30 days	≤ 0.05	[dB / km]
Mechanical Characteristics			
Proof test	off line	≥ 9.0 ≥ 1.0 ≥ 100	[N] [%] [kpsi]
Macro-bend induced attenuation			
10 turns around a mandrel of 15mm radius	1550nm	≤ 0.03	[dB]
10 turns around a mandrel of 15mm radius	1625nm	≤ 0.1	[dB]
1 turns around a mandrel of 10mm radius	1550nm	≤ 0.1	[dB]
1 turn around a mandrel of 10mm radius	1625nm	≤ 0.2	[dB]
1 turn around a mandrel of 7.5mm radius	1550nm	≤ 0.2	[dB]
1 turn around a mandrel of 7.5mm radius	1625nm	≤ 0.5	[dB]
Coating strip force	average force (typical) peak force	1.7 ≥ 1.3 ≤ 8.9	[N] [N]
Dynamic stress corrosion susceptibility parameter n _d	(typical)	27	