FIBER OPTIC GENERAL SPECIFICATIONS

The tables bellow describe all the technical specifications for barpa fiber. Complies the standards ISO11801 and EN50173-1. If you have any special request for fiber please contact our team, we are glad to find a solution for your needs.

FOR MULTIMODE:

Optical Performance	Conditions	OM2	OM3	OM4
Attenuation (dB/km)	850nm	≤ 2,7	≤ 3,0	≤ 3,0
	1300nm	≤ 0,8	≤ 1,0	≤ 1,0
Bandwidth (MHz.km)	850nm	≥ 500	≥ 1500	≥ 3500
	1300nm	≥ 500	≥ 500	
Effective Modal Bandwidth (MHz.km)	850nm	-	≥ 2000	≥ 4700
Numerical Aperture			0,200 ± 0,015	
Effective Group Index of Refraction	850nm		1,482	
	1300nm		1,477	

Geometrical Data	OM2	OM3	OM4
Core Diameter (µm)		50 ± 2	
Core Non-Circularity (%)		≤ 5,0	
Core / Cladding Concentricity error (µm)	≤ 1,0	≤ 1,0	≤ 1,0
Cladding Diameter (µm)		125 ± 1,0	
Cladding Non-Circularity (%)		≤ 0,7	
Overall coating Diameter (µm)		250 ± 15	
Coating/Clad concentricity error (µm)		≤ 6	

Mechanical Characteristics	OM2	OM3	OM4
Proof Test (GPa)		≥ 0,7	
Coating Strip Force (typical) (N)		1,3 ≤ Fpeak.strip ≤8,9	

Transmission Distance	OM3	OM4
1000BASE-SX	1000 m	1100 m
1000BASE-LX	550 m	550 m
10GBASE-SX	300 m	550 m
40GBASE-SR *	-	150 m
BASE100-SR *	-	100 m

* For Data centers

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FIBER OPTIC GENERAL SPECIFICATIONS

FOR MONOMODE:

Optical Performance	Conditions	G652D	G657A2	G657B3
Attenuation (dB/km)	1310nm	≤ 0,39	≤ 0,38	≤ 0,36
	1383nm	≤ 0,39	≤ 0,38	≤ 0,36
	1550nm	≤ 0,25	≤ 0,23	≤ 0,22
	1625nm	≤ 0,25	≤ 0,25	≤ 0,25
Dispersion Coefficient (ps/km.nm)	1285 para 1330nm	≤|3|	≤ |3,7|	≤ |3,7|
	1550nm	≤ 18	≤ 18,5	≤ 18,5
	1625nm	≤ 22	≤ 23	≤ 23
Mode Field Diameter (µm)	1310nm	9,00 ± 0,40	8,80 ± 0,40	8,80 ± 0,40
	1550nm	10,10 ± 0,50	9,80 ± 0,50	9,80 ± 0,50
Effective Group Index of Refraction	1310nm	1,467	1,467	1,467
	1550nm	1,468	1,467	1,467
	1625nm	1,468	1,468	1,468
Zero Dispersion Wavelenght λ_0 (nm)		1300 < λ_0 < 1322	1300 < λ_0 < 1324	1300 < λ_0 < 1324
Zero Dispersion Slope, S_0 (ps/nm².km)		≤ 0,090	≤ 0,092	≤ 0,092
Cable Cutoff Wavelength λ_{cc} (nm)			≤ 1260	

Geometrical Data	G652D	G657A2	G657B3
Cladding Diameter (µm)		125 ± 0,7	
Cladding Npn-Circularity (%)		≤ 0,70	
Coating Diameter (µm)		242 ± 7	
Coating / Cladding Concentricity error (µm)		≤ 12,0	
Coating Non-Circularity (%)	≤ 5,0	≤ 7,0	≤ 6,0
Core / Cladding Concentricity error (µm)		≤ 0,5	

Mechanical Characteristics	G652D	G657A2	G657B3
Proof Test GPa)		≥ 0,7	
Strip Force (N)		1,2 ≤ $F_{peak.strip}$ ≤ 8,9	
Dynamic Fatigue	≥ 20	≥ 20	≥ 27

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MACROBEND LOSS FOR MONOMODE:

- **G652D**

	Diameter of mandrel	Turns	Wavelenght	Inducted Attenuation (dB)
Macrobend Loss	ϕ25mm	100 turns	1310nm e 1550nm	≤ 0,05
	ϕ30mm	100 turns	1625nm	≤ 0,05

- **G657A2**

	Diameter of mandrel	Turns	Wavelenght	Inducted Attenuation (dB)
Macrobend Loss	ϕ15mm	10 turns	1550nm	≤ 0,03
	ϕ15mm	10 turns	1625nm	≤ 0,1
	ϕ10mm	1 turn	1550nm	≤ 0,1
	ϕ10mm	1 turn	1625nm	≤ 0,2
	ϕ7.5mm	1 turn	1550nm	≤ 0,5
	ϕ7.5mm	1 turn	1625nm	≤ 1,0

- **G657B3**

	Diameter of mandrel	Turns	Wavelenght	Inducted Attenuation (dB)
Macrobend Loss	ϕ15mm	10 turns	1550nm	≤ 0,03
	ϕ15mm	10 turns	1625nm	≤ 0,10
	ϕ10mm	1 turn	1550nm	≤ 0,03
	ϕ10mm	1 turn	1625nm	≤ 0,10
	ϕ7.5mm	1 turn	1550nm	≤ 0,08
	ϕ7.5mm	1 turn	1625nm	≤ 0,20
	ϕ5mm	1 turn	1550nm	≤ 0,10
	ϕ5mm	1 turn	1625nm	≤ 0,30

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