

**OPTICAL FIBER CHARACTERISTICS**

**MULTIMODE FIBER SPECIFICATIONS ACCORDING TO IEC 60793-2-10**

**Dimensional & mechanical characteristics:**

Attributes	Unit	A1a.1 (OM2 , G.651.1)	A1a.2 (OM3)	A1a.3 (OM4)	A1b (OM1)
Cladding diameter	µm	125 ± 1			125 ± 2
Cladding non circularity	%	≤2			≤2
Core diameter	µm	50±2.5			62..5±3
Core /cladding concentricity error	µm	≤3			≤3
Core non-circularity	%	≤6			≤6
Primary coating diameter –uncoloured	µm	245± 10			245± 10
Primary coating diameter –coloured	µm	250± 15			250± 15
Primary core /cladding concentricity error	µm	≤12.5			≤12.5
Proof stress level	GPa	≥0.69			≥0.69
Strip force peak	N	8.9			8.9

**Transmission performances:**

Attributes	Unit	A1a.1 (OM2)	A1a.2 (OM3)	A1a.3 (OM4)	A1b (OM1)
Maximum attenuation coefficient at 850nm (loose tube cable )	dB/Km	2.8	2.8		3.2
Maximum attenuation coefficient at 1300nm(loose tube cable )	dB/Km	0.9	0.9		1.0
Maximum attenuation coefficient at 850nm (tight buffer and semi tight cable)	dB/Km	3.0	3.0		3.5
Maximum attenuation coefficient at 1300nm (tight buffer and semi tight cable)	dB/Km	1.0	1.0		1.0
Minimum modal bandwidth at 850nm	MHz.Km	500	1500	3500	200
Minimum modal bandwidth at 1300nm	MHz.Km	500	500		500
Numerical aperture	Unit less	0.20±0.015			0.275±0.015
Maximum macrobending loss	dB	0.5dB , 100 turns on mandrel diameter of 75 mm at 850nm and 1300 nm			
Zero dispersion wavelength, λ0	nm	1295 ≤ λ0 ≤ 1340			1320 ≤ λ0 ≤ 1365
Zero dispersion slope ,S0	Ps/nm <sup>2</sup> .km	≤0.105 from 1295nm ≤ λ0 ≤ 1310nm		≤0.11 from 1320nm ≤ λ0 ≤ 1365nm	
		≤0.000375 (1590 - λ0) from 1310nm ≤ λ0 ≤ 1340nm		≤0.001 (1458- λ0) from 1348nm ≤ λ0 ≤ 1365nm	

OPTICAL FIBER CHARACTERISTICS

SINGLE MODE FIBER SPECIFICATIONS ACCORDING TO IEC 60793-2-50

**Dimensional & mechanical characteristics:**

Attributes	Unit	B1.1 (OS1,G652A/B)	B1.3 (OS2,G652D)	B6.a G657A
Cladding diameter	µm	125 ± 1		125 ± 0.7
Cladding non circularity	%	≤1		
Core concentricity error	µm	≤0.6		≤0.1
Primary coating diameter –uncoloured	µm	245± 10		
Primary coating diameter –coloured	µm	250± 15		
Primary core /cladding concentricity error	µm	≤12.5		
Proof stress level	GPa	≥0.69		
Strip force peak	N	8.9		

**Transmission performances:**

Attributes	Unit	B1.1 (OS1,G652A/B)	B1.3 (OS2,G652D)	B6.a G657A
Maximum attenuation coefficient at 1310nm	dB/Km	0.40	-	
Maximum attenuation coefficient from 1310nm to 1625nm	dB/Km	-	0.40	
Maximum attenuation coefficient at 1383nm±3nm	dB/Km	-	0.40	
Maximum attenuation coefficient at 1550nm	dB/Km	0.30		
Maximum attenuation coefficient at 1625nm	dB/Km	0.4	-	0.40
Mode field diameter at 1310nm	µm	9.2±0.6		8.9±0.4
Cable cut off wavelength	nm	≤1260		
Maximum macrobending loss	dB	0.1dB , 100 turns on mandrel radius of 30mm at 1625nm	0.25dB , 10 turns on mandrel radius of 15mm at 1550nm 0.75dB , 1 turn on mandrel radius of 10mm at 1550nm 1.0dB , 10 turns on mandrel radius of 15mm at 1625nm 1.5dB , 1 turn on mandrel radius of 10mm at 1625nm	
Zero dispersion wavelength, λ0	nm	1300 ≤ λ0 ≤ 1324		
Zero dispersion slope ,S0	Ps/nm <sup>2</sup> .km	≤ 0.092		