

Fiber specification



G50/125 Multi-mode fiber G50/125 acc. to IEC 60 793-2-10

Geometry/mechanical properties

Core diameter (µm)	50 ± 2.5	Cladding non-circularity (%)	< 1
Cladding diameter (µm)	125 ± 2	Core/Clad concentricity error (µm)	< 1.5
Coating diameter (µm)	245 ± 10	Eccentricity of coating (µm)	< 10
Core non-circularity (%)	< 5	Screen-Test	1 % stretching at 1 s (≙ 100 kpsi)

Transmission properties

	Fiber type F (OM2)		Fiber type G (OM2+)		Fiber type H (OM2++)		Fiber type I (OM3)		Fiber type J (OM3+)	
Wavelength (nm)	850	1300	850	1300	850	1300	850	1300	850	1300
Attenuation max. (dB/km)	3.0	1.0	2.7	0.8	2.7	0.7	2.5	0.7	2.5	0.7
Bandwidth OFL min. (MHz · km)	500	500	500	1000	600	1200	1500	500	3500	500
Effective group of refraction	1.483	1.478	1.483	1.478	1.483	1.478	1.483	1.478	1.483	1.475
Numerical aperture	0.200 ± 0.020		0.200 ± 0.015		0.200 ± 0.015		0.200 ± 0.015		0.200 ± 0.015	

G62.5/125 Multi-mode fiber G62.5/125 acc. to IEC 60 793-2-10

Geometry/mechanical properties

Core diameter (µm)	62.5 ± 3	Cladding non-circularity (%)	< 1
Cladding diameter (µm)	125 ± 2	Core/Clad concentricity error (µm)	< 1.5
Coating diameter (µm)	245 ± 10	Eccentricity of coating (µm)	< 10
Core non-circularity (%)	< 5	Screen-Test	1 % stretching at 1 s (≙ 100 kpsi)

Transmission properties

	Fiber type L (OM1)		Fiber type M (OM1+)	
Wavelength (nm)	850	1300	850	1300
Attenuation max. (dB/km)	3.2	0.9	3.0	0.8
Bandwidth OFL min. (MHz · km)	200	500	350	550
Effective group of refraction	1.497	1.493	1.497	1.493
Numerical aperture	0.275 ± 0.015		0.275 ± 0.015	



**Single-mode fiber E9/125
(matched cladding type)**

acc. to ITU-T Rec. G.652 and IEC 60 793-2-50

E9/125 Single-mode fiber E9/125 (matched cladding type) acc. to ITU-T Rec. G.652.D and IEC 60 793-2-50
acc. to ITU-T G.652.D additional fiber types e.g. ITU-T G.655 or ITU-T G.657.A or B on request

Geometry/mechanical properties

Mode field diameter (at 1310 nm) (μm)	9.2 ± 0.4	Core/Clad concentricity error (μm)	< 0.5
Cladding diameter (μm)	125 ± 0.7	Eccentricity of coating (μm)	< 12
Coating diameter (μm)	245 ± 10	Screen-Test	1 % Dehnung für 1 s (≙ 100 kpsi)
Cladding non-circularity (%)	< 1		

Transmission properties

	Fiber type A		Fiber type B	
	for semi-tight and tight buffered fibers		for multi-fiber loose tubes	
Wavelength (nm)	1310	1550	1310	1550
Attenuation max. (dB/km)	0.38	0.28	0.36	0.22
Dispersion coefficient max. (ps/nm · km)	3.5	18	3.5	18
Zero dispersion wavelength (nm)	1302 – 1322		1302 – 1322	
Dispersion slope (ps/nm ² · km)	≤ 0.090		≤ 0.090	
Cutoff wavelength (cabled) (nm)	≤ 1260		≤ 1260	
Polarization mode dispersion (ps/√km)	≤ 0.2		≤ 0.2	
Effective group of refraction	1.4695	1.4701	1.4695	1.4701

Applications and link lengths

	G50/125				G62,5/125		
	F	G	H	I	J	L	M
Type according to IS 11801: 09/2002	OM2	OM2+	OM2++	OM3	QM3+	OM1	OM1+
Gigabit Ethernet 1000BASE-SX (850 nm)	500 m	525 m	750 m	1,000 m	1,500 m	350 m	400 m
Gigabit Ethernet 1000BASE-LX (1300 nm)	550 m	1,000 m	2,000 m	550 m	550 m	550 m	1,000 m
10 Gigabit Ethernet 10GBASE-SX (850 nm)				300 m*	550 m		
10 Gigabit Ethernet 10GBASE-LX4 (1310 nm WDM)				300 m	300 m		

* 10 GE link length acc. to ISO 11801.2