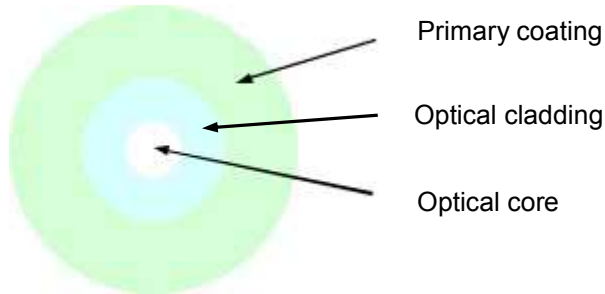


Fiber cross section



Application

Multimode fibre G50/125 with fiber core diameter 50µm, cladding diameter 125µm, and acrylate-primary coating diameter 245µm. These fibers can be used in buffered optical fibers and fiber optic cables with transmission wavelength of 850nm and/or 1300nm.

Fibers of fiber class OM3, OM4 and OM5 are optimised for best performance of transmission properties on laser based transmission systems and are also available as bend-insensitive version (BI).

The geometrical, mechanical and optical specifications are in accordance with all relevant national and international standards.

Standards

DIN EN 50173-1:2018
DIN EN 60793-2-10:2011;
ISO/IEC 11801: Edition 2;
IEC 60793-2-10

Geometrical properties

Core diameter	[µm]	50 ± 2,5
Cladding diameter	[µm]	125 ± 2
Coating diameter	[µm]	245 ± 10
Non-circularity of core	[%]	< 5
Non-circularity of cladding	[%]	< 1
Core/cladding concentricity error	[µm]	< 1.5
Eccentricity of coating	[µm]	< 10

Mechanical properties

Proof test (1% expansion for 1 s)	[N]	≥8.8 (≙ 100Kpsi) / ≥17.6 (≙ 200Kpsi) for BI fibers
Operating temperature range	[°C]	-60 to +85
Coating strip force (typical)	[N]	1.9

Optical transmission properties

	Fiber category															
	Conventional fiber									Bend insensitive fiber						
	OM2 (IEC 60793-2-10 A1a.1)		OM3 (IEC 60793-2-10 A1a.2)		OM4 (IEC 60793-2-10 A1a.3)		OM5 (IEC 60793-2-10 A1a.4)			OM3 (IEC 60793-2-10 A1a.4)		OM4 (IEC 60793-2-10 A1a.3)		OM5 (IEC 60793-2-10 A1a.4)		
Wavelength [nm]	850	1300	850	1300	850	1300	850	953	1300	850	1300	850	1300	850	953	1300
Attenuation max. [dB/km] (cable fiber)	2.7	0.7	2.5	0.7	2.5	0.7	2.5	1.8	0.7	2.5	0.7	2.5	0.7	2.5	1.8	0.7
Attenuation max. [dB/km] (cable-free fiber)	2.5	0.7	2.3	0.6	2.4	0.6	2.3	1.7	0.6	2.3	0.6	2.3	0.6	2.3	1.7	0.6
Macrobending, bend included attenuation increase max. [dB]																
100 turns R=37,5mm	-	-	-	-	-	-	-	-	-	≤0.05	≤0.15	≤0.05	≤0.15	≤0,1	-	≤0,15
100 turns R=15mm	-	-	-	-	-	-	-	-	-	≤0.1	≤0.3	≤0.1	≤0.3	≤0.1	-	≤0.3
100 turns R=7,5mm	-	-	-	-	-	-	-	-	-	≤0.2	≤0.5	≤0.2	≤0.5	≤0.2	-	≤0.5
Bandwidth OFL min. [MHz*km]	600	1200	1500	500	3500	500	3500	1850	500	1500	500	3500	500	3500	1850	500
Bandwidth EMB min. [MHz*km]	-	-	2000	-	4700	-	4700	2470	-	2000	-	4700	-	4700	2470	-
Group index of refraction	1.483	1.478	1.483	1.478	1.483	1.478	1.483	-	1.478	1.483	1.478	1.483	1.478	1.483	-	1.478
Numerica aperture	0.200 ± 0.015															

Applications and link length

	Fiber class						
	Conventional fiber				Bend insensitive fiber		
	OM2	OM3	OM4	OM5	OM3	OM4	OM5
Gigabit Ethernet 1000BASE-SX (850nm)	600 m	900 m	900 m	900 m	900 m	900 m	900 m
Gigabit Ethernet 1000BASE-LX (1300nm)	600 m	550 m	550 m	550 m	550 m	550 m	550 m
10 Gigabit Ethernet 10GBASE-SX (850nm)		300 m	550 m	550 m	300 m	550 m	550 m
10 Gigabit Ethernet 10GBASE-LX4 (1300nm WDM)		300 m	300 m	300 m	300 m	300 m	300 m