

Optical Fibres Datasheet

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Singlemode Fibre G.652.D

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1310 nm	0.32 / 0.36	dB/km
1550 nm	0.19 / 0.24	dB/km
1625 nm	0.22 / 0.26	dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

1310 nm	0.35 / 0.40	dB/km
1550 nm	0.25 / 0.40	dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cut-off wavelength (λ_{cc})

≤ 1260 nm

Zero dispersion wavelength

1300 – 1324 nm

Zero dispersion slope

≤ 0.091 (ps/(nm²/km))

Chromatic dispersion at 1550 nm

13.3 – 18.6 ps/(nm.km)

Chromatic dispersion at 1625 nm

17.2 – 23.7 ps/(nm.km)

Maximum individual fibre PMD

≤ 0.2 ps/√km

Effective group index of refraction at 1310 nm

1.4672

Effective group index of refraction at 1550 nm

1.4683

Mode field diameter at 1310 nm

9.2 ± 0.4 μm

Mode field diameter at 1550 nm

10.4 ± 0.5 μm

Core/Cladding concentricity error

≤ 0.6 μm

Cladding diameter

125.0 ± 0.7 μm

Cladding non-circularity

≤ 1.0 %

Primary coating diameter (uncoloured fibre)

242 ± 7 μm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 12 μm

Macrobending loss 100 turns, mandrel radius 30 mm at 1625 nm

≤ 0.05 dB

Proof test level (1.0% strain)

≥ 100 kpsi

Coating strip force (Peak)

1.3 ~ 8.9 N

Coating strip force (Average)

1.0 ~ 5.0 N

Dynamic fatigue resistance parameter

≥ 20

⁽¹⁾ Unless stated otherwise directly in the cable specification

⁽²⁾ Cabled fibre

⁽³⁾ Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Singlemode Fibre G.657.A1

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1310 nm	0.32 / 0.36	dB/km
1550 nm	0.19 / 0.24	dB/km
1625 nm	0.22 / 0.26	dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

1310 nm	0.35 / 0.40	dB/km
1550 nm	0.25 / 0.40	dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cable cut-off wavelength (λ_{cc})

≤ 1260 nm

Zero dispersion wavelength

1300 – 1324 nm

Zero dispersion slope

≤ 0.092 (ps/(nm²/km))

Chromatic dispersion at 1550 nm

13.3 – 18.6 ps/(nm.km)

Chromatic dispersion at 1625 nm

17.2 – 23.7 ps/(nm.km)

Maximum individual fibre PMD

≤ 0.2 ps/√km

Effective group index of refraction at 1310 nm

1.4662

Effective group index of refraction at 1550 nm

1.4670

Mode field diameter at 1310 nm

9.2 ± 0.4 μm

Mode field diameter at 1550 nm

10.4 ± 0.5 μm

Core/Cladding concentricity error

≤ 0.5 μm

Cladding diameter

125.0 ± 0.7 μm

Cladding non-circularity

≤ 1.0 %

Primary coating diameter (uncoloured fibre)

242 ± 7 μm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 12 μm

Macrobending loss 10 turns, mandrel radius 15 mm at 1550 nm

≤ 0.25 dB

Macrobending loss 10 turns, mandrel radius 15 mm at 1625 nm

≤ 1.00 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1550 nm

≤ 0.75 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1625 nm

≤ 1.5 dB

Proof test level (1.0% strain)

≥ 100 kpsi

Coating strip force (Peak)

1.3 ~ 8.9 N

Coating strip force (Average)

1.0 ~ 5.0 N

Dynamic fatigue resistance parameter

≥ 20

⁽¹⁾ Unless stated otherwise directly in the cable specification

⁽²⁾ Cabled fibre

⁽³⁾ Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
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Singlemode Fibre G.657.A1 200µm

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1310 nm	0.32 / 0.36	dB/km
1550 nm	0.19 / 0.24	dB/km
1625 nm	0.22 / 0.26	dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

1310 nm	0.35 / 0.40	dB/km
1550 nm	0.25 / 0.40	dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cable cut-off wavelength (λ_{cc})

≤ 1260 nm

Zero dispersion wavelength

1300 – 1324 nm

Zero dispersion slope

≤ 0.092 (ps/(nm²/km))

Chromatic dispersion at 1550 nm

13.3 – 18.6 ps/(nm.km)

Chromatic dispersion at 1625 nm

17.2 – 23.7 ps/(nm.km)

Maximum individual fibre PMD

≤ 0.2 ps/√km

Effective group index of refraction at 1310 nm

1.4662

Effective group index of refraction at 1550 nm

1.4670

Mode field diameter at 1310 nm

9.2 ± 0.4 µm

Mode field diameter at 1550 nm

10.4 ± 0.5 µm

Core/Cladding concentricity error

≤ 0.5 µm

Cladding diameter

125.0 ± 0.7 µm

Cladding non-circularity

≤ 1.0 %

Primary coating diameter (uncoloured fibre)

200 ± 10 µm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 10 µm

Macrobending loss 10 turns, mandrel radius 15 mm at 1550 nm

≤ 0.25 dB

Macrobending loss 10 turns, mandrel radius 15 mm at 1625 nm

≤ 1.00 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1550 nm

≤ 0.75 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1625 nm

≤ 1.5 dB

Proof test level (1.0% strain)

≥ 100 kpsi

Coating strip force (Peak)

0.6 ~ 8.9 N

Coating strip force (Average)

0.6 ~ 5.0 N

Dynamic fatigue resistance parameter

≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Singlemode Fibre G.657.A2

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1310 nm	0.32 / 0.36	dB/km
1550 nm	0.19 / 0.24	dB/km
1625 nm	0.22 / 0.26	dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

1310 nm	0.35 / 0.40	dB/km
1550 nm	0.25 / 0.40	dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cable cut-off wavelength (λ_{cc})

≤ 1260 nm

Zero dispersion wavelength

1300 – 1324 nm

Zero dispersion slope

≤ 0.092 (ps/(nm².km))

Chromatic dispersion at 1550 nm

13.3 – 18.6 ps/(nm.km)

Chromatic dispersion at 1625 nm

17.2 – 23.7 ps/(nm.km)

Maximum individual fibre PMD

≤ 0.2 ps/√km

Effective group index of refraction at 1310 nm

1.4677

Effective group index of refraction at 1550 nm

1.4683

Mode field diameter at 1310 nm

8.6 ± 0.4 μm

Mode field diameter at 1550 nm

9.6 ± 0.5 μm

Core/Cladding concentricity error

≤ 0.5 μm

Cladding diameter

125.0 ± 0.7 μm

Cladding non-circularity

≤ 0.8 %

Primary coating diameter (uncoloured fibre)

242 ± 7 μm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 12 μm

Macrobending loss 10 turns, mandrel radius 15 mm at 1550 nm

≤ 0.03 dB

Macrobending loss 10 turns, mandrel radius 15 mm at 1625 nm

≤ 0.1 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1550 nm

≤ 0.1 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1625 nm

≤ 0.2 dB

Macrobending loss 1 turn, mandrel radius 7.5 mm at 1550 nm

≤ 0.4 dB

Macrobending loss 1 turn, mandrel radius 7.5 mm at 1625 nm

≤ 0.8 dB

Proof test level (1.0% strain)

0.69 GPa

Coating strip force (Peak)

1.3 ~ 8.9 N

Coating strip force (Average)

1.0 ~ 5.0 N

Dynamic fatigue resistance parameter

≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Singlemode Fibre G.657.A2 200µm

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1310 nm	0.32 / 0.36	dB/km
1550 nm	0.19 / 0.24	dB/km
1625 nm	0.22 / 0.26	dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

1310 nm	0.35 / 0.40	dB/km
1550 nm	0.25 / 0.40	dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cable cut-off wavelength (λ_{cc})

≤ 1260 nm

Zero dispersion wavelength

1300 – 1324 nm

Zero dispersion slope

≤ 0.092 (ps/(nm².km))

Chromatic dispersion at 1550 nm

13.3 – 18.6 ps/(nm.km)

Chromatic dispersion at 1625 nm

17.2 – 23.7 ps/(nm.km)

Maximum individual fibre PMD

≤ 0.2 ps/√km

Effective group index of refraction at 1310 nm

1.4677

Effective group index of refraction at 1550 nm

1.4683

Mode field diameter at 1310 nm

8.6 ± 0.4 µm

Mode field diameter at 1550 nm

9.6 ± 0.5 µm

Core/Cladding concentricity error

≤ 0.5 µm

Cladding diameter

125.0 ± 0.7 µm

Cladding non-circularity

≤ 0.8 %

Primary coating diameter (uncoloured fibre)

200 ± 10 µm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 10 µm

Macrobending loss 10 turns, mandrel radius 15 mm at 1550 nm

≤ 0.03 dB

Macrobending loss 10 turns, mandrel radius 15 mm at 1625 nm

≤ 0.1 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1550 nm

≤ 0.1 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1625 nm

≤ 0.2 dB

Macrobending loss 1 turn, mandrel radius 7.5 mm at 1550 nm

≤ 0.4 dB

Macrobending loss 1 turn, mandrel radius 7.5 mm at 1625 nm

≤ 0.8 dB

Proof test level (1.0% strain)

0.69 GPa

Coating strip force (Peak)

0.6 ~ 8.9 N

Coating strip force (Average)

0.6 ~ 5.0 N

Dynamic fatigue resistance parameter

≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Singlemode Fibre G.657.B3

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1310 nm	0.32 / 0.36	dB/km
1550 nm	0.19 / 0.24	dB/km
1625 nm	0.22 / 0.26	dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

1310 nm	0.35 / 0.40	dB/km
1550 nm	0.25 / 0.40	dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cable cut-off wavelength (λ_{cc})

≤ 1260 nm

Zero dispersion wavelength

1300 – 1324 nm

Zero dispersion slope

≤ 0.092 (ps/(nm²/km))

Maximum individual fibre PMD

≤ 0.2 ps/√km

Effective group index of refraction at 1310 nm

1.468

Effective group index of refraction at 1550 nm

1.469

Mode field diameter at 1310 nm

8.6 ± 0.4 μm

Mode field diameter at 1550 nm

9.6 ± 0.5 μm

Core/Cladding concentricity error

≤ 0.5 μm

Cladding diameter

125.0 ± 0.7 μm

Cladding non-circularity

≤ 0.8 %

Primary coating diameter (uncoloured fibre)

242 ± 7 μm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 12 μm

Macrobending loss 1 turn, mandrel radius 10 mm at 1550 nm

≤ 0.03 dB

Macrobending loss 1 turn, mandrel radius 10 mm at 1625 nm

≤ 0.1 dB

Macrobending loss 1 turn, mandrel radius 7.5 mm at 1550 nm

≤ 0.08 dB

Macrobending loss 1 turn, mandrel radius 7.5 mm at 1625 nm

≤ 0.25 dB

Macrobending loss 1 turn, mandrel radius 5 mm at 1550 nm

≤ 0.15 dB

Macrobending loss 1 turn, mandrel radius 5 mm at 1625 nm

≤ 0.45 dB

Proof test level (1.0% strain)

0.69 GPa

Coating strip force (Peak)

1.3 ~ 8.9 N

Coating strip force (Average)

1.0 ~ 5.0 N

Dynamic fatigue resistance parameter

≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Singlemode Fibre G.654.E

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

1550 nm	0.17 / 0.19	dB/km
1625 nm	0.19 / 0.22	dB/km
Attenuation discontinuity ⁽³⁾	≤ 0.1	dB
Cable cut-off wavelength (λ_{cc})	≤ 1530	nm
Zero dispersion wavelength	≤ 1300	nm
Zero dispersion slope at 1550 nm	0.050 – 0.070	(ps/(nm ² ·km))
Dispersion at 1550 nm	17 - 23	ps/(nm·km)
Maximum individual fibre PMD	≤ 0.2	ps/√km
Effective group index of refraction at 1550 nm	1.467	
Mode field diameter at 1550 nm / Effective area 130 μm ²	12.5 ± 0.5	μm
Core/Cladding concentricity error	≤ 0.6	μm
Cladding diameter	125.0 ± 1.0	μm
Cladding non-circularity	≤ 1.0	%
Primary coating diameter (uncoloured fibre)	245 ± 10	μm
Fibre curl radius	≥ 4.0	m
Coating-Cladding concentricity	≤ 12	μm
Macrobending loss 100 turns, mandrel radius 30 mm at 1550 nm	≤ 0.1	dB
Macrobending loss 100 turns, mandrel radius 30 mm at 1625 nm	≤ 0.1	dB
Proof test level (1.0% strain)	≥ 100	kpsi
Coating strip force (Peak)	1.3 ~ 8.9	N
Coating strip force (Average)	1.0 ~ 5.0	N
Dynamic fatigue resistance parameter	≥ 20	

⁽¹⁾ Unless stated otherwise directly in the cable specification

⁽²⁾ Cabled fibre

⁽³⁾ Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Singlemode Fibre G.655.C/D

Attenuation coefficient (typical / max.) ^(1,2)

1550 nm

0.23 / 0.35 dB/km

1625 nm

0.26 / 0.4 dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.1 dB

Cable cut-off wavelength (λ_{cc})

≤ 1450 nm

Zero dispersion wavelength

≤ 1520 nm

Dispersion slope 1550 nm

≤ 0.084 (ps/(nm²/km))

Typical dispersion slope 1550 nm

≤ 0.075 (ps/(nm²/km))

Dispersion 1530 - 1565 nm

2.0 - 6.0 ps/(nm.km)

Dispersion 1565 - 1625 nm

4.5 - 11.2 ps/(nm.km)

Maximum individual fibre PMD

≤ 0.2 ps/√km

Typical individual fibre PMD

≤ 0.04 ps/√km

Effective group index of refraction at 1550 nm

1.469

Effective group index of refraction at 1625 nm

1.469

Mode field diameter at 1550 nm

9.6 ± 0.5 μm

Core/Cladding concentricity error

≤ 0.6 μm

Cladding diameter

125.0 ± 0.7 μm

Cladding non-circularity

≤ 1.0 %

Primary coating diameter (uncoloured fibre)

245 ± 10 μm

Fibre curl radius

≥ 4.0 m

Coating-Cladding concentricity

≤ 12 μm

Macrobending loss 100 turns, mandrel radius 30 mm at 1625 nm

≤ 0.05 dB

Macrobending loss 100 turns, mandrel radius 25 mm at 1550 nm

≤ 0.05 dB

Macrobending loss 1 turn, mandrel radius 16 mm at 1550 nm

≤ 0.05 dB

Proof test level (1.0% strain)

≥ 100 kpsi

Coating strip force (Peak)

1.3 ~ 8.9 N

Coating strip force (Average)

1.5 N

Dynamic fatigue resistance parameter

≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Multimode Fibre OM1

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

850 nm 2.6 / 3.5 dB/km

1300 nm 0.5 / 1.5 dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

850 nm 2.6 / 3.5 dB/km

1300 nm 0.5 / 1.5 dB/km

Attenuation discontinuity ⁽³⁾ ≤ 0.2 dB

Overfilled Modal Bandwidth at 850 nm ≥ 200 MHz·km

Overfilled Modal Bandwidth at 1300 nm ≥ 500 MHz·km

Zero dispersion wavelength $1320 \leq \lambda_0 \leq 1365$ nm

Zero dispersion slope $1320 \leq \lambda_0 \leq 1348$ nm ≤ 0.11 (ps/(nm²/km))

Zero dispersion slope $1348 \leq \lambda_0 \leq 1360$ nm ≤ 0.001 (1458 - λ_0) (ps/(nm²/km))

Numerical Aperture 0.275 ± 0.015

Core diameter 62.5 ± 2.5 μm

Core non-circularity ≤ 5.0 %

Core/Cladding concentricity error ≤ 1.5 μm

Cladding diameter 125.0 ± 1.0 μm

Cladding non-circularity ≤ 1.0 %

Coating-Cladding concentricity ≤ 10 μm

Primary coating diameter (uncoloured fibre) 242 ± 7 μm

Primary coating non-Circularity ≤ 5 %

Coating-Cladding concentricity ≤ 10 μm

100 turns, mandrel radius 37.5 mm at 850 nm ≤ 0.5 dB

100 turns, mandrel radius 37.5 mm at 1300 nm ≤ 0.5 dB

Group index of refraction at 850 nm 1.496

Group index of refraction at 1300 nm 1.491

Proof test level (1.0% strain) ≥ 100 kpsi

Coating strip force (Peak) 1.3 ~ 8.9 N

Coating strip force (Average) 1 ~ 3 N

Dynamic fatigue resistance parameter ≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Multimode Fibre OM2

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

850 nm 2.2 / 3.5 dB/km

1300 nm 0.5 / 1.5 dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

850 nm 2.5 / 3.5 dB/km

1300 nm 0.6 / 1.5 dB/km

Attenuation discontinuity ⁽³⁾ ≤ 0.2 dB

Overfilled Modal Bandwidth at 850 nm ≥ 500 MHz·km

Overfilled Modal Bandwidth at 1300 nm ≥ 500 MHz·km

1000BASE-SX 600 m

10GBASE-SR 83 m

Zero dispersion wavelength $1295 \leq \lambda_0 \leq 1340$ nm

Zero dispersion slope $1295 \leq \lambda_0 \leq 1310$ nm ≤ 0.105 (ps/(nm²/km))

Zero dispersion slope $1310 \leq \lambda_0 \leq 1340$ nm ≤ 0.000375 (1590 - λ_0) (ps/(nm²/km))

Numerical Aperture 0.200 ± 0.015

Core diameter 50 ± 2.5 μm

Core non-circularity ≤ 5.0 %

Core/Cladding concentricity error ≤ 1.5 μm

Cladding diameter 125.0 ± 1.0 μm

Cladding non-circularity ≤ 1.0 %

Coating-Cladding concentricity ≤ 10 μm

Primary coating diameter (uncoloured fibre) 242 ± 7 μm

Primary coating non-Circularity ≤ 5 %

Coating-Cladding concentricity ≤ 10 μm

2 turns, mandrel radius 7.5 mm at 850 nm ≤ 0.2 dB

2 turns, mandrel radius 7.5 mm at 1300 nm ≤ 0.5 dB

2 turns, mandrel radius 15 mm at 850 nm ≤ 0.1 dB

2 turns, mandrel radius 15 mm at 1300 nm ≤ 0.3 dB

100 turns, mandrel radius 37.5 mm at 850 nm ≤ 0.5 dB

100 turns, mandrel radius 37.5 mm at 1300 nm ≤ 0.5 dB

Group index of refraction at 850 nm 1.482

Group index of refraction at 1300 nm 1.477

Proof test level (1.0% strain) ≥ 100 kpsi

Coating strip force (Peak) 1.3 ~ 8.9 N

Coating strip force (Average) 1 ~ 3 N

Dynamic fatigue resistance parameter ≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Multimode Fibre OM3

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

850 nm 2.2 / 3.5 dB/km

1300 nm 0.5 / 1.5 dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

850 nm 2.5 / 3.5 dB/km

1300 nm 0.6 / 1.5 dB/km

Attenuation discontinuity ⁽³⁾ ≤ 0.2 dB

Overfilled Modal Bandwidth at 850 nm ≥ 1500 MHz·km

Overfilled Modal Bandwidth at 1300 nm ≥ 500 MHz·km

Effective Modal Bandwidth at 850 nm ≥ 2000 MHz·km

10GBASE-SR 300 m

40GBASE-SR4⁽⁴⁾ 140 m

100GBASE-SR10⁽⁴⁾ 140 m

100GBASE-SR4 70 m

Zero dispersion wavelength $1295 \leq \lambda_0 \leq 1340$ nm

Zero dispersion slope $1295 \leq \lambda_0 \leq 1310$ nm ≤ 0.105 (ps/(nm²/km))

Zero dispersion slope $1310 \leq \lambda_0 \leq 1340$ nm ≤ 0.000375 (1590 - λ_0) (ps/(nm²/km))

Numerical Aperture 0.200 ± 0.015

Core diameter 50 ± 2.5 μm

Core non-circularity ≤ 5.0 %

Core/Cladding concentricity error ≤ 1.5 μm

Cladding diameter 125.0 ± 1.0 μm

Cladding non-circularity ≤ 1.0 %

Coating-Cladding concentricity ≤ 10 μm

Primary coating diameter (uncoloured fibre) 242 ± 7 μm

Primary coating non-Circularity ≤ 5 %

Coating-Cladding concentricity ≤ 10 μm

2 turns, mandrel radius 7.5 mm at 850 nm ≤ 0.2 dB

2 turns, mandrel radius 7.5 mm at 1300 nm ≤ 0.5 dB

2 turns, mandrel radius 15 mm at 850 nm ≤ 0.1 dB

2 turns, mandrel radius 15 mm at 1300 nm ≤ 0.3 dB

100 turns, mandrel radius 37.5 mm at 850 nm ≤ 0.5 dB

100 turns, mandrel radius 37.5 mm at 1300 nm ≤ 0.5 dB

Group index of refraction at 850 nm 1.482

Group index of refraction at 1300 nm 1.477

Proof test level (1.0% strain) ≥ 100 kpsi

Coating strip force (Peak) 1.3 ~ 8.9 N

Coating strip force (Average) 1 ~ 3 N

Dynamic fatigue resistance parameter ≥ 20

⁽¹⁾ Unless stated otherwise directly in the cable specification

⁽²⁾ Cabled fibre

⁽³⁾ Mean of bi-directional measurement

⁽⁴⁾ Indicated link distances require total connector loss ≤ 1.0 dB, and VCSEL spectral bandwidth of ≤ 0.45 nm

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Multimode Fibre OM4

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

850 nm 2.2 / 3.5 dB/km

1300 nm 0.5 / 1.5 dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

850 nm 2.5 / 3.5 dB/km

1300 nm 0.6 / 1.5 dB/km

Attenuation discontinuity ⁽³⁾ ≤ 0.2 dB

Overfilled Modal Bandwidth at 850 nm ≥ 3500 MHz·km

Overfilled Modal Bandwidth at 1300 nm ≥ 500 MHz·km

Effective Modal Bandwidth at 850 nm ≥ 4700 MHz·km

10GBASE-SR⁽⁴⁾ 550 m

40GBASE-SR4⁽⁴⁾ 190 m

25GBASE-SR 100 m

100GBASE-SR4 100 m

400GBASE-SR4.2 100 m

40G-BiDi 150 m

100G-BiDi 100 m

40G SWDM4 350 m

100G SWDM4 100 m

Zero dispersion wavelength $1295 \leq \lambda_0 \leq 1340$ nm

Zero dispersion slope $1295 \leq \lambda_0 \leq 1310$ nm ≤ 0.105 (ps/(nm²/km))

Zero dispersion slope $1310 \leq \lambda_0 \leq 1340$ nm ≤ 0.000375 (1590 - λ_0) (ps/(nm²/km))

Numerical Aperture 0.200 ± 0.015

Core diameter 50 ± 2.5 μm

Core non-circularity ≤ 5.0 %

Core/Cladding concentricity error ≤ 1.5 μm

Cladding diameter 125.0 ± 1.0 μm

Cladding non-circularity ≤ 1.0 %

Coating-Cladding concentricity ≤ 10 μm

Primary coating diameter (uncoloured fibre) 242 ± 7 μm

Primary coating non-Circularity ≤ 5 %

Coating-Cladding concentricity ≤ 10 μm

2 turns, mandrel radius 7.5 mm at 850 nm ≤ 0.2 dB

2 turns, mandrel radius 7.5 mm at 1300 nm ≤ 0.5 dB

2 turns, mandrel radius 15 mm at 850 nm ≤ 0.1 dB

2 turns, mandrel radius 15 mm at 1300 nm ≤ 0.3 dB

100 turns, mandrel radius 37.5 mm at 850 nm ≤ 0.5 dB

100 turns, mandrel radius 37.5 mm at 1300 nm ≤ 0.5 dB

Group index of refraction at 850 nm 1.482

Group index of refraction at 1300 nm 1.477

Proof test level (1.0% strain) ≥ 100 kpsi

Coating strip force (Peak) 1.3 ~ 8.9 N

Coating strip force (Average) 1 ~ 3 N

Dynamic fatigue resistance parameter ≥ 20

(1) Unless stated otherwise directly in the cable specification

(2) Cabled fibre

(3) Mean of bi-directional measurement

(4) Indicated link distances require total connector loss ≤ 1.0 dB, and VCSEL spectral bandwidth of ≤ 0.45 nm

- Typical attenuation is the value measured for at least 90% of the fibres in the cable.
- OTDR measurement values can only be guaranteed for cable lengths of 1000 m and more.
- Cable on the reel may show a discontinuity of the OTDR curve caused by winding of the cable on the reel.
- The above values apply, unless otherwise stated directly in the cable specification

Multimode Fibre OM5

Attenuation coefficient Loose tube Cables (typical / max.) ^(1,2)

850 nm

2.2 / 3.5 dB/km

1300 nm

0.5 / 1.5 dB/km

Attenuation coefficient Tight Buffered Cables (typical / max.) ^(1,2)

850 nm

2.5 / 3.5 dB/km

1300 nm

0.6 / 1.5 dB/km

Attenuation discontinuity ⁽³⁾

≤ 0.2 dB

Overfilled Modal Bandwidth at 850 nm

≥ 3500 MHz·km

Overfilled Modal Bandwidth at 953 nm

≥ 1850 MHz·km

Overfilled Modal Bandwidth at 1300 nm

≥ 500 MHz·km

Effective Modal Bandwidth at 850 nm

≥ 4700 MHz·km

Effective Modal Bandwidth at 953 nm

≥ 2470 MHz·km

10GBASE-SR⁽⁴⁾

550 m

40GBASE-SR4⁽⁴⁾

190 m

25GBASE-SR

100 m

100GBASE-SR4

100 m

400GBASE-SR4.2

150 m

40G-BiDi

200 m

100G-BiDi

150 m

40G SWDM4

440 m

100G SWDM4

150 m

Zero dispersion wavelength

$1297 \leq \lambda_0 \leq 1328$ nm

Zero dispersion slope, S_0

$\leq 4(-103) / (840(1 - (\lambda_0 / 840)^4))$ (ps/(nm²/km))

Numerical Aperture

0.200 ± 0.015

Core diameter

50 ± 2.5 μm

Core non-circularity

≤ 5.0 %

Core/Cladding concentricity error

≤ 1.5 μm

Cladding diameter

125.0 ± 1.0 μm

Cladding non-circularity

≤ 1.0 %

Coating-Cladding concentricity

≤ 10 μm

Primary coating diameter (uncoloured fibre)

242 ± 7 μm

Primary coating non-Circularity

≤ 5 %

Coating-Cladding concentricity

≤ 10 μm

2 turns, mandrel radius 7.5 mm at 850 nm

≤ 0.2 dB

2 turns, mandrel radius 7.5 mm at 1300 nm

≤ 0.5 dB

2 turns, mandrel radius 15 mm at 850 nm

≤ 0.1 dB

2 turns, mandrel radius 15 mm at 1300 nm

≤ 0.3 dB

100 turns, mandrel radius 37.5 mm at 850 nm

≤ 0.5 dB

100 turns, mandrel radius 37.5 mm at 1300 nm

≤ 0.5 dB

Group index of refraction at 850 nm

1.482

Group index of refraction at 1300 nm

1.477

Proof test level (1.0% strain)

≥ 100 kpsi

Coating strip force (Peak)

1.3 ~ 8.9 N

Coating strip force (Average)

1 ~ 3 N

Dynamic fatigue resistance parameter

≥ 20

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