

Supuria® Core

Single-mode fiber compliant with ITU-T G.657.A1 and ITU-T G.652.D

Physical Characteristics:

Clad Diameter:	125.0 ± 0.7 µm
Clad Non-Circularity:	≤ 0.7 %
Core-Clad Conc. Error:	≤ 0.5 µm
Coating Diameter (uncolored):	237 – 247 µm
Coating-Clad Conc. Error:	≤ 12 µm
Tensile Proof Test:	100 kpsi (0.69 GPa)
Coating Strip Force Range:	1.0 N ≤ CSF ≤ 8.9 N
Standard Reel Lengths:	50.4 km

Attenuation Characteristics:

	Maximum	Typical
1310 nm	≤ 0.35 dB/km	≤ 0.33 dB/km
1385 nm	≤ 0.31 dB/km	≤ 0.27 dB/km
1490 nm	≤ 0.24 dB/km	≤ 0.21 dB/km
1550 nm	≤ 0.21 dB/km	≤ 0.19 dB/km
1625 nm	≤ 0.23 dB/km	≤ 0.20 dB/km

Point Discontinuities 1310 nm, 1550 nm ≤ 0.05 dB

Macrobend Performance:

Bending-induced attenuation does not exceed the specified values under the following deployment conditions:

Deployment Condition	Wavelength	Induced Attenuation
1 turn on 10 mm radius mandrel	1550 nm	≤ 0.2 dB
	1625 nm	≤ 0.5 dB
10 turns on 15 mm radius mandrel	1550 nm	≤ 0.2 dB
	1625 nm	≤ 0.5 dB
100 turns on 25 mm radius mandrel	1550 nm	≤ 0.01 dB
	1625 nm	≤ 0.05 dB

Environmental Characteristics (at 1310, 1550 and 1625 nm):

- Temperature Cycling (-60 °C to +85 °C) ≤ 0.05 dB/km
- High Temperature Aging (85 ± 2 °C) ≤ 0.05 dB/km
- Temperature & Humidity Cycling (at -10 °C to +85 °C, and 95 % RH) ≤ 0.05 dB/km
- Water Immersion (23 ± 2 °C) ≤ 0.05 dB/km
- Dynamic Fatigue Stress Corrosion Parameter $n_d \geq 20$

Attenuation vs. Wavelength:

Range	Reference	Max Difference α
1285 – 1330 nm	1310 nm	≤ 0.03 dB/km
1525 – 1575 nm	1550 nm	≤ 0.02 dB/km

The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength by more than the value α .

Other Characteristics:

Zero Dispersion Wavelength λ_0 :	1302 – 1322 nm
Zero Dispersion Slope S_0 :	≤ 0.090 ps/nm ² ·km
Fiber PMD Link Design Value:	≤ 0.06 ps/√km
Maximum Individual Fiber PMD:	≤ 0.1 ps/√km
Mode Field Diameter (1310 nm):	8.6 ± 0.4 µm
Mode Field Diameter (1550 nm):	9.9 ± 0.5 µm
Cable Cut-Off Wavelength λ_{cc} :	≤ 1260 nm



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Physical Characteristics:

Clad Diameter:	125.0 ± 0.7 µm
Clad Non-Circularity:	≤ 0.7 %
Core-Clad Conc. Error:	≤ 0.5 µm
Coating Diameter (uncolored):	180 – 200 µm
Coating-Clad Conc. Error:	≤ 10 µm
Tensile Proof Test:	100 kpsi (0.69 GPa)
Coating Strip Force Range:	1.0 N ≤ CSF ≤ 8.9 N
Standard Reel Lengths:	50.4 km

Attenuation Characteristics:

	Maximum	Typical
1310 nm	≤ 0.35 dB/km	≤ 0.33 dB/km
1385 nm	≤ 0.31 dB/km	≤ 0.27 dB/km
1490 nm	≤ 0.24 dB/km	≤ 0.21 dB/km
1550 nm	≤ 0.21 dB/km	≤ 0.19 dB/km
1625 nm	≤ 0.23 dB/km	≤ 0.20 dB/km

Point Discontinuities 1310 nm, 1550 nm ≤ 0.05 dB

Macrobend Performance:

Bending-induced attenuation does not exceed the specified values under the following deployment conditions:

Deployment Condition	Wavelength	Induced Attenuation
1 turn on 10 mm radius mandrel	1550 nm	≤ 0.2 dB
	1625 nm	≤ 0.5 dB
10 turns on 15 mm radius mandrel	1550 nm	≤ 0.2 dB
	1625 nm	≤ 0.5 dB
100 turns on 25 mm radius mandrel	1550 nm	≤ 0.01 dB
	1625 nm	≤ 0.05 dB

Environmental Characteristics (at 1310, 1550 and 1625 nm):

- Temperature Cycling (-60 °C to +85 °C) ≤ 0.05 dB/km
- High Temperature Aging (85 ± 2 °C) ≤ 0.05 dB/km
- Temperature & Humidity Cycling (at -10 °C to +85 °C, and 95 % RH) ≤ 0.05 dB/km
- Water Immersion (23 ± 2 °C) ≤ 0.05 dB/km
- Dynamic Fatigue Stress Corrosion Parameter $n_d \geq 20$

Attenuation vs. Wavelength:

Range	Reference	Max Difference α
1285 – 1330 nm	1310 nm	≤ 0.03 dB/km
1525 – 1575 nm	1550 nm	≤ 0.02 dB/km

The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength by more than the value α .

Other Characteristics:

Zero Dispersion Wavelength λ_0 :	1302 – 1322 nm
Zero Dispersion Slope S_0 :	≤ 0.090 ps/nm ² ·km
Fiber PMD Link Design Value:	≤ 0.06 ps/√km
Maximum Individual Fiber PMD:	≤ 0.1 ps/√km
Mode Field Diameter (1310 nm):	8.6 ± 0.4 µm
Mode Field Diameter (1550 nm):	9.9 ± 0.5 µm
Cable Cut-Off Wavelength λ_{cc} :	≤ 1260 nm



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Supuria®

Single-mode fiber compliant with ITU-T G.657.A2 and ITU-T G.652.D

Physical Characteristics:

Clad Diameter:	$125.0 \pm 0.7 \mu\text{m}$
Clad Non-Circularity:	$\leq 0.7 \%$
Core-Clad Conc. Error:	$\leq 0.5 \mu\text{m}$
Coating Diameter (uncolored):	$237 - 247 \mu\text{m}$
Coating-Clad Conc. Error:	$\leq 12 \mu\text{m}$
Tensile Proof Test:	100 kpsi (0.69 GPa)
Coating Strip Force Range:	$1.0 \text{ N} \leq \text{CSF} \leq 8.9 \text{ N}$
Standard Reel Lengths:	50.4 km

Attenuation Characteristics:

	Maximum	Typical
1310 nm	$\leq 0.35 \text{ dB/km}$	$\leq 0.33 \text{ dB/km}$
1385 nm	$\leq 0.31 \text{ dB/km}$	$\leq 0.28 \text{ dB/km}$
1490 nm	$\leq 0.24 \text{ dB/km}$	$\leq 0.21 \text{ dB/km}$
1550 nm	$\leq 0.21 \text{ dB/km}$	$\leq 0.19 \text{ dB/km}$
1625 nm	$\leq 0.23 \text{ dB/km}$	$\leq 0.20 \text{ dB/km}$

Point Discontinuities 1310 nm, 1550 nm $\leq 0.05 \text{ dB}$

Macrobend Performance:

Bending-induced attenuation does not exceed the specified values under the following deployment conditions:

Deployment Condition	Wavelength	Induced Attenuation
1 turn on 10 mm radius mandrel	1550 nm	$\leq 0.5 \text{ dB}$
	1625 nm	$\leq 1.0 \text{ dB}$
10 turns on 15 mm radius mandrel	1550 nm	$\leq 0.1 \text{ dB}$
	1625 nm	$\leq 0.2 \text{ dB}$
100 turns on 25 mm radius mandrel	1550 nm	$\leq 0.03 \text{ dB}$
	1625 nm	$\leq 0.1 \text{ dB}$

Environmental Characteristics (at 1310, 1550 and 1625 nm):

- Temperature Cycling (-60°C to $+85^\circ\text{C}$) $\leq 0.05 \text{ dB/km}$
- High Temperature Aging ($85 \pm 2^\circ\text{C}$) $\leq 0.05 \text{ dB/km}$
- Temperature & Humidity Cycling (at -10°C to $+85^\circ\text{C}$, and 95 % RH) $\leq 0.05 \text{ dB/km}$
- Water Immersion ($23 \pm 2^\circ\text{C}$) $\leq 0.05 \text{ dB/km}$
- Dynamic Fatigue Stress Corrosion Parameter $n_d \geq 20$

Attenuation vs. Wavelength:

Range	Reference	Max Difference α
1285 – 1330 nm	1310 nm	$\leq 0.03 \text{ dB/km}$
1525 – 1575 nm	1550 nm	$\leq 0.02 \text{ dB/km}$

The attenuation in a given wavelength range does not exceed the attenuation of the reference wavelength by more than the value α .

Other Characteristics:

Zero Dispersion Wavelength λ_0 :	1302 – 1322 nm
Zero Dispersion Slope S_0 :	$\leq 0.090 \text{ ps/nm}^2 \cdot \text{km}$
Fiber PMD Link Design Value:	$\leq 0.06 \text{ ps}/\sqrt{\text{km}}$
Maximum Individual Fiber PMD:	$\leq 0.1 \text{ ps}/\sqrt{\text{km}}$
Mode Field Diameter (1310 nm):	$8.6 \pm 0.4 \mu\text{m}$
Mode Field Diameter (1550 nm):	$9.9 \pm 0.5 \mu\text{m}$
Cable Cut-Off Wavelength λ_{cc} :	$\leq 1260 \text{ nm}$



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Deployment Condition	Wavelength	Induced Attenuation
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	1625 nm	≤ 1.0 dB
10 turns on 15 mm radius mandrel	1550 nm	≤ 0.1 dB
	1625 nm	≤ 0.2 dB
100 turns on 25 mm radius mandrel	1550 nm	≤ 0.03 dB
	1625 nm	≤ 0.1 dB

Environmental Characteristics (at 1310, 1550 and 1625 nm):

- Temperature Cycling (-60 °C to +85 °C) ≤ 0.05 dB/km
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