



# TECHNICAL PRODUCT INFORMATION

Product characteristics - optical fibres

21-06-2023

## Fibre specification G.657.A1

Fibre	
Type of fibre	Hydrogen passivated, dispersion unshifted, matched cladding, bending loss insensitive single mode fibre 9/125 $\mu\text{m}$ Full compatible with G.652.D fibre Optical and geometrical properties exceed ITU-recommendations G.652.D and G.657.A1
Standard	IEC-60793-2-50, B-657.A1
Standard	ITU-T G.657.A1

## Characteristics

Parameter		Properties	Unit
Mode field diameter: 1310 nm		$9.0 \pm 0.3$	$\mu\text{m}$
Mode field diameter: 1550 nm		$10.2 \pm 0.4$	$\mu\text{m}$
Core non-circularity	max.	6	%
Core/cladding concentricity error	max.	0.4	$\mu\text{m}$
Cladding diameter		$125.0 \pm 0.5$	$\mu\text{m}$
Cladding non-circularity	max.	0.7	%
Coating diameter		$242 \pm 5$	$\mu\text{m}$
Coating/cladding concentricity error	max.	8	$\mu\text{m}$
Temperature sensitivity: -60 to +85 °C	max.	0.05	dB/km
Bending sensitivity - 100 turns around $\varnothing 50$ mm - 1550 nm	max.	0.05	dB
Bending sensitivity - 100 turns around $\varnothing 60$ mm - 1625 nm	max.	0.05	dB
Bending sensitivity - 10 turns around $\varnothing 30$ mm - 1550 nm	max.	0.1	dB
Bending sensitivity - 10 turns around $\varnothing 30$ mm - 1625 nm	max.	0.3	dB
Bending sensitivity - 1 turn around $\varnothing 20$ mm - 1550 nm	max.	0.75	dB
Bending sensitivity - 1 turn around $\varnothing 20$ mm - 1625 nm	max.	1.5	dB
Proof test level	min.	0.70	GPa
Fibre curl	min.	4	m
Cable cut-off wavelength	max.	1260	nm
Zero-dispersion wavelength		1300 – 1324	nm
Zero-dispersion slope	max.	0.090	ps/nm <sup>2</sup> ·km
Chromatic dispersion: 1285 - 1330 nm	max.	3.2	ps/nm·km
Chromatic dispersion: 1550 nm	max.	17	ps/nm·km
Chromatic dispersion: 1625 nm	max.	21	ps/nm·km
Polarisation mode dispersion: max. individual fibre	max.	0.1	ps/ $\sqrt{\text{km}}$
PMD <sub>Q</sub>	max.	0.04	ps/ $\sqrt{\text{km}}$
Max. attenuation at 1383 nm ( $\alpha_{1383}$ ) [note a]	< max.	$\alpha_{1310}$	-
Effective group core refractive index: 1310 nm		1.4671	-
Effective group core refractive index: 1550 nm		1.4675	-
Effective group core refractive index: 1625 nm		1.4680	-

[note a: after hydrogen ageing]