ZERO WATER-PEAK G 652 D SINGLEMODE OPTICAL FIBRES

Specifications: UIT-T G. 652 D - CEI 60793-2-50 type B1.3 series

Silec Cable REFERENCES: G 652 D

Low water-peak G 652 D singlemode optical fibres for wavelength multiplexing (WDM) used by Silec Cable present the following advantages :

- low and optimized attenuation in the 1260 – 1625 nm wavelength range (O, E, S, C and L bands),
- acrylate double coating for long term behaviour of the optical fibres,
- low dispersion and low PMD suitable for the evolution of networks, especially increasing of bit rate transmission (10 Gigabit ETHERNET, ATM, 10 and 40 Gbit/s SONET, SDH, DWDM and CWDM) on long distances,
- compatibility with other existing G 652 A, B and C optical fibres,
- optimized geometrical characteristics for low jointing (splicing) attenuation loss,
- low bending sensivity.

These fibres are recommended for FTTx networks.

Their characteristics are better than thoose required by UIT-T G 652 D specifications (see table hereunder).

Attenuation			
Attenuation @ 1310 nm			Typical : 0.32 - 0.33 dB/km Maxi ≤ 0.34 dB/km
Attenuation between 1285 and 1330 nm			Typical ≤ 0.35 dB/km Maxi ≤ 0.38 dB/km
Attenuation @ 1550 nm			Typical : 0.180 - 0.195 dB/km Maxi ≤ 0,20 dB/km
Attenuation between 1530 and 1570 nm			Typical ≤ 0.22 dB/km Maxi ≤ 0.24 dB/km
Attenuation @ 1625 nm			Typical ≤ 0.20 dB/km Maxi ≤ 0.23 dB/km
Attenuation @ 1383 nm			Typical ≤ 0.28 dB/km typical Maxi ≤ 0.34 dB/km
Attenuation slope regularity @ 1310 and 1550 nm			Local discontinuity typical ≤ 0.05 dB - maxi ≤ 0.1 dB
Bending sensivity			
Bending loss	Bending diameter, mm	Number of turns	Attenuation
	32	1	≤ 0.05dB @ 1310 & 1550 nm
	50 et 60	100	≤ 0.05dB @ 1310 & 1550 nm
PMD			
Polarization mode dispersion (PMD) – bare fibre			typical ≤ 0.02 ps/km$^{1/2}$ Maxi ≤ 0.1 ps/km$^{1/2}$
Polarization mode dispersion (PMD) – fibre in cable			Maxi ≤ 0.15 ps/km$^{1/2}$
Dispersion			
Chromatic dispersion @ 1310 nm			≤ 3.5 ps/nm.km
Chromatic dispersion @ 1550 nm			typical ≤ 17.0 ps/nm.km Maxi ≤ 18.0 ps/nm.km
Zero dispersion wavelength			1312 +/- 10 nm
Zero dispersion slope @ 1550 nm			Typical : 0.087 ps/nm^2.km Maxi ≤ 0.090 ps/nm^2.km
Cut off wavelength			
Cut off wavelength (in cable)			≤ 1260 nm
Mode field diameter			
Mode field diameter @ 1310 nm			9,2 +/- 0,4 µm
Mode field diameter @ 1550 nm			10,4 +/- 0,5 µm

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Geometrical characteristics	
Cladding diameter	typical : 125,0 +/- 0,5 µm Maxi : 125,0 +/- 0,7 µm
Cladding non circularity	≤ 1 %
Core/cladding concentricity error	typical ≤ 0,2 µm Maxi ≤ 0,5 µm
Fibre curl	≥ 4 m
Coating diameter	240 +/- 5 µm
Coating concentricity error	≤ 12 µm
Mechanical characteristics	
Proof test (elongation = 1 %)	≥ 0.7 GN/m^2
Coating stripping force	1.2 – 3.0 N
Influence of environment	
Attenuation change between –60 and +85 °C	≤ 0.05 dB/km @ 1310, 1550 & 1625 nm
Attenuation change between –10 et +85 °C with 98 % relative humidity	≤ 0.05 dB/km @ 1310, 1550 & 1625 nm
Attenuation change in water @ +23 +/- 2 °C	≤ 0.05 dB/km @ 1310, 1550 & 1625 nm
Attenuation change after ageing @ +85 +/- 2 °C	≤ 0. 05 dB/km @ 1310, 1550 & 1625 nm
Typical values	
Refractive index @ 1310 nm	1.467
Refractive index @ 1550 nm	1.468
Dynamic fatigue parameter (n_d)	20

Note :

- Silec Cable manufacturing processes have no incidence on the optical fibre characteristics described in the precedent table.

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