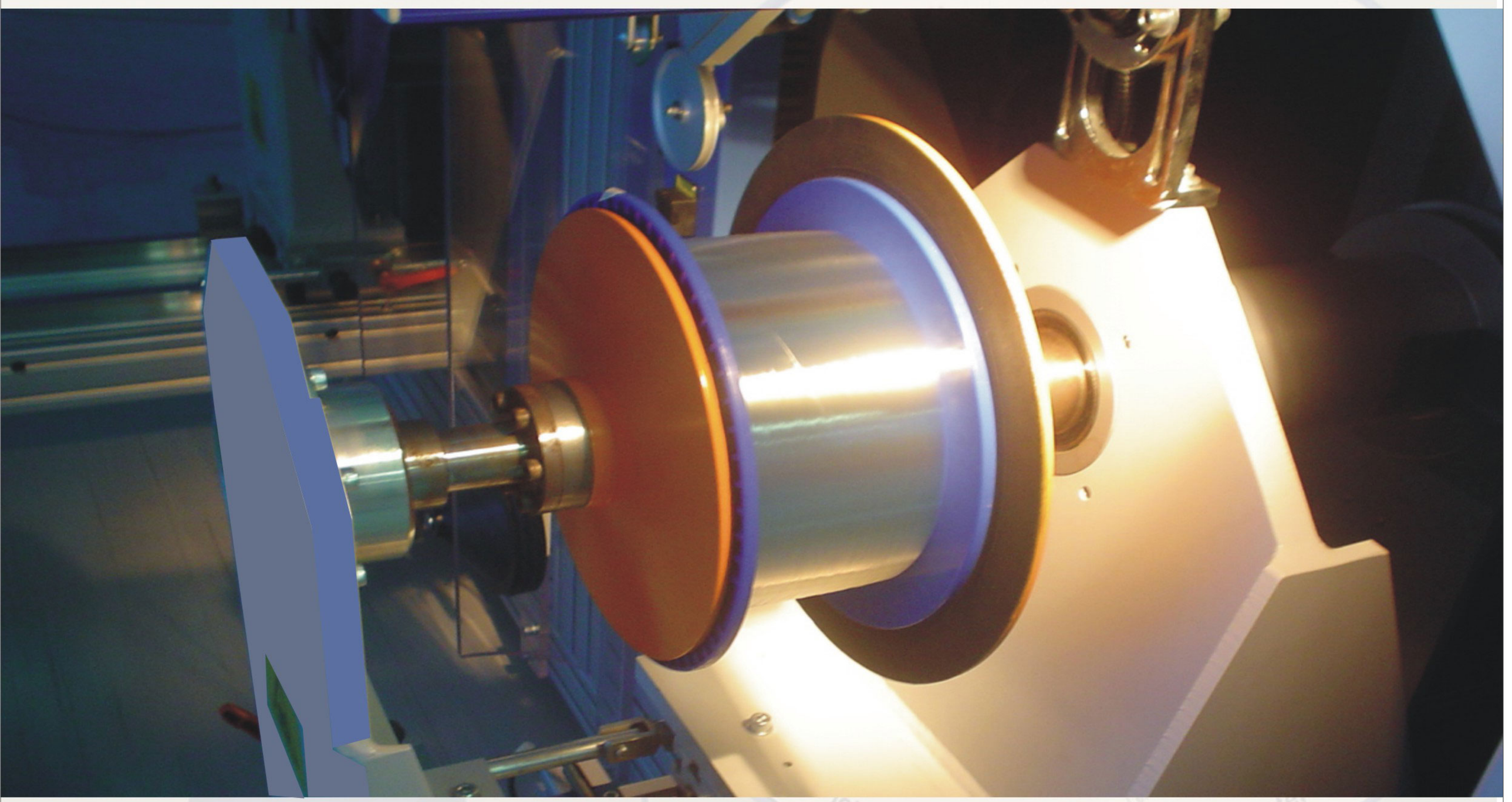
OPTIC FIBRE GOA

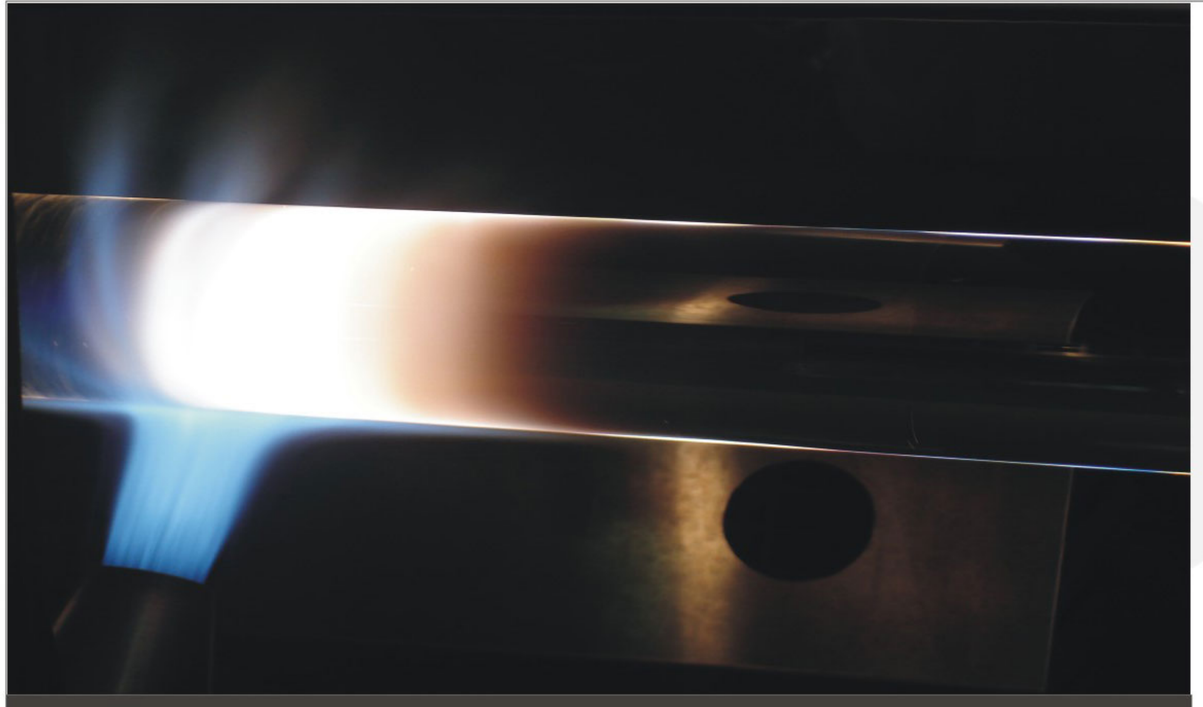
(A Unit of Universal Cables Limited)



Technical Specification for Single Mode Optical Fibre ITU-T G.652D OFG/SMF/02 (Low Water Peak Fibre)

General Design

Optic Fibre Goa (OFG) offers a Low Water Peak Single Mode Optical Fibre which enables customers to construct high capacity, low-cost transmission in Metropolitan and WDM network. These single mode optical fibres are step index and matched clad type operated in the whole wavelength regions from 1280nm to 1625nm free of OH ions at around 1383 ± 3 nm complied with the latest ITU-T G.652.D.



Technical Specification

Composition

Core	Germanium doped Silica
Cladding	Silica
Coating	Dual layer of UV-Cured Acrylate

Dimensional Characteristics

Mode Field Diameter	9.2 ± 0.4 μm at 1310nm
	10.4 ± 0.5 μm at1550nm
Core Concentricity Error	≤ 0.50 μm
Cladding Diameter	125 ± 0.7 μm
Cladding Non-Circularity	≤ 0.8%
Fiber Curl Radius	≥ 4 m
Coating Diameter	245 ± 5 μm (Uncolored)

Optical Characteristics

Attenuation in1285-1330nm	≤ 0.370dB/km
Attenuation at 1310nm	≤ 0.340dB/km
Attenuation at 1550nm	≤ 0.210dB/km
Attenuation between 1525 to 1625nm	≤ 0.220dB/km
Water Peak Attenuation 1383±3nm	≤ Specified Value of 1310 mm
Point Discontinuity at 1310/1550 nm	≤ 0.05dB/km
Fiber Cut-off Wavelength	between 1190-1320nm
Cable Cut-off Wavelength	≤ 1240nm
Zero Dispersion Wavelength	≤1302-1322nm
Zero Dispersion Slope	≤ 0.090ps/nm^2.km
Dispersion in 1285-1330 nm	≤ 3.5ps/nm.km
Dispersion in 1270-1340 nm	≤ 5.3ps/nm.km
Dispersion at 1550 nm	≤18.0ps/nm.km
Polarization Mode Dispersion (PMD)	< 0.15ps/$\sqrt{}$km

Note:

1) Attenuation in the band 1380-1390nm is checked at every 2 nm after hydrogen ageing as per IEC 60793-2-50.
2) Sudden irregularities in Attenuation are less than 0.1dB.
3) The Spectral Attenuation is measured on Uncabled Fibre.
4) The Spectral Attenuation in the 1250nm -1625nm band at an interval of 10nm are measured.

Mechanical Characteristics

Fibre Proof stress level	1.05% (0.75 Gpa)
Coating Strip Force (F)	1.3 < F < 5.0 N
Bending Induced Attenuation at 1550 nm	
1) 100 turns on 30 mm radius	≤0.05dB
2) 1 turn on 32 mm diameter	≤0.05dB
Dynamic Tensile Strength	
1) Un-aged	≥ 550Kpsi or >3.8 Gpa
2) Aged	≥ 440Kpsi or >3.0 Gpa
Dynamic fatigue	≥ 20
Static fatigue	≥ 20

Environmental Characteristics

Induced Attenuation at 1310nm & 1550 nm at 10 °C to +85° C and 95% RH	≤ 0.05 dB/km
Induced attenuation at 1550nm At -60 °C to +85 °C	≤ 0.05dB/km
Induced attenuation at1550nm due to Temperature Ageing 852 °C	≤ 0.05dB/km
Induced Attenuation at 1550nm due to Water immersion at 23 °C 2 °C	≤ 0.05dB/km

Coated Fibre shows no discernible Change in color when aged for Relative humidity (30 days at 85 °C and 95% Humidity 20 days in dry 85 °C)

Packaging

Fibre Length	upto 50.4km

Performance Characteristics

Characterized parameters are typical values:-

Core Diameter	8.30 μm
Zero dispersion wavelength	1314 nm
Zero dispersion Slope	0.085ps/nm^2 km
Fatigue Resistance Parameter	>20
Effective Group index of refraction	1.4670 @ 1310nm
	1.4680 @ 1550nm
	1.4690 @ 1625nm

Test Certification and Documentation

Fibre ID & Length
Attenuation at 1310nm and 1550nm
Chromatic dispersion at 1285 to 1330nm and 1550nm
Cut-off Wavelength
Mode field diameter at 1310nm
Geometry of Fibre and Coating.

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