

FTP100-05000300

Polyimide Coated Radiation Resistant Singlemode Fiber

Radiation resistant singlemode fiber with the following properties¹:

1. Geometrical features

Core Material	Ge-doped fused silica
Cladding Ø	125 µm ± 2µm
Core/Clad concentricity error	<0.8µm
Cladding Non-circularity	≤ 1%
Coating Ø	160µm ± 10µm
Clad/Coating concentricity error	≤ 5µm
Coating material	Polyimide

2. Optical properties

Mode field diameter @ 1310nm	9.2µm ± 0.4µm
Mode field diameter @ 1550 nm	10.4 µm ± 0.5 µm
Cut-off wavelength (uncabled)	≤ 1330nm
Attenuation @ 1310 nm	≤ 0.5 dB/km
Attenuation @ 1550 nm	≤ 0.3 dB/km
Attenuation @ 1625 nm	≤ 0.3 dB/km
Numerical Aperture (typical)	0.12
Radiation Induced Loss ²	<50 dB/km

3. Mechanical properties

Proof-test (100 %)	≥ 100 kpsi
Dynamic Tensile Strength Unaged Fiber (0.5m), Median Tensile Strength	≥ 3.8 GPa
Dynamic Fatigue Stress Corrosion Parameter nd (typical)	≥ 23

4. Additional features

Operating temperature	- 190°C to + 385°C
Fiber color	Yellow gold

5. Delivery length

>100m.

¹ This product under development and classified as a B-sample: For trial of total functional range and the technical requirements, usable for continuous-operating tests, manufacturing of the product is for creation of a specification for the series production and verification of manufacturability. First application tests, dimensions and key parameters according to the series. Not for serial application. Not all customer specifications necessarily fulfilled.

² Measured at 1300nm, 25°C temperature, after a total dose of 10.000 Gy at a dose rate of 0.21 Gy/s, sample length 75m.