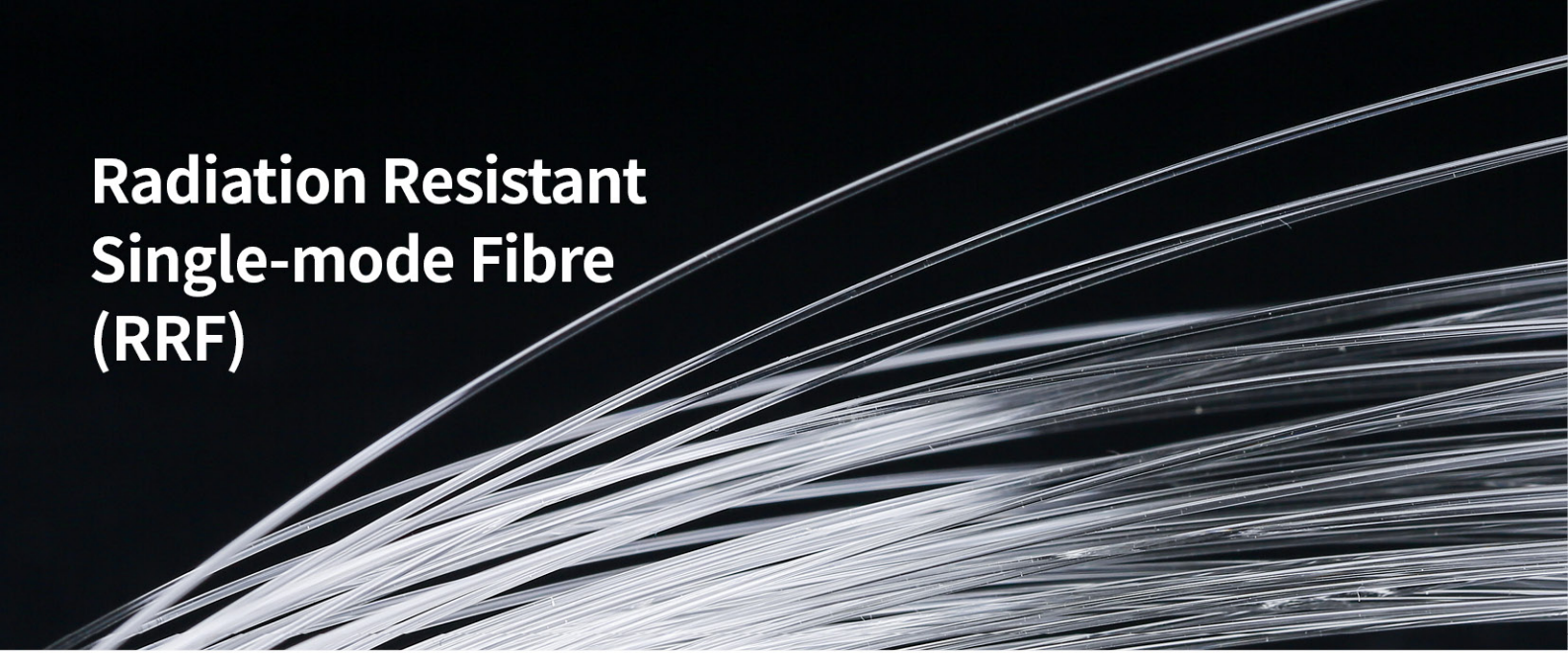

Radiation Resistant Single-mode Fibre (RRF)

Radiation Resistant Single-mode Fibre is comprehensively optimized at the operating wavelength. At the wavelength, low dispersion, low loss and superior radiation-resistant property could be achieved. With these features, Radiation Resistant Singlemode Fibre has excellent properties of optical transmission under radiation.

YOFC fibre is manufactured through the high precision Plasma Chemical Vapor Deposition (PCVD) process which makes fibre with precise refractive index profile, material uniformity and dimension tolerance, and low attenuation. Dual-layer, UV-cured Acrylate coating, which has superior ability to protect the optical fibre, is designed for tight buffering optical cable that is much more stringent. It can show excellent performance in tight buffering structure, which equips the fibre with low micro-bending induced loss. This coating is easy to be stripped without residues in different environment. In order to improve the adaptability to the harsh environment, nd is more superior and steady.

Characteristics

- Low dispersion and low attenuation
- Low PMD
- Superior mechanical protection and good stripping performance
- Outstanding uniformity and geometry control
- Low radiation loss

Application

- YOFC Radiation Resistant Single Mode Fibre is extensively used in aerospace, atomic energy, medical, oil/gas and scientific research for its advantages of low attenuation, low radiation loss, low dispersion and low PMD.

Specifications

Fibre Type		RD1310-G1	RD1310-G2
Part No.		RD1011-C	RD1011-D
Optical Properties			
Attenuation (dB/km)	1310nm	⩽0.45	⩽0.5
Zero Dispersion Wavelength (nm)		1312±12	1312±25
Zero Dispersion Slope (ps/(nm2·km))		⩽0.091	⩽0.1
The Maximum Value of a Single Fibre (ps$\sqrt{}$km)		⩽0.1	⩽0.2
Fibre Chain Value (M=20, Q=0.01%) (ps$\sqrt{}$km)		⩽0.06	⩽0.2
Cable Cut-off Wavelength (λcc)(nm)		⩽1260	⩽1290
MFD (μm)	1310nm	8.7~9.5	7.5~9.5
Geometry Properties			
Cladding Diameter (μm)		125.0±1.0	125.0±2.0
Cladding Non-Circularity (%)		⩽1.0	⩽1.0
Coating Diameter (μm)		245±7	245±10
Coating/Cladding Concentricity Error (μm)		⩽12.0	⩽12.0
Coating Non-Circularity (%)		⩽6.0	⩽6.0
Core /Cladding Concentricity Error (μm)		⩽0.6	⩽0.6
Twist Radius (m)		⩾4.0	⩾4.0
Environmental Properties			
Temperature Induced Attenuation (dB/km)	-60°C~85°C	⩽0.05	⩽0.1
TCT (dB/km)	-10°C~85°C, relative humidity of 98%	⩽0.05	⩽0.1
Water Induced Attenuation (dB/km)	23°C, 30Days	⩽0.05	⩽0.1
Wet Heat (dB/km)	85°C, relative humidity of 85%, 30Days	⩽0.05	⩽0.2
Dry Heat (dB/km)	85°C, 30Days	⩽0.05	⩽0.1
Mechanical Properties			
Proof Test (kpsi)	off-line	⩾100	⩾100
Strip Force (N)	average value	⩾1.0 ⩽5.0	⩾1.0 ⩽5.0
	peak value	⩾1.3 ⩽8.9	⩾1.3 ⩽8.9
n_d		⩾20	⩾20
Anti-radiation Characteristics: according to standard TIA/EIA 455-64 (dB/100m)	Total dose is 50k rad,with the continuous radiation whose dose rate is 0.1 rad/s(25°C) , 1310nm wavelength induced attenuation	⩽0.3	N/A
	Total dose is 2000Gy,with the continuous radiation whose dose rate is 0.5Gy/s(25°C) , 1310nm wavelength induced attenuation	N/A	⩽0.8
	Total dose is 200000Gy,with the continuous radiation whose dose rate is 0.5Gy/s(25°C) , 1310nm wavelength induced attenuation	N/A	⩽2.5

www.yofc.com

This datasheet can only be a reference, but not a supplement to the contract. Please contact our sales people for more detailed information