



Spun Fibre (SF)

The YOFC spun fibre (SF) is manufactured using the advanced and mature PCVD process, featuring accurate refractive index distribution, excellent geometric symmetry of cross section, excellent longitudinal uniformity, and high birefringence. Due to the optimized stress element design and low-speed spin drawing process control of fibre preform, the SF exhibits excellent environmental immunity and mechanical properties. It can meet the application requirements of circular polarization-maintaining devices in the field of optical fibre sensing, such as key circular polarization-maintaining devices in fibre optic current transformers and other systems. This range of spun fibres can also be tailored to customers' specific needs.

With a dual UV-cured coating structure, the YOFC SF exhibits stable environmental performance across the temperature range of $-45^{\circ}\text{C}\sim+85^{\circ}\text{C}$ ($-49^{\circ}\text{F}\sim+185^{\circ}\text{F}$).

Features

- Excellent and stable optical performance, and low loss
- Excellent mechanical and polishing properties
- Excellent temperature characteristics
- Dual UV-cured coating

Applications

- Fibre optic current transformers
- DC/AC current sensor system
- Polarimetric sensor

Specifications

Fibre type	SH 1310_125-5/250	SH 1310_80-5/165	SH 1310_125-2.5/250
Part No.	SH1016-A	SH1016-B	SH1016-C
Optical properties			
Operating wavelength (nm)	1310	1310	1310
Fibre cut-off wavelength (nm)	1020 ~ 1260	1020 ~ 1260	1020 ~ 1260
Mode field diameter (μm)	7.0 ± 1.0 @1310nm	7.0 ± 1.0 @1310nm	7.0 ± 1.0 @1310nm
Attenuation (dB/km)	≤ 2.0 @1310nm	≤ 2.0 @1310nm	≤ 2.0 @1310nm
Line beat length (mm)	9 ~ 14 @1310nm	9 ~ 14 @1310nm	4 ~ 8 @1310nm
Geometrical properties			
Pitch (mm)	5.0 ± 0.2	5.0 ± 0.2	2.5 ± 0.2
Cladding diameter (μm)	125.0 ± 2.0	80.0 ± 1.5	125.0 ± 2.0
Coating diameter (μm)	245.0 ± 7.0	165.0 ± 5.0	245.0 ± 7.0
Cladding non-circularity (%)	≤ 1.0	≤ 1.0	≤ 1.0
Core/cladding concentricity error (μm)	≤ 1.0	≤ 1.0	≤ 1.0
Coating material	Dual-layer, UV-cured acrylate	Dual-layer, UV-cured acrylate	Dual-layer, UV-cured acrylate
Mechanical performance			
Operating temperature range ($^{\circ}\text{C}$)	-45 ~ 85	-45 ~ 85	-45 ~ 85
Proof Test level (kpsi)	100	100	100

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