Multi-mode Fibre for Industrial Control

Hard Polymer Cladding Optical Fibre (HPCF)

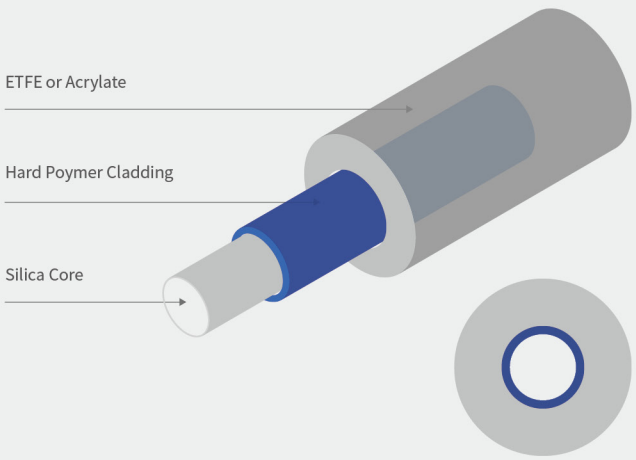
YOFC large core fibre with low OH is suited for 650nm and 850nm apparatus and systems. The hard polymer cladding provides higher tensile strength and greater resistance to moisture. These characteristics determine the HPCF widely used in fields of telecommunication, industry and near-IR spectroscopy environment.

Hard polymer (HP) cladding, made up of "fluoroacrylate", plays an important role in protecting glass core. In the process of installation or terminal use, HPCF is hard to break, even under the tightly bend or other rough conditions.

Large core with 200 μm-1000 μm diameter provides an excellent coupling efficiency for data transmission and connectors. Systems with large core fibre have lower cost due to the loose tolerance characteristics of the components. HPCF shows the best performance applied to short distance medium transmission and data transmission.

Applications

- High energy laser transmission
- Short-to-medium distance telecommunication
- Electric signal transmission
- Locomotive traction control
- Medical sensor
- Factory automation control
- Laser therapy and operation
- Near-IR spectroscopy applications
- Optical pyrometry
- Nuclear radiation monitoring
- Optical fibre lighting



Characteristics

- Higher coupling efficiency provided than LED and laser source
- Tolerant of wide fluctuations in temperature and humidity
- More effective connection mode
- Excellent fatigue resistance performance
- Excellent radiation resistance performance
- Compatible with a variety of light sources

Specifications-1

Fibre Type	HP 200/230-37/500E	HP 200/230-40/500	HP200/230-46/500	HP 300/330-37/650E	HP 400/430-37/730E
Part No.	HP2140-A	HP2111-A	HP2112-A	HP2140-B	HP2140-C
Optical Properties					
Numerical Aperture	0.37 ± 0.02	0.40 ± 0.02	0.46 ± 0.02	0.37 ± 0.02	0.37 ± 0.02
Attenuation@850nm (dB/km)	⩽ 8.0	⩽ 5.0	⩽ 8.0	⩽ 8.0	⩽ 8.0
OH Content	Low OH	Low OH	Low OH	Low OH	Low OH
Refractive Index Profile	Step index	Graded index	Step index	Step index	Step index
Geometrical Properties					
Core Diameter (μm)	200.0 ± 3.0	200.0±3.0	200.0±3.0	300.0±6.0	400.0±8.0
Cladding Diameter (μm)	230.0 + 0/-8	230.0 + 0/-8	230.0 + 5/-10	330.0 + 5/-10	430.0 + 5/-10
Coating Diameter (μm)	500.0 ± 25.0	500.0 ± 25.0	500.0 ± 20.0	650.0 ± 30.0	730.0 ± 30.0
Core/Cladding Concentricity (μm)	⩽ 5.0	⩽ 5.0	⩽ 5.0	⩽ 6.0	⩽ 8.0
Material Composition					
Core Material	Pure Silica Glass	Doped Silica Glass	Pure Silica Glass	Pure Silica Glass	Pure Silica Glass
Cladding Material	Fluoroacrylate	Fluoroacrylate	Fluoroacrylate	Fluoroacrylate	Fluoroacrylate
Coating Material	ETFE	Acrylate	Acrylate	ETFE	ETFE
Mechanical Properties					
Short Term Bend Radius (mm)	⩾ 10	⩾ 10	⩾ 10	⩾ 16	⩾ 29
Long Term Bend Radius (mm)	⩾ 16	⩾ 16	⩾ 16	⩾ 24	⩾ 47
Operating Temperature (°C)	-65 to +85	-65 to +85	-65 to +85	-65 to +85	-65 to +85
Proof Test (kpsi)	100	100	75	100	75

Specifications-2

Fibre Type	HP 600/630-37/1040E	HP 600/630-37/750E	HP 1000/1100-37/1400E
Part No.	HP2140-D	HP2140-E	HP2142-A
Optical Properties			
Numerical Aperture	0.37 ± 0.02	0.37 ± 0.02	0.37 ± 0.02
Attenuation@850 nm (dB/km)	⩽ 8.0	⩽ 8.0	⩽ 8.0
OH Content	Low OH	Low OH	Low OH
Refractive Index Profile	Step index	Step index	Step index
Geometrical Properties			
Core Diameter (μm)	600.0 ± 10.0	600.0 ± 10.0	1000.0 ± 20.0
Cladding Diameter (μm)	630.0 + 5/-10	630.0 + 5/-10	1100.0 + 10/-30
Coating Diameter (μm)	1040.0 ± 30.0	750.0 ± 30.0	1400.0 ± 50.0
Core/Cladding Concentricity (μm)	⩽ 8.0	⩽ 8.0	⩽ 10.0
Material Composition			
Core Material	Pure Silica Glass	Pure Silica Glass	Pure Silica Glass
Cladding Material	Fluoroacrylate	Fluoroacrylate	Fluoroacrylate
Coating Material	ETFE	ETFE	ETFE
Mechanical Properties			
Short Term Bend Radius (mm)	⩾ 58.0	⩾ 58.0	⩾ 73.0
Long Term Bend Radius (mm)	⩾ 94.0	⩾ 94.0	⩾ 118.0
Operating Temperature (°C)	-65 to +85	-65 to +85	-65 to +85
Proof Test (kpsi)	75	75	85

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