Hard Polymer Cladding Optical Fibre (HPCF)

Description

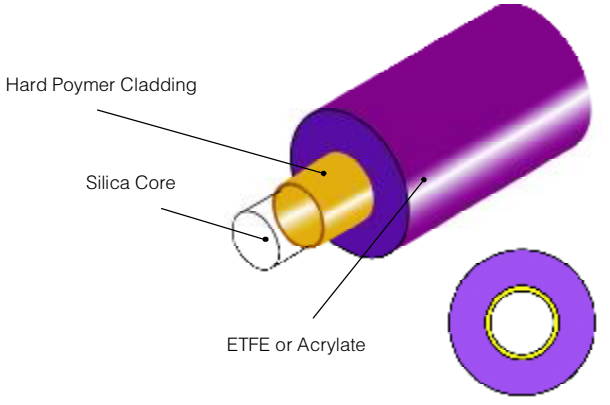
YOFC large core fibre with low OH is suited for 850nm apparatus and systems. The hard polymer cladding provides higher tensile strength and greater resistance to moisture than the conventional one. These features together create a fibre widely used in fields of telecommunication and industry ,and near–IR spectroscopy environment.

Hard polymer (HP) cladding, made of “fluoroacrylate” ,plays an important role in protecting glass core.In the process of installation or termination,HPCF is hard to break,even under the tightly bent or rough conditions.

Large core with 200 μm– 600 μm diameter provides an excellent coupling efficiency for data links 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 application
- Optical pyrometry
- Nuclear radiation monitoring



Characteristics

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

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Specifications

Fibre Type	HP 200/230-37/500E	HP 200/230-40/500	HP 300/330-37/650E	HP 400/430-37/730E	HP 600/630-37/1040E
Part No.	*HP2140-A*	*HP2111-A*	*HP2140-B*	*HP2140-C*	*HP2140-D*
Optical Properties					
Numerical Aperture	0.37 ± 0.02	0.40 ± 0.02	0.37 ± 0.02	0.37 ± 0.02	0.37 ± 0.02
Attenuation @850 nm(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	Grade Index	Step Index	Step Index	Step Index
Geometrical Properties					
Core Diameter (μm)	200.0 ± 3.0	200.0 ± 3.0	300.0 ± 6.0	400.0 ± 8.0	600.0 ± 10.0
Cladding Diameter (μm)	230+0/−8	230+0/−8	330+5/−10	430+5/−10	630+5/−10
Coating Diameter (μm)	500.0 ± 25.0	500.0 ± 25.0	650.0 ± 30.0	730.0 ± 30.0	1040.0 ± 30.0
Core Concentricity Error (μm)	≤5.0	≤5.0	≤6.0	≤8.0	≤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	ETFE	ETFE	ETFE
Environmental and Mechanical Properties					
Short Term Bend Radius(mm)	≥10	≥10	≥16	≥29	≥58
Long Term Bend Radius(mm)	≥16	≥16	≥24	≥47	≥94
Operating Temperature(℃)	−65 to +85	−65 to +85	−65 to +85	−65 to +85	−65 to +85
Proof Test Level (kpsi)	100	100	100	75	75

* The tight buffer material can be changed to UV Acrylate or PFA.