MEDICAL OPTICAL FIBERS

Production of optical fiber patch cords for NIR medical lasers

Production of illuminators and optical fiber light guides

Special and custom optical projects

ISOQAR REGISTERED
UKAS MANAGEMENT SYSTEMS
ISO 9001:2015 CERT N. 9514

meb fibre ottiche

meb
fibre ottiche

OPTICAL FIBER FOR DIAGNOSIS AND TREATMENT

Applications based on sensors and spectroscopy support early diagnosis and reduce treatment costs.

To enable more effective diagnosis, monitoring, and treatment of patients, the medical industry is developing increasingly advanced biomedical instruments and, in particular, the use of optical fiber in sensing for medical applications is attracting growing interest. At the same time, recent advances in minimally invasive surgery (MIS) require increasingly smaller sensors to be used with catheters or disposable needles. In this context, the intrinsic physical characteristics of optical fibers make them extremely attractive for biomedical sensing: unclad fibers (typically less than 250 microns in diameter) can be inserted directly into hypodermic needles and/or catheters, allowing their use to be minimally invasive and highly localized. Optical fibers are immune to electromagnetic interference (EMI), chemically inert, non-toxic, and intrinsically safe. Their use does not interfere with conventional electronics in many surgical medical environments. And, above all, the immunity of optical fibers to electromagnetic and radio frequencies (RF) makes them ideal for real-time use during imaging diagnostics with MRI, CT, PET, or SPECT systems, as well as during thermal ablative treatments involving RF or microwave radiation.

SUMMARY

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POLYMICRO SILICA/SILICA OPTICAL FIBER FV

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HIGH - OH

Characteristics

Step index

Numerical aperture: 0.22 ± 0.02
Full acceptance cone: 25.4 degrees

UV-Vis-NIR transmission, 180nm to 1,150nm

Superior radiation resistance

High laser damage threshold

Sterilizable and bio-compatible - USP class VI*

High-OH silica core, doped silica clad

Polymide buffer standard; silicone, acryliate, high temperature acryliate also available.

Polymide concentricity < 3 µm

Sizes for bunling

Tighter tolerances available

Temperature:
operating -65°C to +300°C
intermittent, up to 400°C

Proof tested to 100kpsi

SPECIFICHE

Product Description	Core (µm)	Clad (µm)	Buffer (µm)
FVP050055065*	50 ± 2	55 ± 2	65 ± 2
FVP10011125**	100 ± 3	110 ± 3	124 ± 3
FVP150165195**	150 ± 3	165 ± 3	195 ± 5
FVP200220240	200 ± 4	220 ± 4	239 ± 5
FPV300330370	300 ± 6	330 ± 7	370 ± 7
FVP400440480	400 ± 8	440 ± 9	480 ± 7
FVP600660710	600 ± 10	660 ± 10	710 ± 10
FVA8008801100***	800 ± 20	880 ± 15	1100 ± 30
FVP100120140	100 ± 3	120 ± 3	140 ± 4
FVP200240280	200 ± 4	240 ± 4	275 ± 5
FVA10001051250***	1000 ± 20	1050 ± 15	1250 ± 40

*Recommended for UV wavelengths only. Availability varies.
**Not recommended for wavelengths greater than 1000nm.
***Acrylate buffer. Operating temperature: -55° to 80°C

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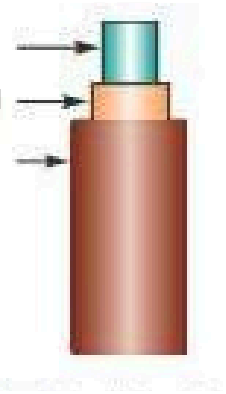
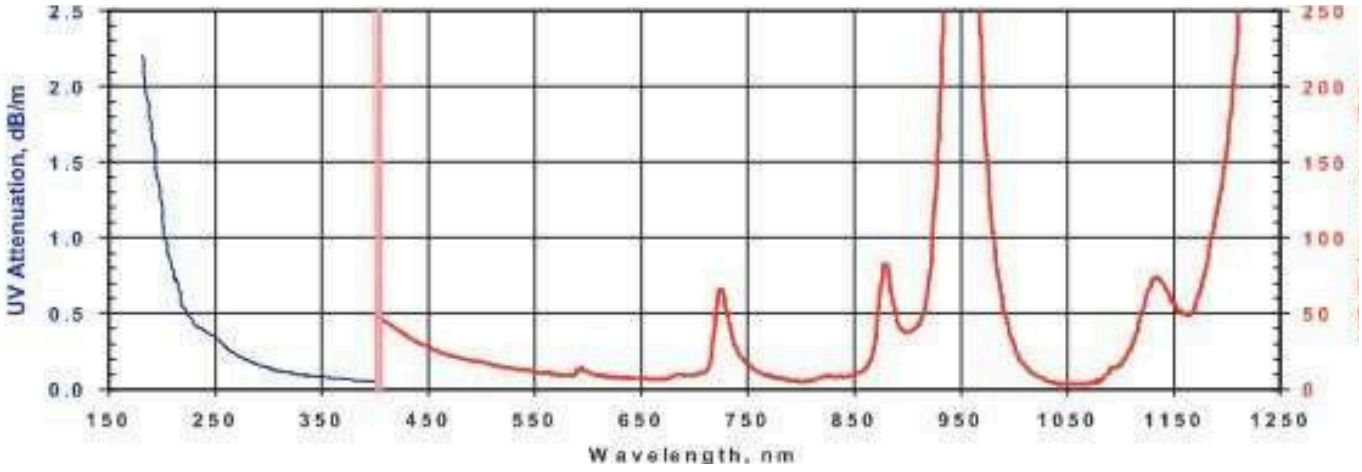
High-OH core
Doped silica clad
Polymide Buffer



Typical Attenuation



ACCESSORIES AND CONSUMABLES

SMA905 Connectors
SMA906 Connectors
FC Connectors
ST Connectors
SMA-SMA Couplers

CONNECTOR HOLDER HANDPIECES
CUSTOM OPTICAL HANDPIECES

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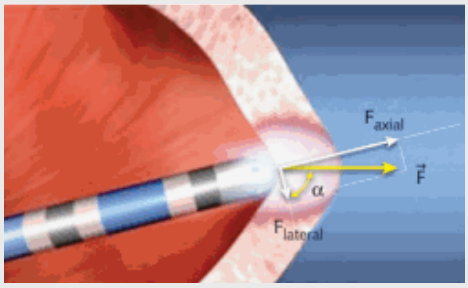

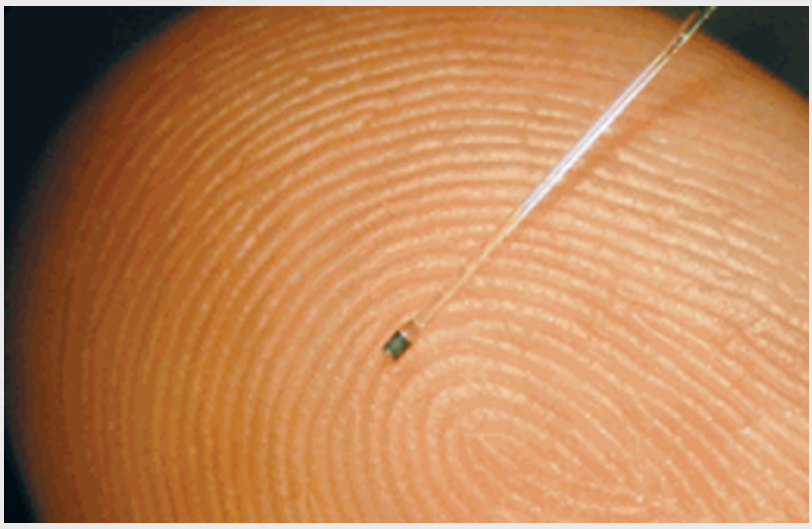

Materials for optical fiber connector termination:
Epoxy resins, syringes, crimping pliers, fiber strippers, lapping films, inspection microscope (Complete kit).

met
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Via Pietro Aretino, 79
00137 ROMA
tel. 06 99.92.26.14

info@metfibreottiche.com

www. metfibreottiche.it
www.fibreottiche.it