

Flexible Fiber Power Delivery for CO₂ Laser

art photonics offers standard Polycrystalline fiber cables for a power delivery of CO₂ laser radiation.

Fiber cables are available with a variety of standard fiber diameters terminated with SMA-905 with free standing fiber ends and Special Micro Anti-Reflection Treatment.

Cables are packaged using different kinds of protective sheathing

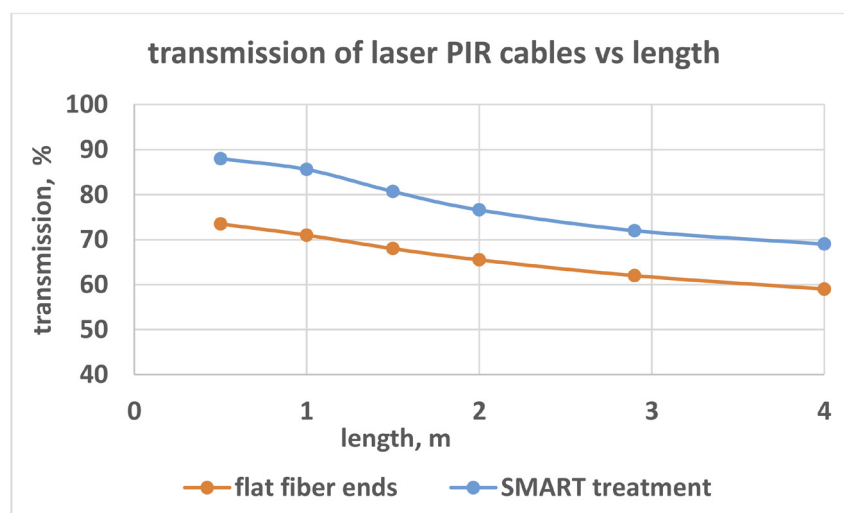


Applications:

- ✓ Medical CO₂ lasers
- ✓ Laser cut and laser treatment

Features:

- ✓ The most flexible cables for CO₂-laser power delivery
- ✓ Stable transmission during bending
- ✓ SMART-technology to suppress Fresnel reflection losses
- ✓ Power transmission up to 40W



Transmission vs. Cable Length

UV

VIS

NIR

MIR

Working Range

9.2-10.6 μm

Specifications

Optical Fiber Type Polycrystalline Step Index Multimode

Wavelength Range Optimized for 9.2 and 10.6 μm

Fiber Core/Cladding Sizes (μm) See table below

Effective Numerical Aperture (NA) 0.10 - 0.20 depending on cable length

Minimum Bending Radius (depending on protective sheath)	- PEEK Tubing	130mm
	- Metal PVC Coated Tubing	80mm
	- Stainless Steel Tubing	80mm
	- Stainless Steel Silicone Coated Tubing	130mm

Connectors SMA-905 with Titanium ferrule and free standing fiber end

Temperature Range -50°C to + 80°C

Length \leq 5m

Parameters of standard Polycrystalline fibers

Code	Type	Core, μm	Cladding, μm	Protective Jacket, μm	Laser Power Threshold, W	Min. bending Radius, mm
PIR400/500	Step Index Multimode	400 \pm 10	400+0/-15	no	10	70
PIR600/700	Step Index Multimode	600 \pm 15	700+0/-15	no	20	100
PIR900/1000	Step Index Multimode	860 \pm 20	1000+0/-20	no	35	130