Laser Fiber Cables & Bundles

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FlexiRay® Laser cables from ***FlexiRay***® product line are the best for laser power delivery with high brightness and beam quality, while High Power connectors of special design stay cool even when mode-stripping effect is provided. Robust design of ***FlexiRay***® laser cables secures the long term industrial & medical applications. Bundles of unique metal coated fibers combines power from many lasers - to reach output in multi kW range in any shape.

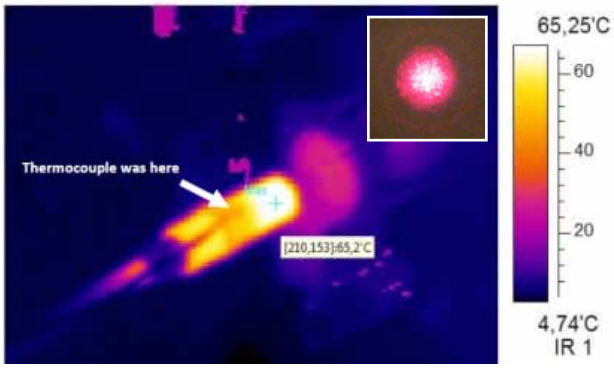
Applications:

- Laser Welding of Metals & Plastics
- Laser Cutting & Drilling
- Laser Surface Treatment
- Medical Laser Power Delivery
- Laser Target & Rangefinder
- Laser Spectroscopy

Comparison of FlexiRay® cables with a common laser cable

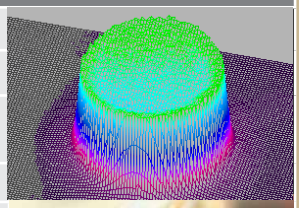
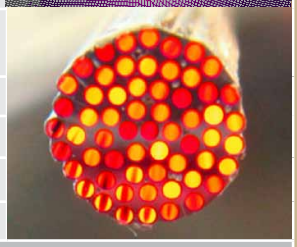
IR-image of FlexiRay® Fiber Cable with special silica fiber structure & HP connector design - without mode stripper & radiator

- Fiber core - 200µm; NA=0.22
- Connector – HP-SMA (High Power SMA)
- High transmission of fiber cable with 1.5m length provides 53W output of Diode Laser at λ = 1.47µm
- Temperature of connectors measured with thermopile after 15min of power transmission: for input end – 43°C, for output end – 36.6°C
- Insert: visualized profile of output beam for 53W



IR-image of common Fiber Cable assembled with mode stripper & radiator at the output end

- Fiber core - 200µm; NA=0.22
- Connector – HP-SMA with Mode stripper and radiator
- Mode stripper absorbes cladding modes, but cuts off transmission of 1.5m cable to 33W output for Diode Laser at 1.47µm – providing the same beam profile
- Temperature of connectors measured with thermopile after 3min for 33W of power output: input end – 44°C, output end – 78°C
- Insert: visualized profile of output beam for 33W

STANDARD SPECIFICATIONS:		
Spectral ranges, µm	0.18–1.2µm (UV-VIS) or 0.35–2.4µm (Vis-NIR)	
Pure Silica Fiber core	100; 200; 400; 600; 800; 1000; 1200; 1500µm	
Numerical Aperture	0.22 ± 0.02 (Full Acceptance Angle 25°) 0.12 ± 0.02 (Full Acceptance Angle 14°)	
Protective fiber jacket	Nylon, Tefzel, Acrylate, Al, Cu	
Cable protective tube	PVC coated Stainless Steel monocoil, bend protected Silicon coated Stainless Steel bend protection	
Connector Type	HP-SMA (High Power SMA); D-80	
Temperature Range	-40°C to +600°C (Cu coated)	
Cable length, m	1.5 & 3 (optional: from 5cm to 50m)	
MCS-Fibers in bundle	3, 7, 19, 37, 64,	
*customized dimensions available on request		

HP SMA

D 80

artphotonics.com

art photonics GmbH
Rudower Chaussee 46
12489 Berlin Germany

Phone + 49 (0) 30-6779 887-0
sales@artphotonics.com
www.artphotonics.com

QAS Int. - certified
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