

Multimode fiber with copper coating

Cu50-125 | Cu50-200 | Cu200 | Cu400

We now offer multimode fibers coated with copper alloy. Thin layer of metal provides mechanical strength and eliminates outgassing, at the same time increasing temperature range and heat conductivity of the fiber. Surprisingly cost-effective compared to their gold-coated counterparts, the fibers can withstand temperatures up to 600°C or higher, depending on heating pattern and atmosphere composition. High-temperature metal coating makes the fiber fully solderable. The coating can also be stripped within seconds by soaking the fiber in 50% nitric acid solution. The fibers are available in lengths up to 1 km.

Cu50-125 is a graded index multimode fiber. Strong and robust, this fiber can be cleaved, spliced and connectorized exactly as the polymer-coated 50/125 fibers. Cu50-200 is a larger-cladding fiber, designed to provide lower attenuation in loss-sensitive applications. Cu200 and Cu400 are large core step index multimode fibers engineered for visible and near-infrared part of the spectrum (UV versions with higher OH content are also available).

Coating materials and maximum sustainable temperatures

UV-cured acrylate	100°C
Polyimide	400°C
Copper+polyimide	400°C
Aluminum	450°C
Copper alloy	600°C
Gold	700+°C



Features

- High operating temperature
- Excellent thermal conductivity
- No outgassing
- High strength
- Solderable

Applications

- Sensors for harsh environments
- Ultra-high vacuum fiber-optic devices
- Radiation-resistant fiber sensors
- High-rate temperature measurement

Specifications

	Cu50-125	Cu50-200	Cu200	Cu400
Operating wavelength	400 - 1600 nm	400 - 1600 nm	400 - 2000 nm	400 - 2000 nm
Attenuation (@ 1310 nm)	14 dB/km	1.5 dB/km	-	-
Numerical aperture	0.22	0.22	0.22	0.22
Index profile	graded index	graded index	step index	step index
Core diameter	50 µm	50 µm	200 µm	400 µm
Cladding diameter	125 µm	200 µm	215 µm	425 µm
Coating diameter	165 µm	260 µm	270 µm	530 µm
Core-clad concentricity	< 0.5 µm	< 0.5 µm	-	-
Cladding offset	< 5 µm	< 5 µm	< 5 µm	< 5 µm
Proof test	100 kpsi	100 kpsi	100 kpsi	100 kpsi
Short-term bending radius	> 10 mm	> 15 mm	> 15 mm	> 20 mm
Long-term bending radius	> 25 mm	> 40 mm	> 40 mm	> 70 mm
Operating temperature range	< 600°C	< 600°C	< 600°C	< 600°C

Apart from fiber versions listed above we offer a variety of custom copper-coated multimode products with different dimensions and operating wavelengths. For more information please contact us at (416) 661 1418 or info@ivgfiber.com

IVG Fiber

1809-5 Fisherville Rd.
Toronto, Ontario
M2R 3B6 Canada

phone (416) 661 1418
fax (416) 661 2747

www.ivgfiber.com

