

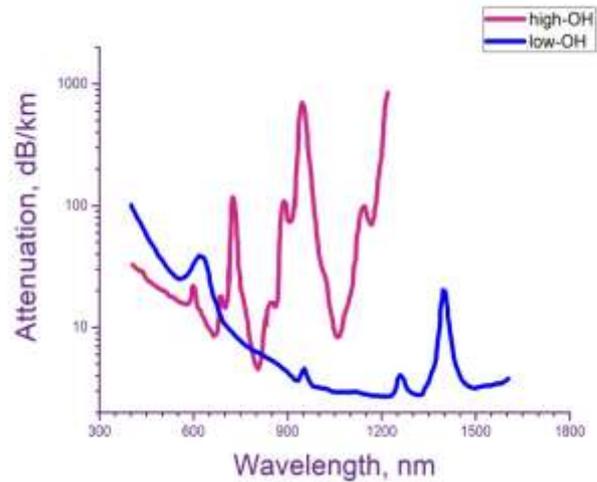
# SPECIALTY FIBER COPPER COATED FIBERS

## LOW OH STEP INDEX MULTIMODE SILICA FIBERS

Copper-coated step index multimode optical fibers have significant improvements include increased mechanical strength and greater fatigue resistance compared to non-hermetic and polymer-clad fibers (PCS). Their transmittance covers a spectral range of 400 to 2400 nm, and also remains stable in corrosive chemicals that normally react to silica glass. The working temperature range is from -196C to +600C. Hermetically metal-coated optical fibers are the optimum candidate when used in high vacuum and harsh environmental conditions

### FEATURES:

- ❖ Greatly enhanced resistance to high power laser radiation.
- ❖ Higher core-to-clad ratio and enlarged NA optimized for coupling to high-energy lasers.
- ❖ Better fiber cooling due to the heat-conducting metal coating.
- ❖ Excellent mechanical strength compared to polymer coated fibers.
- ❖ Solderable coating allows feeding the fibers into high vacuum systems and provides no outgassing.



| FIBER SPECIFICATIONS   | OK-50/125Cu                   | OK-110/125Cu   | OK-200/220Cu | OK-300/330Cu    | OK-400/440Cu   | OK-600/660Cu | OK-800/880Cu |
|--|-------------------------------|--|--------------|-----------------|--|--------------|--------------|
| Core diameter, $\mu\text{m}$   | $50 \pm 2$                    | $113 \pm 2$  | $200 \pm 2$  | $300 \pm 4$     | $400 \pm 5$  | $600 \pm 8$  | $800 \pm 10$ |
| Clad diameter*, $\mu\text{m}$  | $125 \pm 3$                   | $125 \pm 2$  | $220 \pm 2$  | $330 \pm 4$     | $440 \pm 5$  | $660 \pm 8$  | $880 \pm 10$ |
| Coating diameter, $\mu\text{m}$  | $160 \pm 10$                  | $160 \pm 10$   | $280 \pm 10$ | $420 \pm 10$    | $545 \pm 10$   | $775 \pm 10$ | $980 \pm 10$ |
| Attenuation at 800/1300nm (see graph Low OH)                               | 7                             | The loss spectrum in the long wavelength region ( $>1 \mu\text{m}$ ) is higher than that of the material |              |                 | The loss spectrum is close to the material loss spectrum |              |              |
| Wavelength range, nm (see graph Low OH)                                    | 1000 ÷ 1600                   | 400 ÷ 1100   | 400 ÷ 1700   |                 | 400 ÷ 2200   |              |              |
| Fiber type   | Multimode                     |  |              |                 |  |              |              |
| Index profile  | Step                          |  |              |                 |  |              |              |
| Coating material   | Copper 99,99%                 |  |              |                 |  |              |              |
| Core material  | Pure syntetic silica (low OH) |  |              |                 |  |              |              |
| Clad material  | Doped silica (F-doped)        |  |              |                 |  |              |              |
| Numerical Aperture (NA)  | $0.16 \pm 0.02$               |  |              | $0.22 \pm 0.02$ |  |              |              |
| Short-term bending radius  | 60 times the fiber diameters  |  |              |                 |  |              |              |
| Long-term bending radius   | 120 times the fiber diameters |  |              |                 |  |              |              |
| Proof test, kpsi   | $> 100$                       |  |              |                 |  |              |              |
| Min operating temperature, $^{\circ}\text{C}$                              | $-196$                        |  |              |                 |  |              |              |
| Max operating temperature (short time $< 60\text{s}$ ), $^{\circ}\text{C}$ | 600                           |  |              |                 |  |              |              |
| Max operating temperature (long time $> 60\text{s}$ ), $^{\circ}\text{C}$  | $< 400$                       |  |              |                 |  |              |              |

\*The core/clad ratios 1.06/1.1 on the request  
Other parameters are available on the request