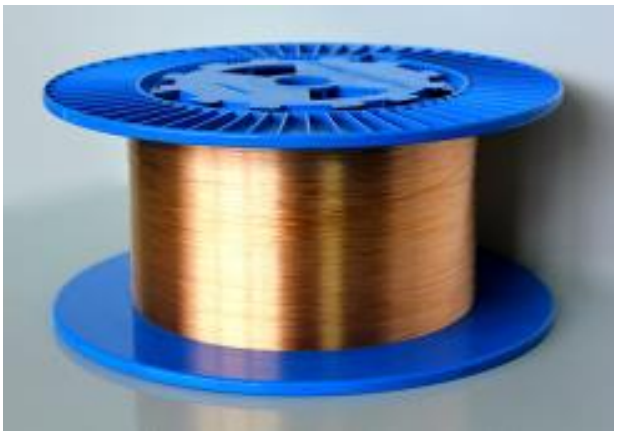
COPPER-COATED SINGLE-MODE OPTICAL FIBERS

Description



Copper-coated single mode fibers are high strength optical fibers that can be used for both high-temperature and cryogenic applications. Thin additional carbon underlayer is typically added to improve hermetic property of the coating and therefore provide improved mechanical strength. This fiber type is used in sensor systems for biomedicine, oil and gas industry, aircraft applications, high vacuum devices, etc.

FEATURES:
- Higher mechanical strength with respect to polymer coated fibers.
- Solderable coating allows feeding the fibers into high vacuum systems and provides no outgassing.
- The temperature range is from -196C to +600C.

Specifications

General Properties				
Core diameter, µm	**Clad diameter, µm**	**Coating diameter, µm**	**Cladding offset, %**	**Coating offset, %**
6.8 ± 0.5	125 ± 1	160 ± 5	< 2	< 5

Optical Properties					
Δ n	**Core material**	**Cutoff wavelength, nm**	**Wavelength range, nm**	**Mode field diameter (Gauss), µm**	**Attenuation at 1550 nm[1] C, dB/km**
0.009 ± 0.001	Silica Ge-doped	< 1450	1500 - 1600	7.5 ± 0.6	< 7.0

Operating conditions				
Proof test, kpsi	**Min operating temperature[2,3] C**	**Short-term/Long-term bending radius,mm**	**Max operating temperature (time < 60s)/ (time > 60s)[2] C**	**Permissible rate of temperature change in the temperature range, C/min**
100	-196	≥ 10/≥ 25	600/< 400	5

1- under normal climatic conditions
2- in inert environment
3- at the minimum operating temperature, the integrity of the optical fiber is guaranteed