

Description

Graded Index (GI 50/125), metal coated multimode fiber was designed to be used in the 850nm and/or the 1300nm wavelength window. The fiber is supplied with either 24kt Gold or Aluminum coatings. These coatings are electrically conductive and provide the user with the ability to connectorize directly to the coating, resulting in a hermetically sealed assembly. Gold and Aluminum coatings offer excellent protection over a wider temperature range than conventional coatings. Combined with an excellent stress corrosion susceptibility parameter, it offers improved mechanical protection to the optical fiber when used in the most challenging harsh environments.

Waveguide's Graded Index Multimode Fibers are quality tested in accordance with the Telecommunications Industry Association (TIA) Fiber Optic Test procedures (FOTP) as well as other industry standards.

Specifications

Physical Characteristics	<u>GI 50/125/155 Gold</u>	<u>GI 50/125/175 Aluminum</u>
Core Composition	Ge Doped Silica	Ge Doped Silica
Core Diameter	50µm ±2%	50µm ±2%
Core Non-Circularity	≤ 6%	≤ 6%
Clad Diameter	125 µm ±2%	125 µm ±2%
Clad Non-Circularity	≤ 2%	≤ 2%
Coating Diameter	155 µm ± 10%	175 µm ± 10%
Coating Non-Circularity	≤ 6%	≤ 6%
Optical Characteristics		
Wavelength Range	800-1600nm	800-1600nm
Numerical Aperture	0.20 ± 0.02	0.20 ± 0.02
Attenuation @ 850nm	≤18 dB/Km	≤24 dB/Km
Attenuation @ 1300nm	≤16 dB/Km	≤20 dB/Km
Group Index of Refraction @ 850nm	1.481	1.481
Group Index of Refraction @ 1300nm	1.476	1.476
Bandwidth @ 850nm	≥ 500MHz.Km	≥500MHz.Km
Bandwidth @ 1300nm	≥500MHz.Km	≥500MHz.Km
Mechanical Characteristics		
Proof Test Level	≥100Kpsi	≥100Kpsi
Median Tensile Strength	≥3.3GPa	≥5.3GPa
Corrosion Parameter	≥50	≥100
Operating Temperature Range	-269°C to 650°C	-269°C to 400°C
Bend Radius Short Term	200X fiber radius (mm)	200X fiber radius (mm)
Bend radius Long Term	400X fiber radius (mm)	400X fiber radius (mm)
Lead time (Standard Lengths)	4-6 weeks	4-6 weeks

Applications

Gold and Aluminum Graded Index Fibers are typically used in a variety of challenging applications such as: High temperature sensing, Down-hole sensing, Corrosive environments, High radiation environments, Turbine and jet engine monitoring, High vacuum devices, Aircraft, Missile, and Spacecraft sensing and measurement.