GRADED INDEX MULTIMODE CARBON HIGH TEMPERATURE ACRYLATE COATED FIBER

These germanium doped graded index fibers offer excellent performance in hydrogen rich environments and are available with 50µm or 62.5µm core sizes.

These fibers are designed to withstand harsh environments such as high temperature, high pressure, moisture, chemicals, radiation and tight bends. Applications in oil and gas downhole temperature sensing, pressure monitoring and data transmission, offshore oil and gas asset monitoring, Enhanced Oil Recovery (EOR) (especially Steam Assisted Gravity Drainage (SAGD) techniques) and borehole seismic can benefit by using these fibers.

The Distributed Temperature Sensing (DTS) technique use these specialty fibers to monitor and profile a downhole well in extreme harsh conditions. Fibercore has developed a unique carbon coating, which offers significant barriers against hydrogen, moisture and acid ingression of up to 150°C. The carbon coating also increases the lifetime of a fiber under tight and sharp bends, protecting the fiber from water/moisture attack/(micro cracking) to the fiber glass surface. The carbon coating with high temperature acrylate coating offers an enhanced operating temperature range of up to 150°C.

Hydrogen resistance is further enhanced by developing and refining the glass chemistry and waveguide design of the fiber core for harsh applications. Fibercore's Single-Mode (SM) pure silica core has a unique design and the core offers excellent hydrogen resistance for DTS applications.

High temperature acrylate coated fiber has all the benefits of standard acrylate coated types, such as easy stripping and mechanical protection, while providing an extended temperature rating. It is easily stripped with standard tools and has a robust and durable coating that is rated to 150°C.

FEATURES

Advantages

- Excellent hydrogen resistance
- Various NA for bend insensitivity
- Hermetic coating

Typical Applications:

- DTS for SAGD wells
- Temperature monitoring in radiation environments
- Hydraulic fracture monitoring
- Production/injection monitoring
- Vertical seismic profiling
- Well integrity monitoring

Product Variants

- GIMM(50/125)CHT
  Graded index, germanium doped multimode fiber with a 50µm core, 125µm cladding with carbon high temperature acrylate coatings
- GIMM(62.5/125)CHT
  Graded index, germanium doped multimode fiber with a 62.5µm core, 125µm cladding with carbon high temperature acrylate coatings

GRADED INDEX MULTIMODE CARBON HIGH TEMPERATURE ACRYLATE COATED FIBER

SPECIFICATIONS

	GIMM(50/125)CHT *	GIMM(62.5/125)CHT
Operating Wavelength (nm)	800 - 1750	
Numerical Aperture	0.18 - 0.22	0.25 - 0.30
Attenuation (dB/km)	≤3.2 @850nm ≤1.0 @1300nm	
Proof Test (%)	1 or 2 (100 or 200 kpsi)	
Bandwidth (MHz.km)	400/400 @850/1300nm	160/160 @850/1300nm
Cladding Diameter (µm)	125 ± 2	
Core Cladding Concentricity (µm)	≤2.0	
Coating Diameter (µm)	245 ± 15	
Core Diameter (µm)	50 (nominal)	62.5 (nominal)
Coating Type	Carbon High Temperature Acrylate	
Operating Temperature (°C)	-50 to +150	

* Special easier to strip polyimide coating available for window stripping, for applications such as FBGs.

COATING ORDER GUIDE

- Dual Layer Acrylate = No order code
- Polyimide = P
- Carbon High Temperature = CHT
- Carbon Polyimide = CP

Order Code Example

SM1250SC(9/125) with a Carbon High Temperature coating: SM1250SC(9/125)CHT

FIBERCORE
A HUMANETICS COMPANY

GRADED INDEX MULTIMODE CARBON HIGH TEMPERATURE ACRYLATE COATED FIBER

RELATED PRODUCTS

- Graded Index Multimode Carbon Polyimide Coated Fiber
- Graded Index Multimode High Temperature Acrylate Coated Fiber
- Graded Index Multimode Polyimide Coated Fiber
- Graded Index Multimode Pure Silica Core Fiber

Fibercore House I Southampton Science Park
United Kingdom I SO16 7QQ
T +44 (0)23 8076 9893 I **E** info@fibercore.com

fibercore.com

FIBERCORE
A HUMANETICS COMPANY