

Coated Optical Fiber

PEEK Extrusion Over Fiber



PEEK coated optical fiber helps to protect data flow and reduce attenuation.

Overview

Our PEEK coated optical fiber provides superior strength and protection throughout extended temperature ranges. With an upper working temperature of 260°C (500 °F), our PEEK coated optical fiber easily tolerates the harshest environments. Chemical and steam environments do not affect PEEK's performance as an optical coating. Likewise, PEEK is radiation resistant making it well suited for applications in the nuclear industry.

PEEK possesses one of the highest strength-to-weight ratios of any thermoplastic making it especially beneficial for the aerospace industry. PEEK's ability to tolerate multiple sterilization methods and cycles have made it highly popular in the medical industry. PEEK protection extends the life of the optical fiber. Zeus has optimized our coating process to stabilize PEEK during extreme temperature fluctuations. This stabilization allows the optical fiber to retain the benefits of PEEK without attenuation inducing compression during temperature changes. Coated optical fiber is also available in PFA, ETFE, FEP, PVDF, PPS, and more.



ABRASION RESISTANCE



RADIATION RESISTANCE



HARDNESS

Applications

- Pressure / strain sensing
- Temperature sensing
- Force sensors
- Downhole sensors
- Structural health monitoring – pipeline, composites

Capabilities and Sizing

- Single-mode (SM) / multi-mode (MM) polyimide and HTA fiber
- SM / MM polyimide / carbon layer
- SM / MM polyimide radiation resistant

Key Properties

- Minimal attenuation throughout a broad temperature range
- Wide working temperature range: -94 °F to 500 °F (-70 °C to 260 °C)
- High strength-to-weight ratio
- Radiation resistant
- Excellent impact and wear resistance
- High torsional stability

PEEK SPECIFICATION CAPABILITIES

	WALL THICKNESS RANGE		FINAL OD RANGE	
155µm POLYIMIDE	50 - 337µm	0.002 - 0.015"	225 - 900µm	0.010 - 0.036"
250µm HTA	50 - 337µm	0.002 - 0.015"	2350 - 995µm	0.014 - 0.039"

