

Fiberoptics For High Magnetic Fields

The Problem

Fiberoptic probes and cables may be exposed to high magnetic fields.

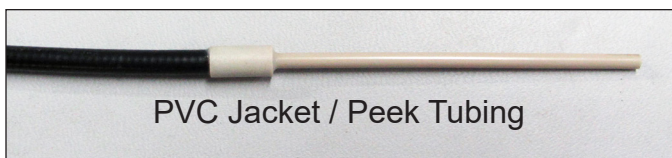
The Solution

By jacketing the fiberoptic cable in non-metallic materials, and by constructing the sensor tip from non-metallic or non-magnetic materials, Philtec sensors can be configured to perform measurements in very high magnetic fields. Successful applications to several Tesla have been reported.

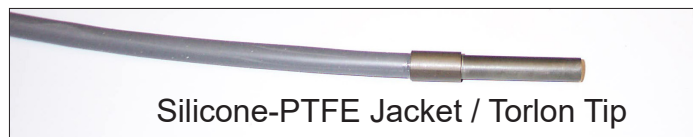
Option	Cable Jackets	Max Temp.	Features
C2	Silicone Coated Fiberglass	200 C	Maximum flexibility, no crush strength
C3	Silicone over PTFE Wrap	200 C	Light crush resistance, short lengths <2 m max.
C4	Corrugated Plastic	85 C	Semi-crush proof, MRI Compatible
C6	PVC over Nylon	105 C	Light crush resistance, long lengths OK
C7	PTFE	260 C	Zero outgassing, poor flexibility
C8	PVC Only	105 C	Good flexibility, no crush strength, long lengths OK
C11	Polyolefin Shrink Tubing	135 C	Poor flexibility, Good Vapor Barrier
C13	Furcation tubing	85 C	PVC/Kevlar/PTFE High Tensile Strength

Option	Tips	Max Temp.	Features
T3	Peek Plastic or Torlon	250 C	Non-metallic
T3	Torlon	260 C	Non-metallic
T11	Aluminum	260 C	Non-magnetic
T11	Brass	800 C	Non-magnetic

EXAMPLES



Peek Tip Threaded



PHILTEC®

Fiberoptic Sensors for the Measurement of Distance, Displacement and Vibration