

Glass Fiber Optics

Solve numerous challenging sensing applications in the most hostile environments, including temperatures up to 480° C, corrosive materials and extreme moisture

- Withstand severe shock and vibration
- Ignore extreme electrical noise
- Constructed of a combination of optical glass fiber, stainless steel, PVC, brass, molded thermoplastics and optical-grade epoxy



Choosing Glass or Plastic



Fiber Construction

- Core:** Thin glass or plastic center of the fiber through which light travels
- Cladding:** Outer optical material surrounding the core that reflects light back into the core
- Jacket/Sheath:** Protective layer to protect fiber from damage and moisture

Plastic fibers are for general purpose use. They tolerate severe flexing, can be cut to length in the field and cost less than glass fibers. Glass fibers are the best choice for challenging environments such as high temperatures, corrosive materials and moisture.



Glass fibers **page 192**

- Solve numerous challenging sensing requirements
- Ideal for hostile environments such as high temperatures to 480° C, corrosive materials and extreme moisture
- Withstand high levels of shock and vibration
- Inherently immune to extreme electrical noise
- Available with choice of sheathings: standard stainless-steel flexible conduit, PVC or other flexible tubing
- Can be quickly custom designed



Plastic fibers **page 174**

- Inexpensive and easily cut to length during installation
- Bend for a precise fit
- Available in high-flex models to withstand flexing
- Offered with special jackets that withstand corrosion, impact and abrasion
- Available for applications requiring articulated or reciprocating motion
- Available in diameters of 0.25, 0.5, 1.0 Or 1.5 mm
- Can be quickly custom designed and built for your unique applications

Diffuse Glass Fibers

End Tip	Features	Minimum Bend Radius	Core Diameter	Temp	Typical Range (mm)		Models
	Straight exit; 38 mm width	19 mm	3.7 mm		QS18	75	BR2.53S
					R55F	120	
					SME312	30	
					D12E	180	
					D12	155	
	Straight exit; 9.7 mm width	19 mm	3.2 mm		QS18	110	BR23S
					R55F	110	
					SME312	25	
					D12E	180	
					D12	150	
	90° angle	19 mm	2.3 mm		QS18	45	BA1.53SMETA
					R55F	65	
					SME312	20	
					D12E	135	
					D12	125	
	90° angle	19 mm	2.3 mm		QS18	50	BA1.53SMTA
					R55F	60	
					SME312	20	
					D12E	135	
					D12	125	
	90° angle	19 mm	2.3 mm		QS18	30	BTETA1.53S
					R55F	60	
					SME312	20	
					D12E	135	
					D12	125	
	Glass lens; withstands 315 °C Focuses light to .80 mm with ø 1.6 mm fiber				Contact factory for range information		L10

Available 315 °C models. Add M600 to end of model number (example, BA23SM600).