BURLE Electro-Optics Fiberoptic Light Guides

- **Wide Variety of Configurations**
- **Custom Design Capability**
- **Superior Quality**

BURLE Electro-Optics engineering expertise in the fiber optics industry is unmatched by any other company in the world. Its unique approach to difficult applications combines a proficiency in specialized glass fabrication, precision drawing facilities, and more than thirty years of experience in fiber optics. Standard and custom assemblies fabricated by BURLE offer the customer the best engineering solution, utilizing the most advanced technology available today.

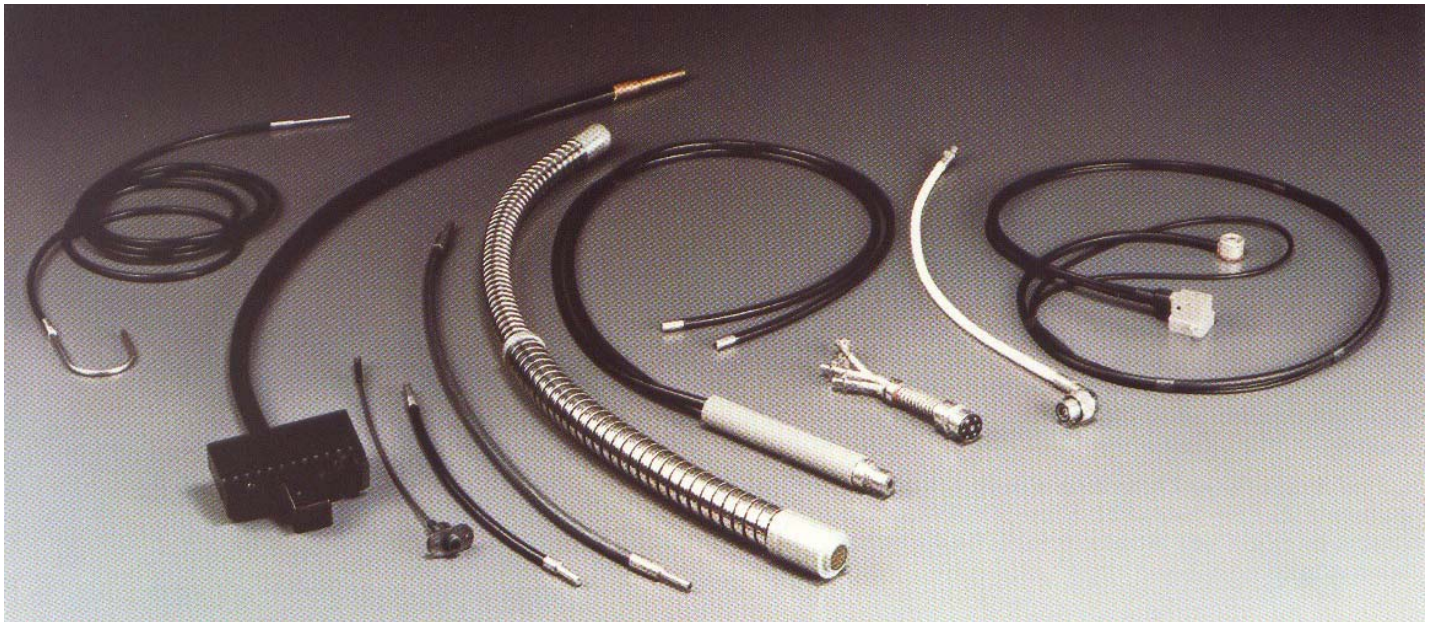
Flexible Light Guides transmit light through glass optical fibers. Standard light guides collect light in a large acceptance angle, typically 82°. This is equivalent in light collecting efficiency to a lens system with an f/number of .57. These rugged but flexible fiberoptic devices are being used to transport light over complicated paths into remote areas, while saving weight, space, and cost.

In many cases, fiberoptic light guides offer unique solutions to long standing design problems. They are especially suited to explosive, corrosive, high voltage, radiation, and otherwise hazardous environments. Standard light guides are available in a variety of sheathing materials to meet your specific requirements.

Typical Applications

- Data Processing
- Flame Detection
- Semiconductor Lithography
- Scanning Systems
- Point and Line Illumination
- Counting and Sizing Systems
- Non-Contact Monitoring Devices
- Medical and Dental Illumination
- Illumination in Hazardous or Explosive Environments
- Occurrence Detectors
- Aviation Instrumentation
- Particle Detection

BURLE supplies fiberoptic light guides to Original Equipment Manufacturers in all fields. Application and design engineers have provided the services necessary to implement fiberoptics in the most sophisticated manufacturing, security, aerospace, and spaceflight applications. BURLE has the engineering and manufacturing resources to meet the demand for specialized fiberoptics including precision machined parts and molded assemblies, as well as custom designed sheathing and end tip configurations.



ISO 9001

BURLE

Ordering Information

When ordering BURLE Fiberoptic Light Guides, please refer to the tables below to select the exact configuration desired. If you need assistance, contact BURLE Customer Service for assistance at 1-800-648-1800.

FOLG – B P S 125/60/2.0

Fiber Bundle Diameter (in)
.093
.125
.187
.250
.312
.437
.562
Custom

Fiber Size
60 micron
Custom

Light Guide Length (Meters)
.05m – 4m

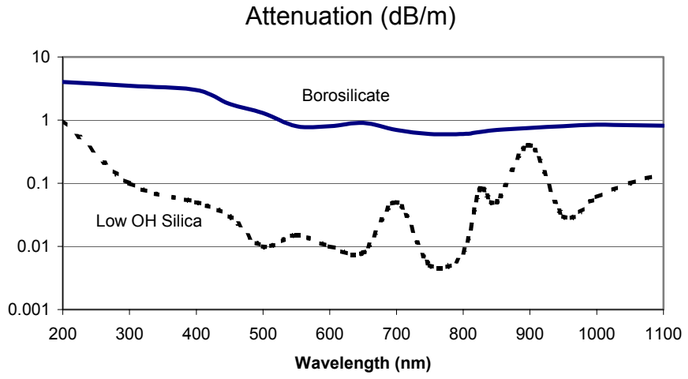
Harsh Environments

- **Explosive**
- **Corrosive**
- **Flammable**
- **Radiation**
- **High Voltage**

Glass Fiber Type	
Symbol	**Material**
B	Borosilicate
L	Low OH Silica
S	Special

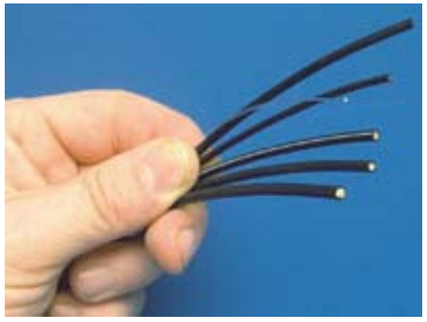
Jacket Material	
Symbol	**Material**
P	PVC
M	PVC Monocoil
S	Silicon
L	Latex
W	Stainless Steel Stripwound
C	Custom

End Tips	
Symbol	**Style**
S	SMA
F	FC
P	FCPC
A	Standard Aluminum
T	Standard Stainless Steel
C	Custom



Transmission Spectrums

- **Ultraviolet**
- **Visible**
- **Infrared**



- ✓ **Temperatures to 275°C**
- ✓ **Flame Retardant**
- ✓ **High Tensile Strength**
- ✓ **Kink Resistant**

Specialized Fibers

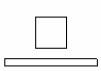
New technologies are uncovering far reaching applications for unique, high voltage, isolating light guides. Tested at 25kV at $1X10^{-9}$ amperes per 4 inches, the light guides are used for the firing of thyristor circuitry for industrial monitoring in high voltage environments.

Burle has complete engineering, production, and quality control to meet the stringent demands of industry, from military to space to medical. BURLE is certified to ISO-9001.

Arrangement of Optical Fibers

Randomized fiber arrangement offers the best uniformity of output light with a non-uniform source. Maximum signal to noise ratio is achieved with this configuration. This is typically used in illumination applications.

Split fiber arrangement is common in systems where bifurcated, redundant channels are needed.



Line to spot gives uniform illumination of a line segment or page, typically used for scanner applications.

Fiber arrays can be made to your specification whether line to line, routed line to LED arrays, or fiber arrays to unlimited numbers of CCD arrays.

Multi-leg components are frequently required either as redundant outputs from a single source or as reflective readers.

End tips may be ordered to your design.

Materials Analysis

BURLE is equipped with a complete materials analysis laboratory. All custom glass melts are completely tested and certified prior to use. Custom testing, including development of acceptance test procedures, is also

available. Burle Electro-Optics is an ISO-9001 registered firm. If your application demands the highest assurance of quality, BURLE's Fiberoptic Light Guides are the solution.

Custom Design Capability

BURLE's fiber drawing facilities are among the most modern in the world, incorporating maximum air cleanliness through elaborate HEPA filtering systems, temperature and humidity controls in state of the art clean rooms. Specialty fibers with individual strand diameters as small as 10 microns are routinely produced. BURLE's specialized glass melting and processing facilities, together with world class engineers and scientists, can tailor optical characteristics such as numerical aperture and attenuation, while maximizing wavelength efficiency.

BURLE engineering expertise will provide and service your demands for specialized fiberoptics, precision machined parts, molded assemblies, and specialized sheathing and end tip configurations

BURLE – a leader by design.

For additional information in the U.S.A. and Canada, telephone +1-800-648-1800 and for international calls, use +1-508-347-4000, or FAX request to +1-508-347-3849. BURLE Electro-Optics, Inc., Sturbridge Business Park, P.O. Box 1159, Sturbridge, MA 01566-1159 USA

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