SCHOTT® Large Diameter Image Guides

Wound Fiber Bundles (WFB)

Large Format Image Guides also known as Wound Fiber Bundles (WFB) are coherent, flexible fiber optic bundles used in applications where images must be transferred independent of outside influences over distance or from remote locations. These image guides are widely used in defense; extreme environment; remote passive viewing, and industrial applications, including: industrial remote vision systems; ordered array detectors; hazardous environment imaging, and research.

Characteristics

Large Format Image Guides can be purchased in standard configurations (see chart next page) or built with custom designed components and sheathing to fit the application.

Typical multi-leg
Image combiner (ref.)

Multi-leg

Your Advantages

- Image size format range from 2mm² to 40 mm².
- Easily combined with a wide range of standard C-mount objective optics.
- Can be dielectric (non-conductive / non-magnetic)
- Low weight and require no power.
- Aviation- and MIL-approved.

SCHOTT can also produce custom image guide assemblies in varying vertical or horizontal formats as required to meet non-standard imaging applications.

Typical Bundle Specifications	
Quality (Imaging) Area:	1.8mm² – 38x33mm with custom capabilities
Format Size:	2mm² up to 40x35mm. Multi-leg image combining available. (see above)
Lengths	2', 3', 4', 5', 6', 7', 9', 12.5', 14' and 15 feet
Fiber Size:	10 µm elements, 6 x 6 array, 60 x 60 µm (see diagram on next page)
Numerical Aperture:	0.60 nominal
Resolution*:	Approx 45 lp/mm
Transmission:	35% avg. between 400–700nm, for a 72" Image Bundle (see chart next page)
Bending Radius:	Determined by bundle diameter and sheathing
Temperature Resistance:	-40 °C to +125 °C (-40 °F to +257 °F)
Chemical Resistance:	Dependent upon outer sheathing selection and hardware design which is resistant against oil, grease, acid, fuel, water.

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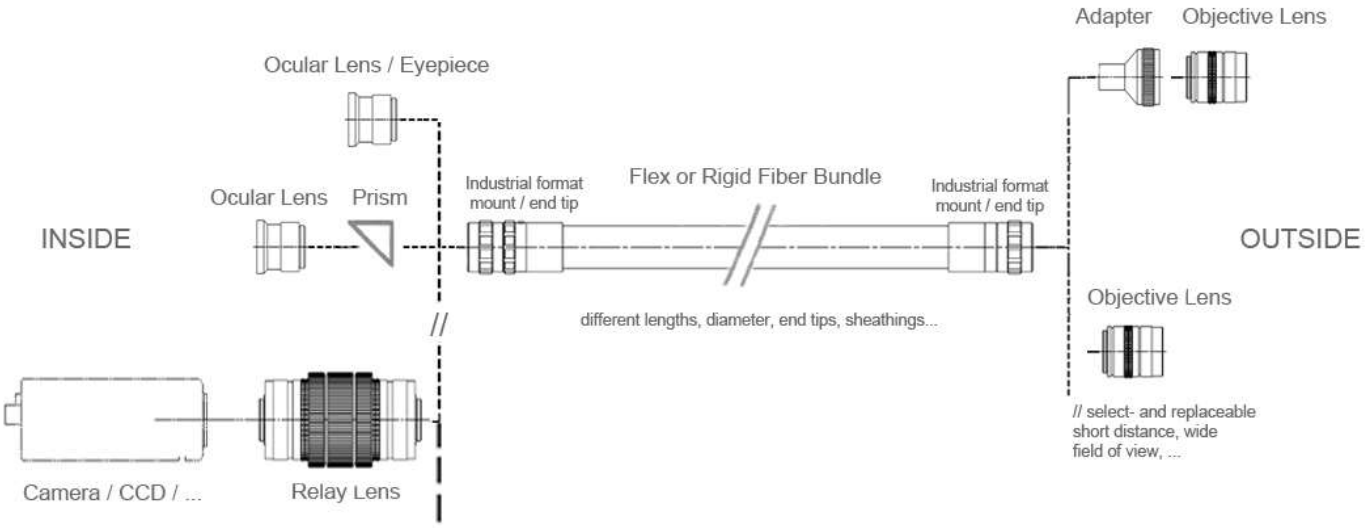
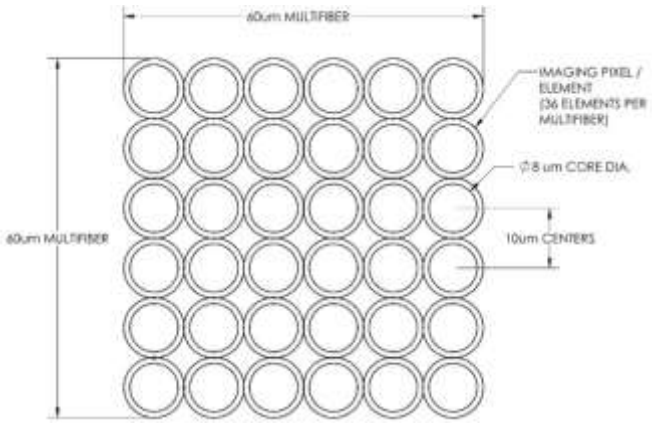
Standard Image Guide Lens Configurations

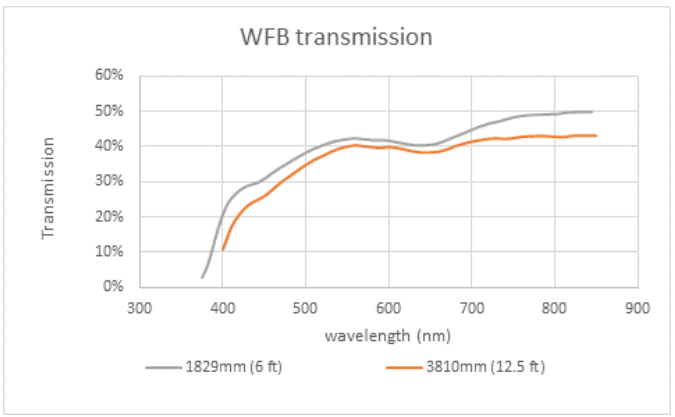


Available Lenses

Relay lenses (i.e. IG-1650) and objective lenses available upon request.



Typical multifiber construction



Typical transmission curve for various image bundle lengths

Version 03.2023

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SCHOTT North America, Inc.
122 Charlton Street, Southbridge, MA 01550, USA

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