

ArmD™ Liquid Lightguides

Series DUV/UV/UV_VIS/VIS_NIR

Our light guides are offered in diverse cross-sections, complemented by a variety of sleeve types tailored to meet your specific requirements. Additionally, we provide a choice of connectors with up to four poles.

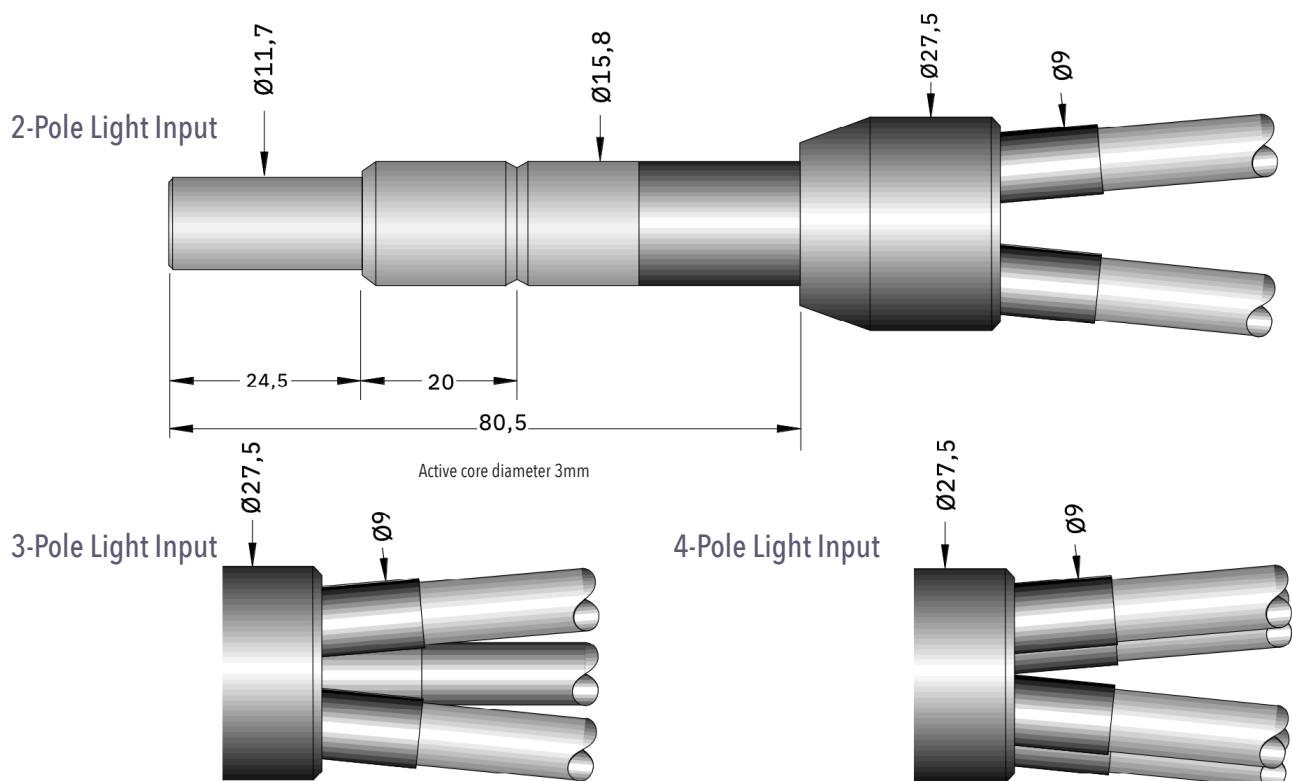
One Brilliant Concept, Infinite Possibilities

Single or Multi-Pole Lightguide

- Light-Entry: Type D
- Light-Exit: Standard
- Cladding: PVC or Silicone



UV_VIS_LL Multilegged Liquid Lightguides with Integrator



A Superior Alternative For Silica Fiber Bundles

Liquid light guides outperform their silica fiber bundle counterparts due to their inherent design advantages. A liquid light guide can be likened to a singular silica fiber with an expansive diameter, resembling the cross-section of an open pipe. This design enables the transmission of light with total reflectance, making efficient use of all available space. In contrast, silica fiber bundles resemble numerous small tubes within a larger pipe, leaving unused spaces between individual strands—resulting in dead spots that hinder light transmission. The superior design of our liquid light guides allows for the delivery of light with significantly higher intensity to the target object.

Offering Flexibility In Numerous Ways

Our liquid light guides are composed of a polymer tube with a liquid core, ensuring durability without the risk of breakage. In contrast, bundles of optical fibers may experience fatigue and eventual breakage, especially with frequent bending. Liquid light guides stand out with their significantly larger apertures, enhanced efficiency, and versatility across various applications. They prove to be ideal solutions for scenarios requiring uniform, high-intensity light. Our product range covers diverse spectra, spanning from ultraviolet to infrared, and features a wide selection of end fittings. If you're eager to learn more about our liquid light guides, feel free to reach out. We are ready to discuss the options that best align with your specific needs. With numerous possibilities at your disposal, we continuously explore innovative applications in collaboration with our customers.

Only A Handful Of Limitations

Liquid light guides have few limitations. Circular cross sections are necessary, and they can withstand extreme temperatures briefly. Besides resilient end fittings, optimal performance occurs in environments conducive to human comfort.

Four Established Light Guide Models

So far, we've crafted four distinct liquid light guides, primarily distinguished by the optical properties of their liquids. The subsequent charts and tables detail the diverse transmission spectra and other specifications of these light guides.

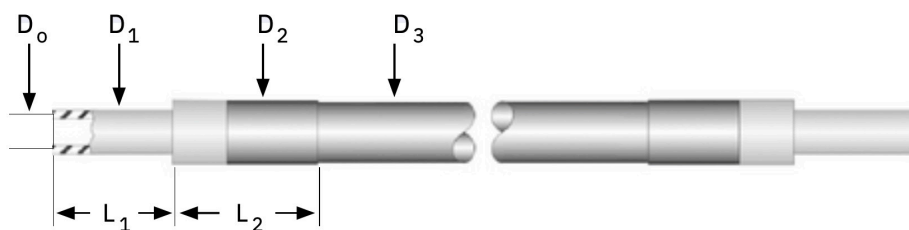
A Brief Overview Of Your Advantages

- A robust instrument known for its ability to transmit light with remarkable intensity
- Flexible and indestructible
- About double the aperture size of silica fiber light guides
- Competitively priced
- Unparalleled quality



Standard End Fittings (Series UV, UV_VIS)

Active Core Ø [mm]		Standard End Fittings [mm]			Protective Sleeve [mm]	Min Bending Radius [mm]
D_0	D_1	L_1	D_2	L_2	D_3	
2	4	6.7	8	20	5.5	30
3	5	20	9	24	7	40
5	7	20	10	24	9.5	60
6.5	9	20	13.5	38	11	80
8	10	20	15	40	12.5	100
10	14	20	19.8	41	15	200

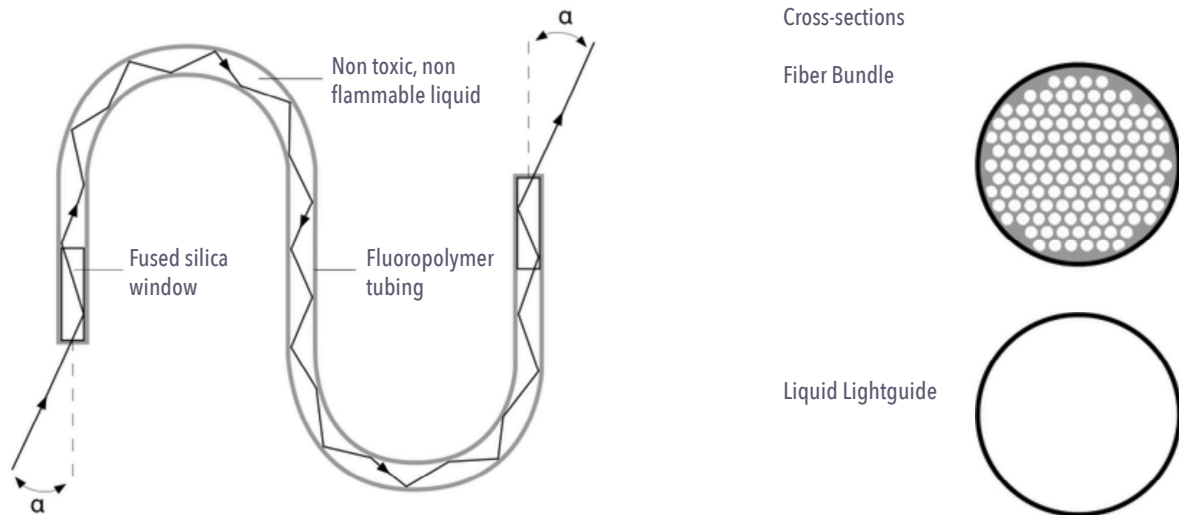


Additional end fittings and customized designs can be provided upon request.

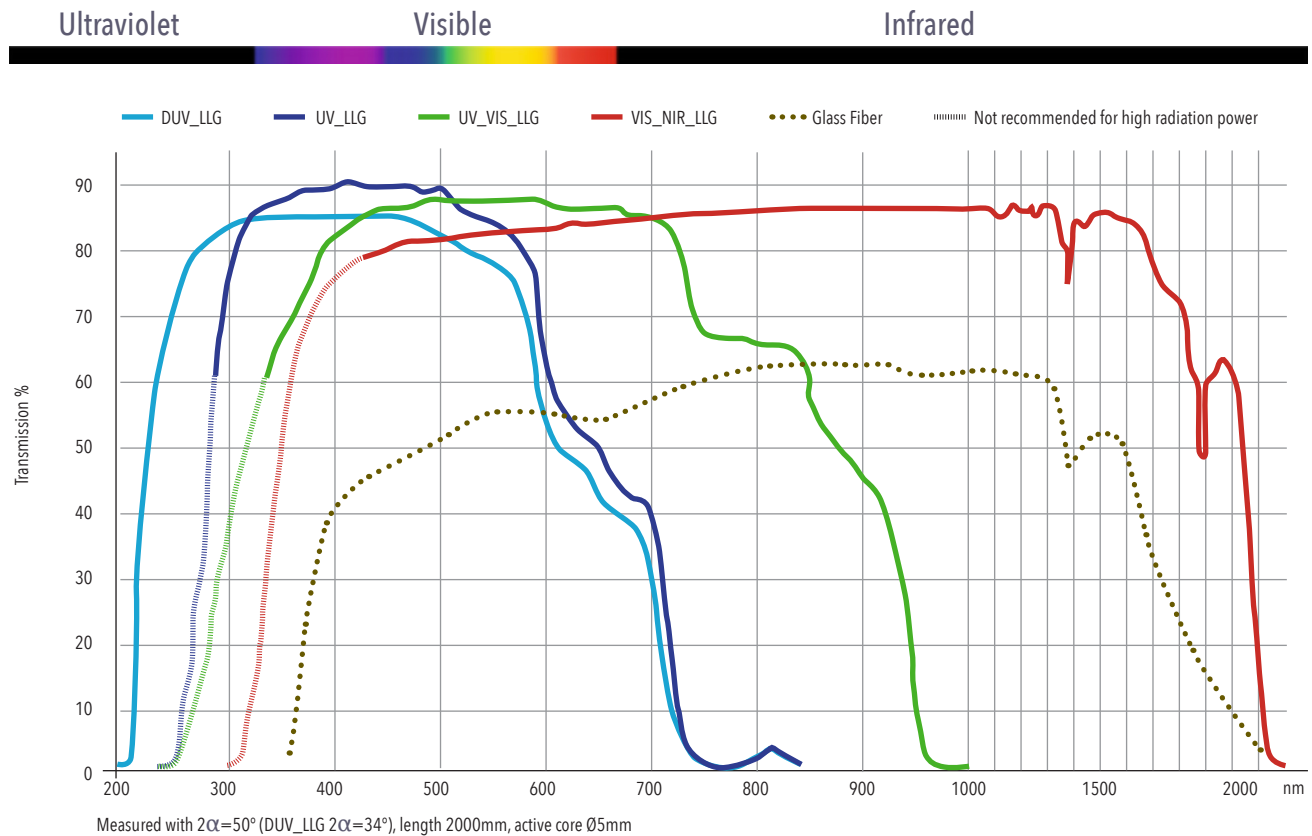
SPECIFICATIONS

Series	Core Diameters	NA 2 α	Use Cases and Spectral Range	Specific Properties
DUV_LLГ	3, 5, 8 mm	50°	Used in wafer manufacturing for tack-free UV adhesive curing, up to 5m (15ft). Spectrum: 220nm - 650nm..	Exceptional photostability, even in the UVC range, making it suitable for high-power UV lasers. Recommended light sources include Deep UV Mercury, Xenon, and Excimer. Long-term temperature range: +5 °C to +30 °C.
UV_LLГ	2,3,5, 6.5, 8, 10 mm	72°	UV adhesive curing and fluorescence inspection extend up to 20m (60ft) with a spectrum ranging from 280nm to 650nm..	Outstanding transmission, handling up to 5W of UV radiation. Ideal for robust environments. Recommended light sources include Mercury, Xenon, Tungsten Halogen, and LED. Long-term temperature range: -5 °C to +35 °C.
UV_VIS_LLГ	2, 3, 5, 6.5, 8, 10 mm	72°	Excellent white light illumination at lengths of up to 30 m (100ft). 340 nm - 800 nm.	Exceptional transmission spanning from near UV to far red, even up to 30 meters. Well-suited for extremely rugged environments. Recommended light sources include Tungsten Halogen, LED, Xenon, and Metal Halide. Long-term temperature range: -5 °C to +35 °C.
VIS_NIR_LLГ	3, 5, 8 mm	62°	Illumination within the visible and near-infrared range. Lengths up to 4 m (12ft). 420 nm - 2000 nm	Efficient transmission of high-power near-infrared radiation, reaching multi-watt levels. Equipped with an integrated long-pass filter for radiation below 420 nm. Recommended light sources include Xenon or Tungsten Halogen lamps, Nd-YAG, or Diode Lasers. Long-term temperature range: +5 °C to +35 °C.

Principle



Spectral Characteristics



Instructions For Use

Our recommended temperatures for shipment, storage, and operation:

- Indefinitely - min: -5°C (+ 23°F) max: $+35^\circ\text{C}$ (+ 95°F)
- For maximum of a few days - min: -15°C (+ 5°F) max: $+50^\circ\text{C}$ (+ 122°F)
- For maximum of a few hours - min: -20°C (- 4°F) max: $+70^\circ\text{C}$ (+ 158°F)

Stability at extreme temperatures is a factor of both temperature and time. Exceeding these limits may cause formation of a bubble inside the liquid, which usually will disappear again after storage for a few days at room temperature.

SIA "Armadillo"

LV40203150242
Krisjana Valdemara iela 33-27,
Riga LV 1010 Latvia



<https://armadillosia.com>
Phone +1 408 900-8883
Fax 408 834-7430
info@armadillosia.com