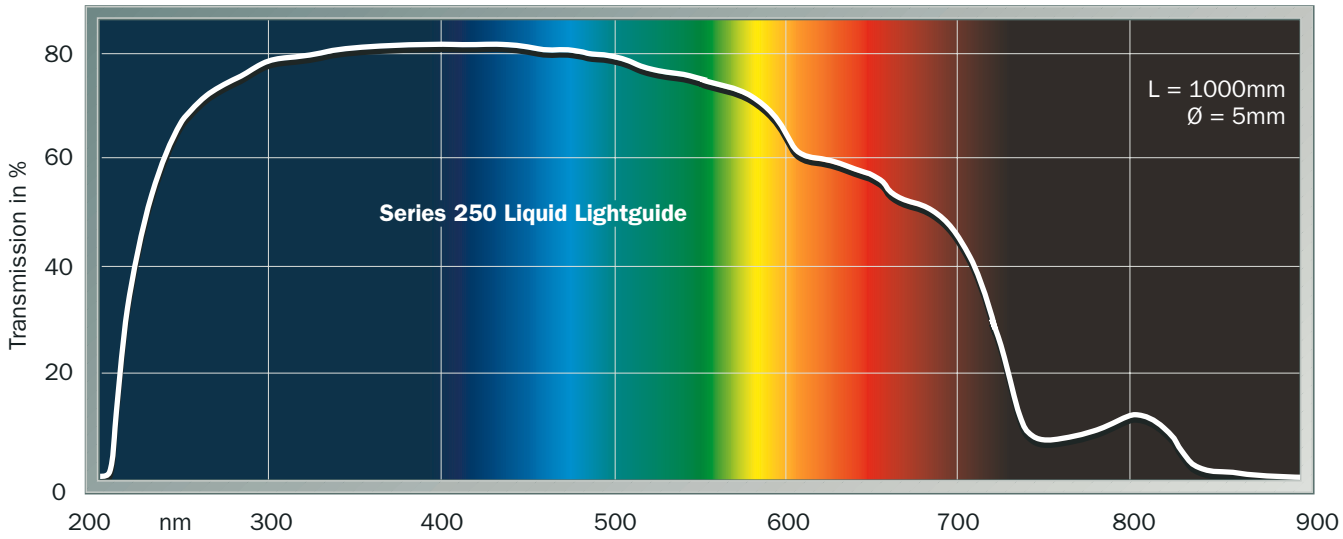
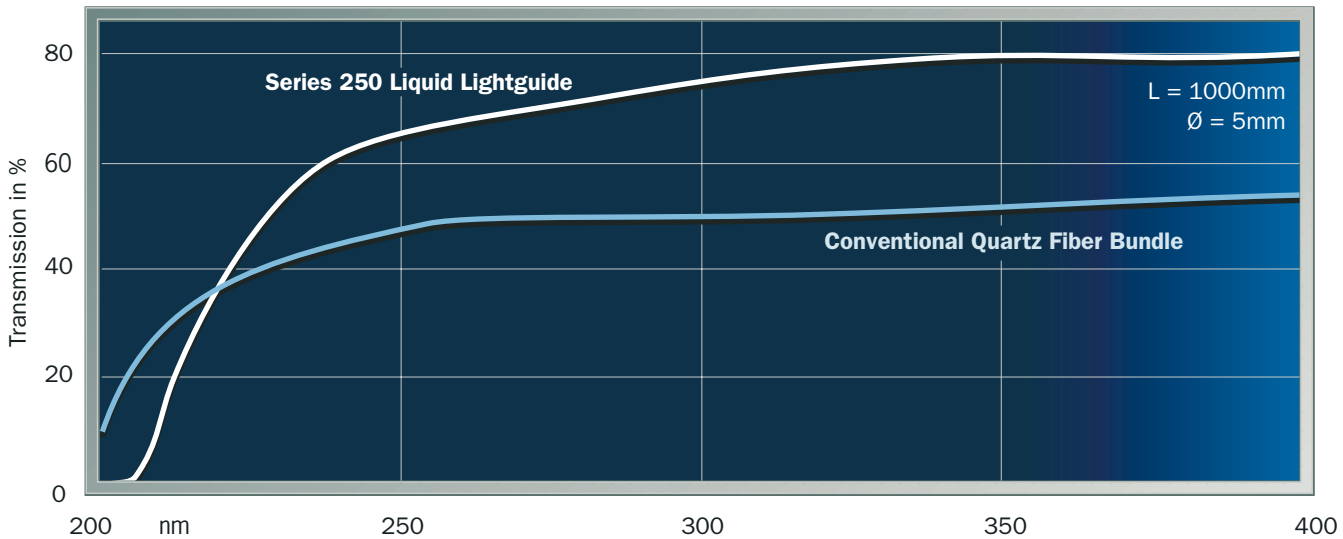
LUMATEC® *introduces*

The new LIQUID LIGHTGUIDES Series 250

The benefits of liquid technology now available down to 220nm

Series 250 completes the family of LIQUID LIGHTGUIDES with respect to the transmission of very short wavelengths in the UVC range. Due to its outstanding photo chemical stability Series 250 will deliver stable transmission from high intensity UVC and UVB sources.





Above measurements were made with an aperture 2α of 22° to enable a comparison with the quartz glass fiber. However, while a quartz glass fiber only has a maximum aperture 2α of 29°, Series 250 has an aperture of 50°. A comparison at 50° aperture would further increase the benefits of Series 250 over the quartz glass fiber bundle.

For further details please see over.

LUMATEC GMBH · LINIENSTR. 9 - 13 · 82041 DEISENHOFEN · GERMANY
TEL. +49 - 89 - 7 42 82 20 · FAX +49 - 89 - 74 28 22 64
WWW.LUMATEC.DE · SALES@LUMATEC.DE

LUMATEC®

LIQUID LIGHTGUIDES Series 250

The new LIQUID LIGHTGUIDE Series 250 transmits radiation down to a wavelength of 250nm, and with short lengths even down to 220nm. As a result, applications requiring UVC now also benefit from the advantages of LIQUID LIGHTGUIDES.
Important applications are wafer manufacturing, analytical measurements, fluorescence, and epoxy curing, where UVC eliminates the surface smear film.

The conventional light guides for the UVC range are quartz fiber bundles, the core of an individual fiber consisting of pure quartz glass and the cladding of doped quartz glass.

The most important advantages of LIQUID LIGHTGUIDES Series 250 over quartz fiber bundles are :

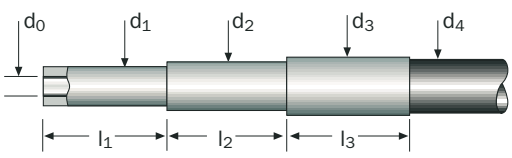
- In the wavelength range between 230 - 400nm the transmission of LIQUID LIGHTGUIDES Series 250 is significantly higher (see front page).
- The theoretical maximum angle of aperture 2α is 50° for Series 250 and only 29° for quartz/quartz fiber bundles. Thus LIQUID LIGHTGUIDES Series 250 can transmit more power from conventional, non coherent UV sources.
- The costs for LIQUID LIGHTGUIDES Series 250 are only a fraction of those for quartz fiber bundles.

However, LIQUID LIGHTGUIDES Series 250 show a dependence of transmission from the radius of curvature R. For example, with an active core Ø3mm and 2α=22° transmission loss is below 3% for R>50mm. For 2α>22° bending losses will be somewhat higher. However, as extreme bending radii are usually avoided, bending losses will be negligible in most cases.

The operational temperature range of LIQUID LIGHTGUIDES Series 250 is +5°C to +30°C. When adapted to a light source, the light entrance sleeve of the light guide should not reach a temperature above 50°C.

LIQUID LIGHTGUIDES Series 250 are available in a variety of end fittings and in lengths of up to 5000mm. Special fittings can be made to customer specifications. Due to physical restrictions LIQUID LIGHTGUIDES Series 250 with 8mm active diameter currently have a limited lifetime of approximately 15 months during which the optical performance is available without restrictions.

Dimensions of Standard End Fittings in mm



Active Core Ø	Standard End Fittings						Protective Sleeve	Minimum Bending Radius
d_0	d_1	l_1	d_2	l_2	d_3	l_3	d_4	
3	5	20	9	30	–	–	7,5	50
5	7	20	10	24	13	24	10.5	70
8	10	20	15	40	–	–	12.5	120

LUMATEC GMBH · LINIENSTR. 9 - 13 · 82041 DEISENHOFEN · GERMANY
TEL. +49 - 89 - 7 42 82 20 · FAX +49 - 89 - 74 28 22 64
WWW.LUMATEC.DE · SALES@LUMATEC.DE