

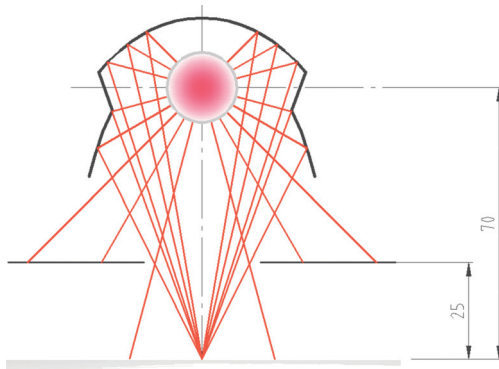
UV Curing Systems for Inks, Varnishes, and Adhesives

Reflectors and transmitters

Reflectors and quartz-glass transmitters for UV radiation units

Example

Contour of a reflector profile optimized for optical irradiation efficiency



Even under optimum conditions, no more than 20% of the total radiation power reaches the substrate directly from a UV lamp. The much greater and essential portion of the UV radiation required for reliable and efficient UV curing – up to 80% including direct radiation – is projected onto the substrate indirectly by reflection by the reflectors in the UV radiation head.

uviterno is a global leader in the development and production of high-power UV radiation units with the smallest form factor. Our high-power UV radiation heads make a major contribution to our success due to the variety of applications of our optimized reflectors and quartz-glass transmitters. Over the 25 years that we have been engaged in the development and application of UV technology, we have optimized the geometry and surface finish of our reflectors and quartz-glass transmitters for every possible application to achieve maximum UV efficiency and the longest possible service life of the components.

Spectral range	Wavelength	Radiation percentage*
UVC**	200 to 280 nm**	13.2 %
UVB	280 to 315 nm	7.2 %
UVA	315 to 380 nm	7.2 %
Visible light (VIS)	380 to 780 nm	21.0 %
Heat radiation (IR)	780 to 4000 nm	14.0 %
Electrode losses		8.0 %
Residual heat losses		29.4 %

* Radiation percentage of a typical UV high-pressure lamp

** UVC as per DIN: 100 to 280 nm. Radiation <200 nm is practically 100% absorbed in the quartz glass and the atmospheric oxygen and does not contribute to UV curing under typical application conditions.



We would be delighted to advise you on the best possible configuration of a UV radiation head for your specific application. Choose from the following products in our portfolio:

- Reflector geometries from highly focused to homogeneously defocused
- Surface finish for optimized UV reflection down to short-wave UVC
- Materials in coated aluminum or quartz
- With heat-sensitive substrates, we offer dichroic coated surfaces for selective reflection and absorption/transmission of effective radiation (UV) and heat radiation (IR)
- Quartz-glass transmitters with functional coatings to reduce reflection losses at the beam outlet
- Quartz-glass transmitters with IR blocker function