

## Specialty Light for Brilliant Surfaces

Energy saving UV solutions - for highest efficiency in glass decoration

The requirements for inks used in glass decoration, whether for beverage bottles, coated glass bottles, glass packaging for the cosmetics industry, drinking glasses or flat glass applications, are essentially the same: good adhesion, scratch resistance or a high resistance to alcohol, water and chemicals.

To meet these requirements, proper curing of the ink is necessary. Correct wavelengths, UV light intensity and power density must be aligned with the photoinitiators of the ink.

Heraeus Noblelight develops energy efficient UV curing solutions that meet individual process requirements, increase production speed and improve process accuracy.

The use of UV-LEDs, the forward-looking technology, is a promising option to lower energy consumption. They are ozone-free and economical due to a long service life. With their narrow spectral output, UV-LEDs can achieve an excellent depth of cure so that the ink is immediately cured. Medium pressure UV lamps cure inks in a wide spectrum with a very high intensity, making the ink scratch resistant and giving it a brilliant finish.

From conventional UV lamps and systems to UV-LED technology, let our application experts find the optimal solution for your unique requirements.

Heraeus Noblelight –where the quality, safety and efficiency of your process matters.

## Benefits of using different UV technologies

### The Heraeus Noblelight UV curing solution gives you the maximum flexibility to adapt the corresponding UV technology to your process requirements:

In order to 'clean' and prepare (activate) your surface before the paint coating is applied, you can use vacuum UV. For pinning applications, you need the correct penetration to cure the ink or coating for overprinting. To refine the surface, the final curing requires high UV intensity.

Heraeus UV-LED systems or microwave-powered UV systems can be taken into consideration, depending on the focus of your manufacturing process. All solutions offered, whether UV-LED systems or medium pressure lamp systems with microwave-powered lamps, can be easily integrated into existing manufacturing environments. Heraeus also offers replacement Amba<sup>®</sup> UV curing lamps for these applications.

### Looking for a conventional and high intensity UV curing solution?

Microwave-powered lamp systems or medium pressure UV curing lamps with a wide spectra should be your choice.

- High intensity for a high production speed and reliable curing process
- Integrated reflector for even higher intensity
- System capability solution for subsequent fitting on existing machines
- Special microwave UV lamp systems provide a constant 100% output guaranteed for 6,000 – 8,000 hours

### Looking for a UV curing solution with a forward-looking technology that is environmentally friendly and energy efficient?

Heraeus UV-LED systems with a monochromatic spectra should be your choice.

- Lower energy consumption
- Ozone-free technology for cost savings on exhaust systems
- Low heat generation is suitable for heat sensitive materials
- Easy to integrate and maintenance friendly
- Allows fast On/Off cycles, LED is only on when the process requires energy

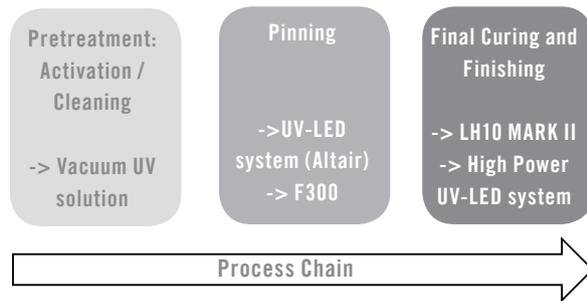
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### The Heraeus UV curing solution

All systems are available separately or in combination to customize the solution for your requirements. Heraeus UV application experts welcome the opportunity to advise you on optimizing your UV curing process and energy consumption by a targeted implementation of UV radiation - for a brilliant, scratch resistant and long lasting finish.

