

UV-LED CURING COATINGS FOR WOOD PROTECTION






UV-LED CURING: GREEN AND SAFE TECHNOLOGY

The use of ultraviolet emitting diodes (UV-LEDs) is gaining importance all over the radiation curing technology industry, including the wood coatings industry. The LEDs are slowly but persistently taking over the standard UV curing technologies which utilize medium pressure Mercury and/or Gallium arc lamp.

Because there is no toxic mercury present and no harmful UVC and ozone emissions the UV LEDs are considered **green and safe technology**. Other main benefits of LED curing technology include low energy consumption, long lifetime, constant light output and high intensity, and lower operating temperatures which enable curing of coatings on heat-sensitive substrates (e.g. pinewood), making it a highly sustainable option in the radiation curing wood industry.

HIGHLIGHTS OF LED CURING

-  Low energy consumption, long lifetime & quick "ROI"
-  Suitable for heat-sensitive substrates (e.g. pinewood); high intensity; instant on/off
-  No ozone, no toxic mercury

DISCOVER MORE

Watch our video to see UVEHEL LED in action!



FOR MORE INFORMATION
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UV-LED CURING COATINGS FOR WOOD PROTECTION: UVEHEL LED

UVEHEL LED coatings represent a novel approach in the field of radiation curing coatings, signalling a promising future for the wood industry. Since materials for standard mercury-based curing under the brand name "UVEHEL" are already well established, we now push for complementing the portfolio with UVEHEL LED alternatives as well. Wooden surfaces protected with UVEHEL LED coatings are visually appealing and very well protected, thereby meeting even the highest industry standards and customer demands.

KEY PROPERTIES OF UVEHEL LED COATINGS

- **Low VOC content:**
95–100% solid content
- **Minimal material waste:**
Efficient production and use
- **Fast curing time:**
Quick and effective application; instant cure with UV-LED lamps
- **Enhanced durability and improved aesthetic quality:**
Long-lasting and visually appealing results
- **Environmental benefits:**
Can be formulated with biobased content

SUITABLE FOR PROTECTION OF DIFFERENT TYPES OF WOODEN ELEMENTS:

Furniture	putties & basecoats topcoats*	clear/pigmented *fully cured using a combination of LED & Hg lamps
Flooring	multilayer protection	putties, basecoats & lacquers clear/pigmented various systems for specific requirements (adhesion, abrasion resistance, sandability, etc.) universal oils - clear/pigmented applied in 2-4 coats directly on raw parquet
Mouldings and profiled wooden elements	putties & basecoats topcoats*	clear/pigmented *fully cured using a combination of LED & Hg lamps

- APPLICATION METHODS:**
- roller application
 - spraying
 - vacuumat technology

CURING EQUIPMENT:

UV-LED lamps operating at specific wavelengths in the UV-A region: **365 nm, 385 nm, 395 nm** and **405 nm**.

- **Curing of transparent materials:**
365 nm or **395 nm**
- **Curing of white materials:**
395 nm or **405 nm**
- **Curing materials of other colors/shades:**
please consult our technical service

One LED module can replace up to two standard Ga/Hg lamps.

KEY DIFFERENCES BETWEEN UV LED & MERCURY BASED UV SYSTEMS

Mercury based systems emit light over a broad spectrum (UV, visible, IR). The LED systems emit light over a very narrow wavelength, creating an almost monochromatic spectrum. That means that curing technology of UV LED is different from standard UV curing and the materials need to be adjusted accordingly.

