

# UV CURING WITH **UV-Led ProCure**

The use of UV-coatings in the car body repair industry has many advantages. The key benefits are speed, environmental friendliness, improved physical properties, less floor space needed and reduced scrap. These, together with environmental regulations imposed by governments and greater sustainability awareness among customers explains the rapid growth of this segment within the coating industry.

Until now, UV-coatings were cured by the use of medium-pressure mercury discharge lamps. These mercury-lamp based curing systems have however a number of serious

- drawbacks:
- Lamps have a very short lifetime (<500 hours)
  - Frequent lamp replacement and high replacement costs
  - High energy consumption
  - Lamps contain Mercury, a hazardous chemical.
  - Lamps require warm-up time
  - Degradation of UV over lifetime
  - Mercury lamps produce a lot of radiant heat

In effect, the environmental benefits of using UV-coating are partly nullified by the use of environmentally hostile curing solutions.

## **Led Curing Systems**

At the request of the coating industry, Led Curing Systems B.V. developed the UV-Led ProCure that has none of the drawbacks associated with mercury lamp based curing systems.



## **The Key features of UV-Led ProCure are:**

### **Improved quality**

- No degradation of UV over lifetime
- Higher accuracy due to incorporation of reflector system
- Large, uniform curing area
- High intensity curing
- Optimised process control
- More evenly cured surface and stable hardening out depth at 180  $\mu$  = customer satisfaction

### **Lower cost**

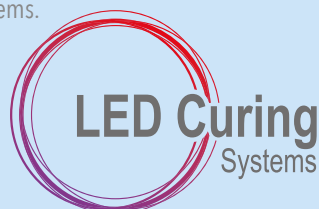
- Up to 70% lower energy use
- Lifetime > 20.000h - no replacement cost
- No warm-up time
- Substantial cost saving over lifetime = better margins

### **User friendly**

- Compact design, easy to store, easy in set-up and use
- Safe in use - unit does not get hot
- Improved working conditions = employee satisfaction

### **Environmentally friendly**

- Low energy use - low carbon footprint
- No hazardous chemicals in work environment
- No discharge of spent lamps containing Mercury
- Responsible production practices



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## Optimized design

One of the key aspects of effective curing is obtaining a good distribution of light (intensity) on the area to be cured. The UV-Led ProCure has been optimized for this by using a combination of LightTools simulation software, laboratory tests and experience gained in paint shops. This has a.o. led to the incorporation of a specially designed reflector system that assures an even light output over a large area.

## Powered by Led

UV light produced by a Led source can be applied with great accuracy in terms of wavelength and intensity levels. This allows for precise control over the curing process, resulting in an increase in working efficiency. UV-Led ProCure uses highly efficient Leds that are able to deliver the exact energy density levels that are required for UV paint curing applications.

## Quality solution

UV-Led ProCure systems use the best materials available on the market. Measured by the European Light Institute, tested on professional coatings in the AkzoNobel, PPG and Axalta labs, UV-Led ProCure allows car body shops to deliver environmentally friendly cured top quality coating at a lower cost.

## Technical product data

Power consumption ..... 160 W  
 Dimensions ..... 46 x 46 x 9 cm  
 Optic type ..... Reflector system  
 Colour ..... Silver / black  
 Material ..... Aluminium  
 Cooling method ..... Passive  
 Operating temperature ..... -20 / +40 °C  
 Lifetime ..... >20.000 h

## Light technical data

Wavelength ..... 395 nm  
 Peak irradiance 355-425nm  
 @10 cm distance ..... 34 mW/cm<sup>2</sup>  
 Average irradiance 355-425nm  
 @10 cm distance ..... 23 mW/cm<sup>2</sup>  
 Dimensions emitting window ..... 40 x 40 cm  
 Advised curing distance ..... 5 - 15 cm  
 Maximum curing distance ..... 30 cm  
 Curing time ..... < 300 s

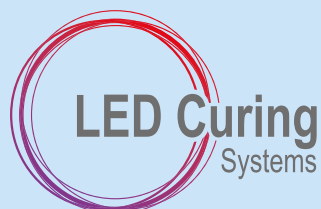
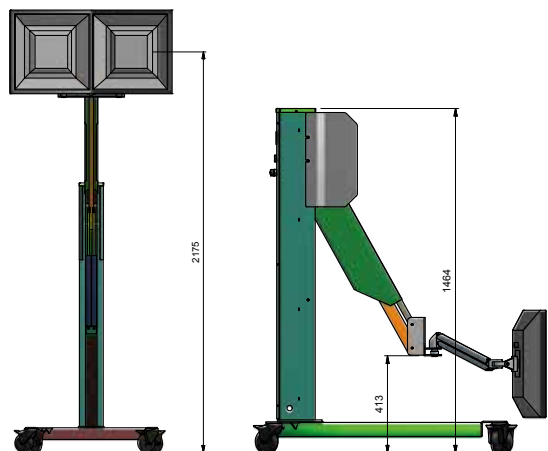
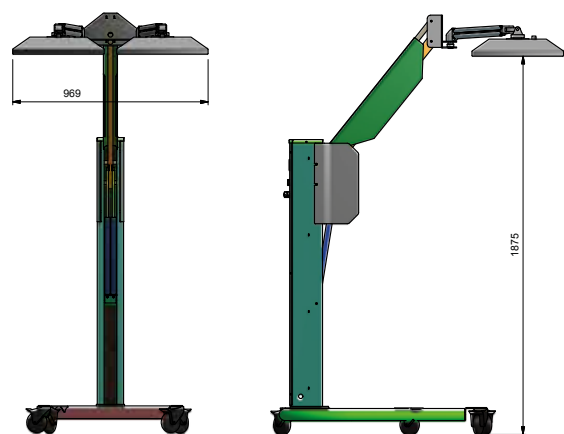
## Models

### UVLPC01 UV-Led ProCure

1 Unit ..... Vertical curing  
 Curing area ..... 60 x 60 cm

### UVLPC02 UV-Led ProCure

2 Units ..... Vertical + horizontal  
 curing (car roof curing)  
 Curing area ..... 120 x 60 cm  
 Maximum curing height ..... 220 cm



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