

# UV Equipment Handling

**FOR PROFESSIONAL USE ONLY**

## Introduction

With the introduction of UV curable products a new technology has been introduced in the Car Refinish market. A part of this new technology is the type of equipment needed for curing. The UV LED gun curing equipment allows initiation of the curing process during application. Within this document, a brief explanation on the use and safe handling of the UV LED gun is given. Before buying and using UV equipment we advise that you consult your UV equipment supplier.

*\*Prior to handling UV equipment it is recommended that the technical data sheets and UV equipment user manual have been thoroughly read and understood.*

## UV Curing

**Clearcoat curing:** With the UV LED gun the exposure of the clearcoat starts while spraying; all sprayed areas are exposed to UV. For optimum curing, additional UV exposure directly after spraying is required.

*\*So called shadow areas (limited to no UV exposed surfaces) will cure though the time frame in which this curing will be completed can not be indicated; it will take longer.*

## UV LED gun performance



Using the UV LED gun, the curing of Autoclear UV is initiated while spraying. To achieve the shortest possible curing time, additional exposure directly after spraying is required. Move the UV LED gun evenly over the painted area for 2-3 slow passes, maintaining a distance of approximately 10 -15 cm. Ensure that shadowed areas like wheel arches are completely exposed to UV light.

The UV exposure during spraying ensures curing of all material within 30 - 60 minutes. More UV exposure after spraying results in faster curing of the clearcoat. With 2-3 slow passes by the UV LED maximum curing speed is obtained.

- Applied Autowave color influences the curing speed; lighter colors support the curing speed by reflection. Darker colors absorb more of the UV light resulting in a slightly longer curing time.
- Clearcoat layer thickness does influence the curing and polishability.
- UV LEDs have only a very small decrease in output over time. With normal bodyshop use no noticeable influence on curing speed will occur during the total lifetime of the UV LED gun.
- While spraying some overspray will settle on the front cover. Always use and regularly replace the overspray protection foil securing optimum UV output.

The table below gives an indication of curing times in different situations.

Situation	Dust free time	Free to handle time	Time to polish
2-3 slow passes exposure after spraying *	4 minutes	6 minutes	20 minutes
1 slow pass exposure after spraying	8 minutes	12 minutes	30 minutes
1 fast pass exposure after spraying	11 minutes	20 minutes	40 minutes
No exposure after spraying	15 minutes	30 minutes	-

\* recommended procedure

## Maintenance of the equipment

Because the UV LED gun is exposed to overspray the recommended overspray protection foil **MUST** be used for protection; regularly replace this foil (once or twice a day is recommended, dependent on use, spray gun and spray booth environment). If the cover does get contaminated with overspray, use a cloth damp with regular cleaning solvent for cleaning.

*\*Never immerse the UV LED gun in liquid. Only use a damp cloth for cleaning; see Equipment Manual for detailed information on proper maintenance.*

**Performance measurement** is not required: The UV LED gun has no noticeable output decrease over time. The optical output is guaranteed to stay constant for 2000+ working hours.

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## Maintenance of the equipment (continued)

**UV LED gun operation;** The UV LED gun requires no warm-up or cooling down time. The UV LEDs are very robust and shock resistant, though one must be careful to avoid damaging the glass cover: Scratches and other damages on the cover will decrease the performance.

## UV handling & electrical safety

UV irradiation is safe in use when operated according to the equipment manufacturers' guidelines and instructions. Some general recommendations can be given.

- **Avoid any unnecessary exposure and read the manufacturers' manual.**
- **Never look directly into the UV LED gun.**
- **Never point the UV LED gun at someone else!**
- **Always use the required personal and operational protective equipment to include gloves and glasses.**
- **Additionally, it is recommended that you wear long sleeves and cover the face with a suitable full face shield so that all exposed skin is protected**

**DO NOT operate the UV LED gun without UV protective goggles.**

The use of amber goggles will filter the visible light produced by the UV LED gun. If a fresh air supply respirator is used, check if the visor provides sufficient UV protection.

**Use of equipment in potentially explosive atmospheres**

Spraybooths are considered Zone 2 areas during the spraying operations. Therefore the use any electrical equipment (including the UV LED gun) should be in compliance with local regulations, this should be verified before using the equipment.

The UV LED gun is an ATEX category 3 certified product and approved for use in a zone 2 area.

Should the UV LED gun get damaged (e.g. damaged power cable or broken glass cover) it **may not be used in the spray booth any longer**. Failure to do so may result in a dangerous situation.

Consult manufacturers manual for instruction regarding repair of the device.

**Carefully read and strictly follow the safety instructions as stated in the UV LED gun manual.**

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**IMPORTANT NOTE** The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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