

User Manual

DecoRad® Handmate

UV 600



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Preface

The DecoRad® Handmate UV 600 is the ultimate tool for instantly curing UV (floor) coatings.

UV has been used successfully for many years already for instantly curing inks, car paints, glues and coatings. The DecoRad® Handmate UV 600 is the result of the many years' experience of DecoRad® Systems with on-site use of UV in combination with coatings, varnishes and oils.

DecoRad® Systems has succeeded in providing the latest equipment and best technology.

Characteristics of the DecoRad® Handmate UV 600

- Output 600 Watt
- CE marking
- ISO 9001
- Compact and user-friendly
- 1 Ultraviolet lamp easy to change

This user manual provides the user with information about the safe usage and maintenance of the DecoRad® Handmate UV 600.



Carefully read through this user manual before using the Handmate.
Only then optimal safety is guaranteed.
The DecoRad® Handmate UV 600 can only be operated by sufficiently qualified personnel.

Keep this user manual with the DecoRad® Handmate UV 600.

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1. Introduction



Carefully read through this user manual before using the DecoRad® Handmate UV 600.

The DecoRad® Handmate UV 600 can only be operated by sufficiently qualified personnel.

1.1 Manufacturer

The DecoRad® Handmate UV 600 is manufactured by:

DecoRad® Systems bv
Fokkerstraat 25
3905 KV Veenendaal
The Netherlands

Phone: +31(0)318-550425
E-mail: info@decorad.com
www.decorad.com

For any questions regarding sales orders, deliveries, parts or shipments, please contact DecoRad® Systems bv.

1.2 CE-marking

The DecoRad® Handmate UV 600 comes with a CE marking. This means that the Handmate meets the fundamental safety directives of the European Community.

1.3 Guarantee

The manufacturer of the DecoRad® Handmate UV 600 provides a 12 month warranty (carry-in) for parts and repair costs*. This warranty is only valid if the DecoRad® Handmate UV 600 is used according to the specifications and the user- and maintenance instructions are observed.

The DecoRad® Handmate UV 600 warranty lapses in case of:

- Inexpert use
- Insufficient maintenance
- Inexpert maintenance
- Alterations without prior permission of the manufacturer

The normal replacement parts (bulbs) are not covered by the factory warranty.

* At the discretion of DecoRad® Systems bv

1.4 Copyright

Copyright © DecoRad® Systems bv.

All rights reserved. Nothing from this publication can be multiplied, stored in an automated file and/or made public in any form, either electronically, mechanically, by photocopies, recordings, or any other way without prior written consent of the manufacturer.

1.5 Liability

The manufacturer of the DecoRad® Handmate UV 600 is not liable for unsafe situations, accidents or damage as a consequence of:

- Ignoring warnings or instructions as stated on the DecoRad® Handmate UV 600 or as described in this user manual (including not correctly applying personal protection measures).
- The use of the DecoRad® Handmate UV 600 for any other application or in any other circumstances than indicated in this user manual.
- Making any kind of alterations to the DecoRad® Handmate UV 600. This also pertains to applying other replacement parts.
- Intensity of the usage is decisive for the degree of maintenance.

The manufacturer is not liable for consequential loss in case of malfunctions of the DecoRad® Handmate UV 600, such as damage to products, business interruption, production loss, etc.

2. Safety

This chapter describes the safety measures pertaining to the DecoRad® Handmate UV 600. Carefully read this chapter before putting the DecoRad® Handmate UV 600 into operation or performing maintenance work.

2.1 Safety symbols in this user manual

The following symbols are used in this user manual:



A comment draws the user's attention to possible problems.



Danger of damage to the DecoRad® Handmate UV 600 if the instructions are not carefully executed.

2.2 Symbols on the DecoRad® Handmate UV 600

The following symbols can be found on the DecoRad® Handmate UV 600 or in this manual:

	Always wear the provided UV protective facial shield
	Always wear the provided UV protective suit
	Always wear the provided UV protective gloves
	Caution ! Hot surface!
	Caution ! UV light ! Never look directly into the UV light without wearing eye- and face protection.
	Keep the room well ventilated. Depending on the type of lamp, the UV-lamp can produce ozone.
	The User/Maintenance mechanic should be acquainted with the entire contents of this user manual, before using the DecoRad® Handmate UV 600

2.3 Usage

The DecoRad® Handmate UV 600 can only be operated by qualified personnel.



The safety instructions described in this manual should be observed. If you deviate from these instructions, this can lead to serious personal or material damage.

2.4 Maintenance

The DecoRad® Handmate UV 600 can only be operated by qualified personnel.



The safety instructions described in this manual should be observed. If you deviate from these instructions, this can lead to serious personal or material damage.

The maintenance mechanic should be acquainted with the entire contents of this user manual.

Intensity of the usage is decisive for the degree of maintenance.

Examples of this are:

- Cleaning the housing.
- Cleaning the UV bulbs (dirt causes a decrease in UV yield and the number of burning-hours <500).
- Cleaning the reflector (dirt causes a decrease in UV yield and the number of burning-hours <500).

2.5 Safety regulations

The DecoRad® Handmate UV 600 meets the fundamental safety and health directive of the relevant guidelines of the European Community.



Stay alert for dangerous situations!

2.6 UV radiation

Ultraviolet radiation (or UV) is a proven process to disinfect water, air and solid surfaces which have been contaminated with micro-organisms. In addition to this, UV radiation is well-known for its application as a catalyst in drying processes. The effects of UV as a disinfectant have been extensively documented in scientific research.

UV radiation is a mixture of radiation of various wavelengths. In a rainbow, the visible part of the UV radiation is ordered according to the length of the waves. Progressing from purple to red, the waves become increasingly longer. The ultraviolet or UV has a wavelength shorter than that of purple. This part of the UV radiation is not visible as well.

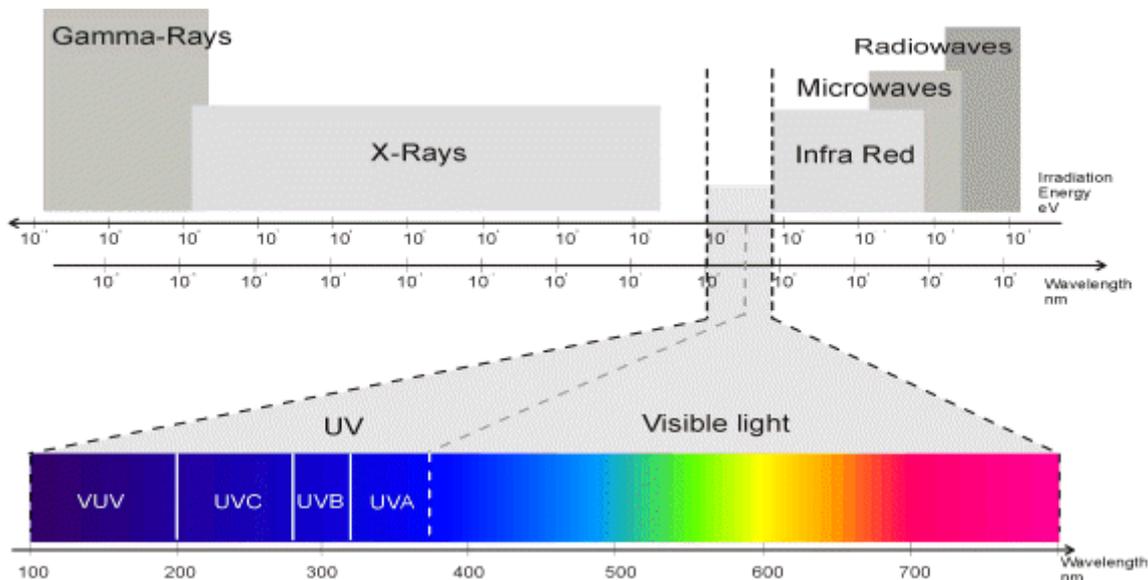
Most of the UV radiation we get comes through sunlight. Not all UV radiation reaches the earth: a part is blocked by the ozone layer.

2.7 Risks of UV radiation

Both UVA and UVB can damage cells and genetic material, thus leading to skin cancer. UVB poses the greater risk here. Even though scientists used to think that UVA was not harmful, newer research has proven that UVA contributes 10 to 20 percent to the cancer risk.

In order to protect itself against damage to genetic material, the skin tries to thicken itself (after UVB exposure). Pigment cells create the substance melanin, which gives the skin a brown colour. This means that when the skin tans, it has already been damaged. Because the ozone layer is becoming increasingly thinner due to environmental pollution, less UV radiation is absorbed, thus leading to an increase of skin cancer occurrences.

In addition, the skin can burn under influence of UVA and UVB radiation. Burning is accompanied by redness and in serious cases tremors, blisters, nausea and fever. In the long term the skin will lose its elasticity, suffer from accelerated aging and will remain sensitive for itching, pimples, etc.



***Ultraviolet light can damage skin and eyes.
Always wear the UV facial shield and protective clothes.
As a user, never look directly into a switched-on lamp.
Certain types of medication and cosmetics can increase sensitivity.***

2.8 User



Carefully read through this user manual before operating the DecoRad® Handmate UV 600.



Before switching on the DecoRad® Handmate UV 600, please ensure that the personal protection tools as described in the user manual are used. The UV facial shield and skin covering clothes (including gloves) are obligatory.



Dirt on the lamp and/or reflectors (e.g. from coatings or fingers) can shorten the life span of the bulb or reduce the UV effect. If needed, clean the cooled down lamp with isopropyl alcohol and paper towel.



Please make sure that bystanders without appropriate UV protection are at a safe distance of at least 6 meters / 20 ft



In order to prevent damage to the DecoRad® Handmate UV 600 and the user, the user is strictly prohibited to work with tools on the DecoRad® Handmate UV 600 in any other way than indicated in this user manual for the purpose of maintenance.



VENTILATION

In case of using a UV C lamp keep the room ventilated. The UV C lamp is full spectrum, so there is ozone production.

3. Machine description

This chapter describes the parts and operational use of the DecoRad® Handmate UV 600.

3.1 Function

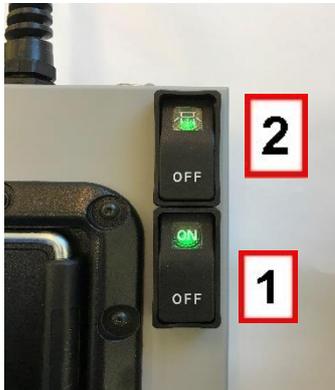
The DecoRad® Handmate UV 600 is the ultimate tool for instantly curing UV (floor) coatings. Please consult our website, www.decorad.com for a recent overview of suitable products!

3.2 Overview of the DecoRad® Handmate UV 600

1. Box
2. UV hand unit
3. Control / power unit
4. UV facial shield / gloves / tyvek suit
5. Extension pole
6. Supportwheel



3.3 Control elements



The following buttons can be found on the control panel:

1. On / off switch = power
2. On / off switch = UV lamp
3. Operation button: shutter open / close

* UV full power can be ignited with the button on the Handmate and / or on the extension pole

3.4 Standard equipment

The Handmate UV 600 comes standard with:

- Box
- UV hand unit
- Control unit with lanyard
- UV protective facial shield / UV gloves / tyvek suit
- Extension pole
- Support wheel

Optional:

- Spare bulb

4. Putting into operation



Always wear personal safety gear (UV facial shield, gloves and UV protective clothes)
Unprotected bystanders: keep 6 meter distance !
Warning: The housing/bottom around the hand unit becomes hot!



The Handmate UV has a power cable of 60 centimeters.
Take out the UV hand unit & power unit from the transport case. Connect the power cable to an extension cord.

Mains: 230V +/- 10% / 50 – 60 Hz / 10 – 16 A

Carry the power unit by using the lanyard.



Optional: adjust the DecoRad® Handmate UV 600 extension pole. While using the extension pole, you need to connect the data cable with connector to the back side of the UV hand unit.



Carefull !

The connector fits only in one way in the Handmate UV 600.

Turn the swivel in order to tighten the connector. Not too tight!





4.1 STARTING THE JOB

Switch the power on by pressing **ON** on the **ON/OFF** switch. The green indicator light will burn.

On the display of the UV hand unit the text **DONE** will appear.

Press the button with the “lamp symbol” on the control/power unit.

On the display of the UV hand unit the text **WAIT** will be shown

As soon as **DIM** is shown in the display, the Handmate UV 600 is ready for use.



Use the button on the UV hand unit or the extension handle to open the shutter and to start UV curing. The text **FULL** will be shown on the display.



UV curing is only possible in FULL, with a distance between UV hand unit and surface of 2 – 4 centimeters.

DIST = distance to surface is not correct, a beeping signal can be heard. On the bottom of the UV hand unit, a shutter will slide in front of the UV bulb, UV curing is not possible any longer.

Move the UV hand unit in a position between 2-3 centimeters from the surface. **DIM** will be shown on the display. The lamp can go to **FULL** and curing can be started again.



After 1 minute **DIST** the text **U51** appears on the display. Turn off the lamp button. Display moves to **COOL** and after 8 minutes to **DONE**.

After leaving the Handmate 5 minutes in **DIM** on the start/stop station, **U94** appears on the display. Switch off the lamp button. Display moves to **COOL** and after 8 minutes to **DONE**.





Shutter on the bottom of the Handmate UV 600.



**ATTENTION !
SHUTTER IS VERY HOT**

4.2 QUITTING THE JOB

Press the **off** button with the lamp symbol to turn off the lamp, the indicator will no longer burn.

ATTENTION: DO NOT SWITCH OFF THE POWER UNIT.



The text **COOL** appears on the display.

Let the Handmate cool down till **DONE** appears on the display.



Press the **OFF** button to switch off the power unit.

The lamp now can either be restarted or be packed in the box.



5. Error messages, shown on the display

Error	Description	Solution
E14 (TEMP)	Over-temperature	The UV lamp is too hot, leave the UV lamp 5 minutes to cool down. Turn off the Handmate. Follow the start procedure. Please consult DecoRad® Systems in case of recurrence.
E15 (FAN)	Fan fail	Leave the UV lamp 5 minutes to cool down, turn off the Handmate. Follow the start procedure. Please consult DecoRad® Systems in case of recurrence.
E16 (SHUT)	Shutter error	Leave the UV lamp to cool down, turn off the Handmate. Follow the start procedure. Please consult DecoRad® Systems in case of recurrence.
E17	Temperature sensor	Leave the UV lamp to cool down, turn off the Handmate. Follow the start procedure. Please consult DecoRad® Systems in case of recurrence.
U51 (DIST)	Distance	Please position the Handmate between 2 – 4 cm distance from the floor. UV curing is only possible at this distance.
U94 (TIME)	Time management	Auto OFF after 5 minutes no use

6. Replacing lamp

Replacing UV lamp



Caution: Never touch a hot UV lamp.

Step 1: Place the Handmate on a flat surface with the lamp facing up.

Step 2: Plug in to approved power source.

Step 3: Press **ON** button. The text **DONE** appears on the display.

Step 4: Press round button to open shutter.

Step 5: Press the **OFF** button and unplug the Handmate.

Step 6: Carefully remove the old UV bulb.

Step 7: Place new UV bulb by using a tissue.

Step 8: Plug in to approved power source and press **ON** button. The text **DONE** will appear on the display.

Step 9: Press round button to close shutter.

Step 10: Press the **OFF** button and unplug the Handmate.

7. Specifications

Handmate UV 600	
General	
Description	DecoRad® Handmate UV 600
Brand	DecoRad®
Colour	Silver / black
Cure path	10 cm
Distance to object	2-4cm
Measurements and weights	
Weight hand unit (kg)	Appx. 1,3
Measurements hand unit (cm)	25,5 x 15 x 10,5 (LxWxH)
Weight power supply/switch unit (kg)	Appx. 3,0
Measurements power supply/switch unit (cm)	24,5 x 17 x 7,5 (LxWxH)
Weight suitcase (kg)	Appx. 4,8
Measurements suitcase (cm)	72 x 31 x 28,5 (LxWxH)
Total weight (kg)	Appx. 9,1
Measurements (cm)	73 x 32 x 29 (LxWxH)
Power supply	
Power UV - ultraviolet (Watt)	600
Mains	220-250V 50/60 HZ
Cable powering (cm)	60
Cable from switch to hand unit (cm)	165
I _{max}	10/16 A
Lamps	
Type UV-lamp	Hg Mercury
Number of UV-lamp(s)	1
Burning hours UV-lamp(s)	Appx. 500
Start-up time UV-lamp(s)	Appx. 60 seconds
Ozone free or ozone producing	
Warranty (excluding UV lamp(s))	
Manufacturer's warranty	1 year
Warranty type	Carry-in
Inspections	
CE Approved	✓
TÜV certified (radiation)	✓
Accessories	
Standard	Service and repair manual, safety package, suitcase. Extension pole, support wheel