

*User Manual*

# ***DecoRad® Handmate***

## ***UV 1800***



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# **Preface**

The DecoRad® Handmate UV 1800 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 1800 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 1800

- Output 1800 Watt
- CE marking
- ISO 9001
- Compact and user-friendly
- 1 Ultraviolet lamp 18 cm

This user manual provides the user with information about the safe usage and maintenance of the DecoRad® Handmate UV 1800.



Carefully read through this user manual before using the Handmate.

The DecoRad® Handmate UV 1800 can only be operated by sufficiently qualified personnel.

Keep this user manual with the DecoRad® Handmate UV 1800.

# Contents

	DecoRad® Handmate UV-1800	
	Preface	2
	Contents	3
1.1	Manufacturer	4
1.2	CE-Marking	4
1.3	Guarantee	5
1.4	Copyright	5
1.5	Liability	5
2	Safety	6
2.1	Safety symbols in this user manual	6
2.2	Symbols on the DecoRad® Handmate UV-1800	6
2.3	Usage	7
2.4	Maintenance	7
2.5	Safety regulations	7
2.6	UV-radiation	7
2.7	Risks of UV-radiation	28
2.8	User	29
3	Machine description	10
3.1	Function	10
3.2	Overview of the DecoRad® Handmate UV-1800	10
3.3	Control elements	11
3.4	Standard equipment	11
4	Putting into operation	12
4.1	How to start	13
4.2	How to stop	14
5	Error messages	15
6	Replacing lamp	16
7	Specifications	17
	CE Declaration	18



*Carefully read through this user manual before using the DecoRad® Handmate UV 1800.  
The DecoRad® Handmate UV 1800 can only be operated by sufficiently qualified personnel.*

## **1.1 Manufacturer**

The DecoRad® Handmate UV 1800 is manufactured by:

DecoRad® Systems bv  
Fokkerstraat 25  
3905 KV Veenendaal  
The Netherlands

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[www.decorad.com](http://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 1800 comes with a CE marking. This means that the Handmate meets the fundamental safety demands of the European Community.

## **1.3 Guarantee**

The manufacturer of the DecoRad® Handmate UV 1800 provides a 12 month warranty (carry-in) for parts and repair costs\*. This warranty is only valid if the DecoRad® Handmate UV 1800 is used according to the specifications and the user and maintenance instructions are observed.

The DecoRad® Handmate UV 1800 warranty lapses in case of:

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

The normal replacement parts (bulbs) do not fall under 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 1800 is not liable for unsafe situations, accidents or damage as a consequence of:

- Ignoring warnings or instructions as stated on the DecoRad® Handmate UV 1800 or as described in this user manual (including not correctly applying personal protection measures).
- The use of the DecoRad® Handmate UV 1800 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 1800. 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 1800, such as damage to products, business interruption, production loss, etc.

## 2. Safety

This chapter describes the safety measures pertaining to the DecoRad® Handmate UV 1800. Carefully read this chapter before putting the DecoRad® Handmate UV 1800 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 1800 if the instructions are not carefully executed.

### 2.2 Symbols on the DecoRad® Handmate UV 1800

The following symbols can be found on the DecoRad® Handmate UV 1800:

	Always wear the UV protective DecoRad® face shield
	Always wear the UV protective DecoRad® suit
	Always wear the UV protective DecoRad® 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 UV1800

## 2.3 Usage

The DecoRad® Handmate UV 1800 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 1800 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 of the housing
- Cleaning the UV lamps (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 1800 meets the fundamental safety and health demands 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.

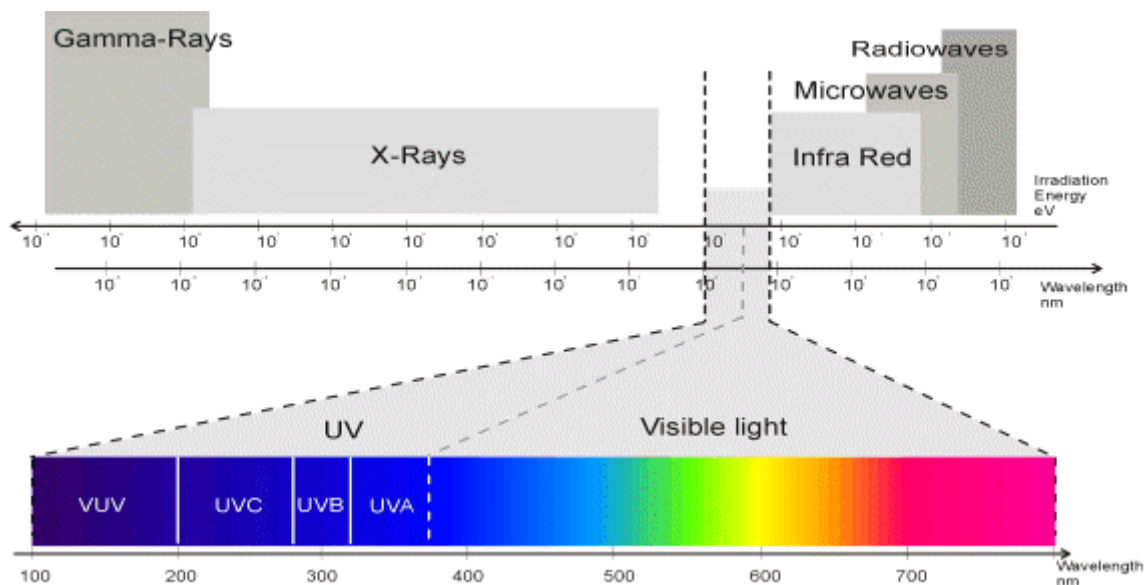
UV radiation is a mixture of radiation of various wavelengths. In a rainbow, the visible part of the UV radiation is ordered according to the length of the waves. Progressing from purple to red, the waves become increasingly longer. The ultraviolet or UV has a wavelength shorter than that of purple. 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.**  
**Wear the UV facial shield, protective clothes and gloves.**  
**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 1800.



Before switching on the DecoRad® Handmate UV 1800, 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 lamp 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 1800 and the user, the user is strictly prohibited to work with tools on the DecoRad® Handmate UV 1800 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 1800.

#### 3.1 Function

The DecoRad® Handmate UV 1800 is the ultimate tool for instantly curing UV (floor) coatings. Please consult our website, [www.decorad.com](http://www.decorad.com) for a recent overview of suitable products!

#### 3.2 Overview of the DecoRad® Handmate UV 1800

1. Box
2. Control / power unit
3. UV lamp-unit
4. Start / stop station
5. UV facial shield / gloves / Tyvek suit
6. Extension pole (optional)
7. Support wheel (optional)



### 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 = Dim or Full Power (on the lamp-unit)

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

### 3.4 Standard equipment

1. Box
2. Control / power unit
3. UV lamp-unit
4. Start / stop station
5. UV facial shield / gloves / Tyvek suit

Optional:

- extension pole
- support wheel
- spare bulb

## 4. Putting into operation



Always wear skin protective clothes (UV facial shield, gloves and clothes)!  
Warning: The bottom of the lamp unit can become hot!

The HandMate UV has a power cable of 225 centimeters.  
Connect the power cable to a suitable power source.  
Mains: 110 – 250 Vac / 50 – 60 Hz / 10/20A



Adjust the (optional) extension pole. (or the small handle; not necessary to connect the data cable, use the button on the lamp unit – small handle has no data cable!)



Connect the extension pole to the lamp unit.

Connect the data cable of the extension handle to the back of the lamp unit  
This is a male/female connection





#### 4.1 HOW TO START

Press the **ON** button.

The green indicator will burn. On the display of the lamp unit the text **DONE** will be shown.

Press the button with the “lamp symbol”.

The green indicator will burn. On the display of the lamp unit the text **WAIT** will be shown

When **DIM** is shown in the display, the HandMate UV 1800 is ready to use

Use the button on the lamp unit or the extension handle to start UV curing (**FULL**)

#### **ATTENTION**

**UV curing in FULL power only with a distance to the object of 2 – 3 cm.**

**ATTENTION:** When **DIST** is shown in the display and a beeping signal can be heard, distance to the object is too large.

**UV curing is no longer possible.**

Move the lamp unit in a position approx. 3 centimeters from the surface. The beeping signal will stop. The text **DIM** will be shown on the display. From here you can start curing in **FULL**.

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. Turn off the lamp button. Display moves to **COOL** and after 8 minutes to **DONE**.



## 4.2 HOW TO STOP

From **DIM** switch **off** the UV lamp when ready. The text **COOL** will be shown.

Leave the HandMate UV 1800 attached to the power source until **DONE** is shown.

Press the off button

Please unplug the HandMate UV 1800 entirely from any power source.



## 5. Error messages

### EXPLANATION OF THE DISPLAY MESSAGES

<b>Error</b>	<b>Description</b>	<b>Solution</b>
<b>E13</b>	<b>Lamp start fail</b>	Turn both switches OFF. Start from <u>4 PUTTING INTO OPERATION</u> . In case of recurrence E13, please consult DecoRad® Systems
<b>E14 (TEMP)</b>	<b>Over-temperature</b>	The UV lamp is too hot, leave the UV lamp to cool down for 5 minutes. Turn both switches OFF. Start from <u>4 PUTTING INTO OPERATION</u> . In case of recurrence, please consult DecoRad® Systems
<b>E15 (FAN)</b>	<b>Fan fail</b>	Leave the UV lamp to cool down for 5 minutes. Turn both switches OFF. Start from <u>4 PUTTING INTO OPERATION</u> . In case of recurrence, please consult DecoRad® Systems
<b>E17</b>	<b>Temperature sensor</b>	Leave the UV lamp to cool down for 5 minutes. Turn both switches OFF. Start from <u>4 PUTTING INTO OPERATION</u> . In case of recurrence, please consult DecoRad® Systems
<b>U51 (DIST)</b>	<b>Distance</b>	The lamp-unit is turned too far from the object for more than 30 seconds. Please position the Handmate between 2 – 4 cm distance from the floor, cure at approx. 3 cm
<b>U94 (TIME)</b>	<b>Time management</b>	Auto OFF after 5 minutes no use

## 6. Replacing lamp

Replacing UV lamp:

**Caution: never touch a heated UV lamp!!**



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

Step 2: Disconnect from the power source.

Step 3: Remove the 13 screws with a socket wrench and flip the bottom plate carefully to the side. Remove the old UV lamp by pulling the ceramic parts of the lamp.



Step 4: Place new UV bulb by using a tissue. Reassemble the 13 screws carefully, do not over tighten.

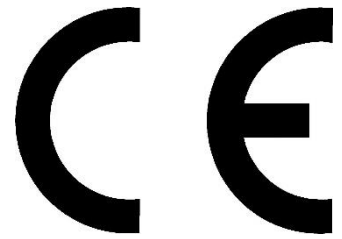




## 7. Specifications

<b>Handmate UV 1800</b>	
<b>General</b>	
Description	DecoRad® Handmate UV 1800
Brand	DecoRad®
Colour	Silver / black
Distance to object	2 - 35 cm
Cure path	20 cm
<b>Measurements and weights</b>	
Weight hand unit (kg)	Appx. 1,3
Measurements hand unit (cm)	26 x 26,5 x 16 (LxWxH)
Measurements power supply/switch unit/suitcase (cm)	58 x 39 x 28 (LxWxH)
Weight suitcase (kg)	Appx. 11,5
Total weight (kg)	Appx. 13,45
<b>Power supply</b>	
Power UV - ultraviolet (Watt)	1800
Power Voltage	110 - 250 Vac 50/60 HZ 10 – 20 Amp circuit
Cable powering (cm)	225
Cable from switch to hand unit (cm)	800
Electronic ballast	1-3,5 kW
<b>Lamps</b>	
Type UV-lamp	UV-1800 W
Number of UV-lamp(s)	1
Burning hours UV-lamp(s)	Appx. 500
Start-up time UV-lamp(s)	Appx. 60 seconds
Cool down-time	Appx. 7 minutes
Ozone free or ozone producing	At your choice
<b>Warranty (excluding (IR) &amp; UV lamp(s))</b>	
Manufacturer's warranty	1 year
Warranty type	Carry-in
<b>Inspections</b>	
CE Approved	✓
<b>Accessories</b>	
Standard	Service and repair manual, safety package, box.
Optional	Extension pole, support wheel.

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Declares fully under own responsibility that the equipment specified in this declaration complies with the conditions as defined in:

Machinery Directive : :2006/42/EC  
EMC Directive : :2004-108/EG  
Low Voltage Directive : :2006/95/EC

and the standards:

EN 12921-1:2005+A1 (2010) :Machines for surface preparation using liquids or vapors  
EN ISO 12100 (2010) :Safety of Machinery  
EN 61000-3-2 (2006) :Harmonic Current Emissions  
EN 60204-1(2006) :Electrical equipment of machines  
EN 61000-3-3 (2008) :Limitation of voltage changes, voltage fluctuations and flicker  
EN 61000-6-2 (2005) :Immunity for industrial environments  
EN 61000-6-3 (2007) :Emission standard for residential, commercial and light-industrial environments  
EN 61000-6-4 (2007) :Emission Standard for Industrial Environments  
Product :DecoRad® Handmate 1800  
UV drying/curing device  
Veenendaal, Date :06 May 2020  
Name :A.J. Maatkamp  
Function :General Manager Decorad Systems BV

A handwritten signature in blue ink, appearing to be 'A.J. Maatkamp', is written over a light blue rectangular background.