

User Manual

DecoRad® Floormate *LED* *GEN6*



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Preface

The DecoRad® Floormate LED is the safest and most advanced on-site LED curing machine on the market today.
It is used for curing LED oils in seconds !

DecoRad® Systems equipment is developed in close cooperation with coating companies and build with the latest technology.

DecoRad® Floormate

The standard in on-site UV & LED curing:

- 480 Watt output
- 40 cm cure path
- Motorized with adjustable cure speed
- CE marking
- Single phase electronics
- Compact, user-friendly and easily manoeuvrable (0° turning circle)
- Field replaceable spare parts
- Curing : LED oil
- LED's 395 nm, ozone free



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

Keep this user manual with the DecoRad® Floormate

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1. Introduction



Carefully read through this user manual before using the DecoRad® Floormate. Optimal safety is only guaranteed if the user instructions, as described in this manual, are observed. The DecoRad® Floormate can only be operated by sufficiently qualified personnel.

1.1 Related Documents

In addition to this user manual, the following documents come with the DecoRad® Floormate:

- **CE declaration**

These were included in the appendices of this user manual.

1.2 Manufacturer

The DecoRad® Floormate 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.

1.3 CE Marking

The DecoRad® Floormate comes with a CE marking. This means that the Floormate meets the fundamental safety demands of the European Community. See the appendix for the CE marking.

1.4 Guarantee

The manufacturer of the DecoRad® Floormate provides a 12 month carry-in warranty for parts and repair costs*. This warranty is only valid if the DecoRad® Floormate is used according to the specifications and the user and maintenance instructions are observed. Factory repairs are under Carry In conditions.

The DecoRad® Floormate warranty* lapses in case of:

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

UV & LED lamps do not fall under the factory warranty.

* At the discretion of DecoRad® Systems bv

1.5 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.

1.6 Liability

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

- Ignoring warnings or instructions as stated on the DecoRad® Floormate or as described in this user manual (including not correctly applying personal protection measures).
- The use of the DecoRad® Floormate for any other application or in any other circumstances than indicated in this user manual.
- Making any kind of alterations to the DecoRad® Floormate. 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 when using the DecoRad® Floormate, such as damage to products, business interruption, production loss, etc.

2. Safety

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

Possible injuries to the user if the instructions are not carefully followed.

2.2 Symbols on the DecoRad® Floormate

The following mandatory symbols can be found on the DecoRad® Floormate:



Always wear a UV protective DecoRad® face shield.



Always wear UV protective DecoRad® clothes



Always wear UV protective DecoRad® gloves



Surface can become hot when using the DecoRad® Floormate.



**Careful: UV light.
Do not look into the light**

2.3 Usage

The DecoRad® Floormate 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® Floormate can only be serviced by qualified personnel.



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

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

Examples of these are:

- The wheels (which should be undamaged and clean)
- Led's (dirt, dust and age causes a decrease in UV energy output.
(clean glass with IPA alcohol and paper tissue)

2.5 Safety Regulations

The DecoRad® Floormate meets the fundamental safety and health demands of the relevant guidelines of the European Community. However, in case of inexperienced or careless use, dangerous situations may still arise.



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 infrared, with a wavelength longer than that of red, is not visible but can be felt as (solar) heat. The ultraviolet or UV has a wavelength shorter than that of purple. This part of the UV radiation is not visible as well.

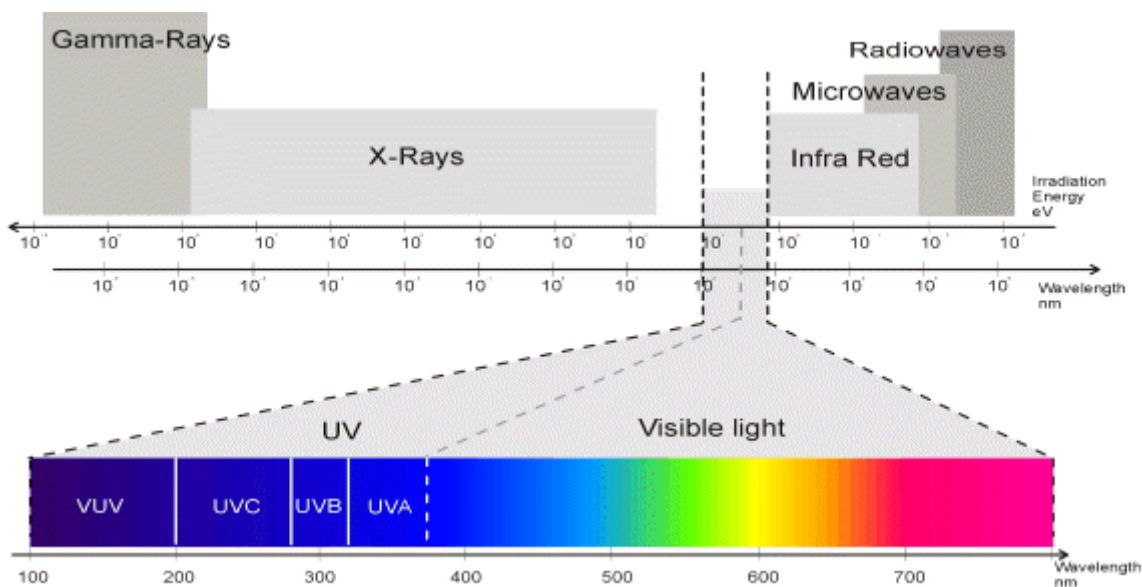
Most of the UV radiation we get comes through sunlight. Not all UV radiation reaches the earth: a part is blocked by the ozone layer.

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 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® Floormate.



Before switching on the DecoRad® Floormate, please ensure that the personal UV safety package as described in the user manual is used. The UV-resistant facial shield and skin covering clothes (including gloves) are obligatory.



The LED lamp unit emits heat; keep out of reach of explosive or highly flammable mixtures.



Make sure that the room where the DecoRad® Floormate will be used is properly lit and ventilated.



The Floormate should be lifted by 2 persons.
Fold down handle bar and secure to lift.
Never lift from the lamp unit.



Dirt on the LED glasses (e.g. from coatings or fingers) can shorten the life span of the lamp or reduce the UV energy output. If needed, clean the cooled down LED's with IPA alcohol and paper tissue.



Make sure the Floormate is visually checked (e.g. wheels, LED's, etc.)
Topple the DecoRad® Floormate over backwards and let it rest on the folded out handle bar.



Please make sure that bystanders without appropriate UV protection are at a safe distance of 10 meters / 33 ft.



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

3. Machine Description

This chapter describes the parts and operational use of the DecoRad® Floormate.

3.1 Function

The DecoRad® Floormate is the ultimate tool for instantly curing floor coatings, varnishes and oils. With the help of UV, it can instantly cure up to 250 square meter per hour (depending on the type of substrate, layer thickness and product). Please consult our website, www.decorad.com for a recent overview of suitable products!

3.2 Overview of the DecoRad® Floormate



1. Fold down handle bar
2. LED lamphouse
3. Adjustment levers for setting the height of the UV lamp
4. Display

3.3 Display



1. “ON” button: switch on
2. “OFF” button: switch off
3. “+ and –“ buttons (individual and/or together): set speed
4. “enter” button: confirm
5. “cancel” button: cancel
6. Emergency stop



3.4 Equipment and standard accessories

- UV-personal safety package
- Extension cord
- Custom-made flight case (for transportation)
- UV yellow Safety cones
- User manual

For optional accessories and spare parts check our website.

4. Putting into operation

Remove the Floormate from the transportation stand in accordance with the directions as indicated on the images below.

1. Pull to release the handlebar.
2. Place the handlebar into upright position and lock (secure) into red horizontal bar.



Drive the Floormate (tilted on black wheels) to the location where you would like to use it.

Power cable CEE – UL

1. Connect the supplied power cable with the blue connector to the DecoRad® Floormate as indicated on the images below.
2. ATTENTION: make sure the power cable connector is firmly connected to the blue machine outlet using the twist lock !

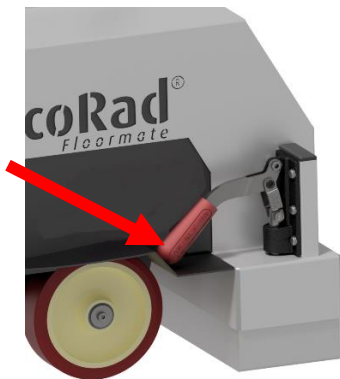


As soon as the power ON button on the display is pressed, the Floormate's electronics will start working.



Adjust the LED lamp to the right height by using the red adjustment levers.

The recommended LED lamp unit height is half way up



Skin & Eye protection.

Always wear protective clothing , gloves and a UV-resistant face shield during use. Make sure that bystanders remain at sufficient distance (10 meters)



5. Operation

5.1 Switching the DecoRad® Floormate On

Connect the power cable to the Floormate and the mains.

Press the Power On button in the rear of the Floormate next to the blue power connector
The software version will shortly appear on the screen and the ventilator will turn on.

Press the "on" button on the display.

The LEDs "Activated" and "Wait" will light up.



Software version



**Set the correct speed by using the "+" and "-" buttons.
Simultaneously press the "+" and "-".**

Now it is possible to set the speed.

+ is *faster*

- is *slower*

Confirm the set speed by pressing the **"enter"** button.

Cancelling can be done by pressing the **"cancel"** button.

Cure speed: ask your coating company

Cure speed: is shown in meters per minute

USA: Cure speed in feet per minute



As soon as the orange "standby" LED lights up, the Floormate is ready for use.
Drive the Floormate to the location where you would like to use it.







Always keep the Floormate in motion with burning LED's.

Press the left push button in the handle bar 1x.
The UV lamp will now go to full power LED's. (purple LED)

Press the right push button in the handle bar 1x.
*The Floormate will now start moving according the latest set speed.
The set speed will appear on the display whilst moving.*



-  When the Floormate is not moving for 4 seconds with the LED's on full power, the Error Code U92 including an acoustic beeping signal will appear on the display and the UV lamp will switch automatically to LED's off. Press enter to suppress this notification, and start moving the Floormate.
-  If the notification is not suppressed with enter, and the Floormate remains in "non movement" Error Code U93 will appear on the display, after which the Floormate's LED's automatically switches off.
-  Driving with the set speed is only possible with the LED's on full power.
-  Please consult chapter 6 for error messages.

5.2 Switching Off the DecoRad® Floormate

Press "Lamp" button on the handlebar; the LED's will switch off.
Press the "off" button on the display to switch off the DecoRad® Floormate, let cool until auto off.

Unplug the DecoRad® Floormate from the mains voltage.
Remove the power cable from the DecoRad® Floormate.
Press the red bar down to release the handle bar.
Fold the handlebar down and secure, pull red levers in highest position of the LED lampunit.
The DecoRad® Floormate is now ready for transportation.

6. Error Messages / tips

Troubleshooting:

- Have you read the manual?
- Starting the Floormate always begins with connecting the power cable with the Floormate to the correct power source
- Is the power cable plugged in correctly and firmly connected(outlet/connector)
- Please make sure that stable and sufficient voltage is available.
- Have you set the correct speed and height lamphouse (matching with the LED oil, please check with your supplier)?
- Turn OFF the Floormate wait for cool down and restart in case of unwanted or unexpected actions (=reset)
- When having bad curing results, please consult your oil supplier, or test with higher or lower position LED lampunit and cure speed !

Error	Description	Solution
General		If an error cannot be solved directly by pressing ENTER, Restart after cooling down
E01	Communication error	Please consult DecoRad® Systems bv
E11	Lamp driver fail	The lamp driver is damaged, please consult DecoRad® Systems bv.
E12	System fail	The electronics are damaged, please consult DecoRad® Systems bv
E13	Lamp fail	Switch off the Floormate, restart after cooling down.
E14	Temperature fail	The LED's are too warm, restart after cooling down.
E15	Fan fail	Please consult DecoRad® Systems bv
E18	Low voltage	Please connect to power source with more voltage
E21	Motor fail	Please consult DecoRad® Systems bv
U91	Tilt error	The Floormate is tilted too far. Press ENTER
U92	Non-movement error 4 seconds	The Floormate is not moving for 4 seconds whilst full power. The lamp will switch to dimming position. Press ENTER to avoid U93
U93 (after U92)	Non-movement error 15 seconds	The Floormate is still not moving after U92. The Floormate will shut down after 10 seconds. Restart after cooling down.

7. Specifications of DecoRad® Floormate

Brand DecoRad® LED - GEN6

Colour Silver / black

Cure path (cm) 40

Lamphouse height adjustable to floor ✓

Zero degree turn radius ✓

Adjustable digital cure speed in meters or feet ✓

Wheels with PU tyre ✓

Total weight (kg) Aluminium 43

Measurements (cm) 70 x 50 x 50 (LxWxH)

Power Voltage 110/240V 50/60 Hz 10/20 Amps

Cable powering provided (cm) 1000

LED lamp ✓

Ozone free ✓

Number of LEDS 480 pcs – 6 Watt

Burning hours LEDS 20.000+

Start-up time LEDS immediately

Manufacturer's warranty 1 year

Warranty type Carry-in

CE Approved ✓

Standard included

high quality flightcase, 2 safety cones, operator manual, extension cord, personal safety package

8. Service parts

8.1 Standard Delivery

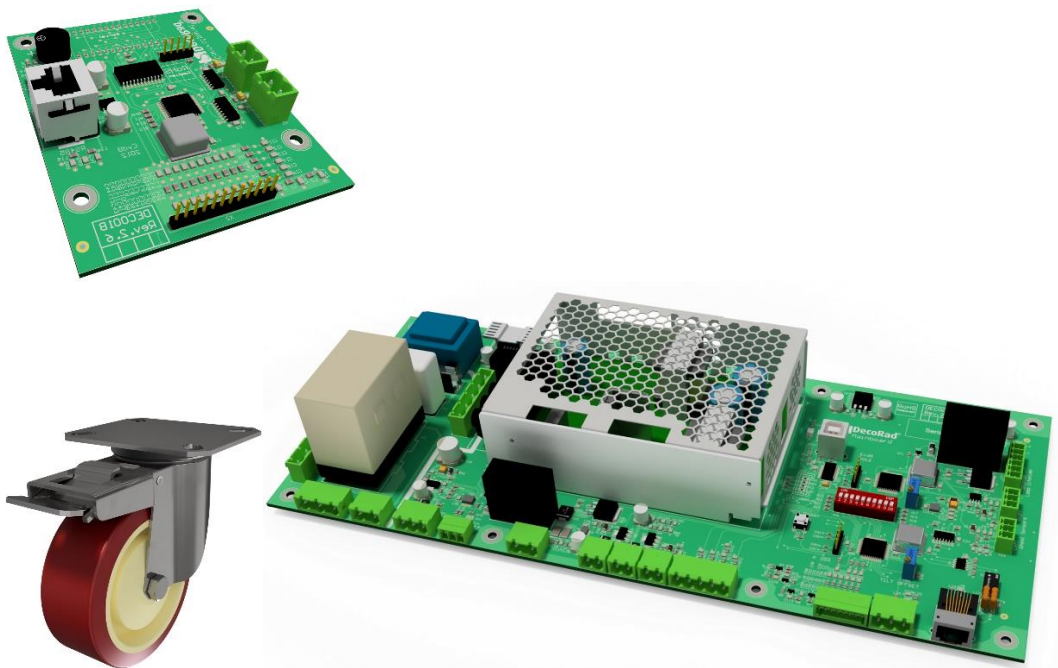
The DecoRad® Floormate is standard delivered with:

- Flight case (protection and transportation)
- 2 yellow Safety cones
- Operator manual
- Personal UV safety package
- Power cable

8.2 Field Replaceable Service Package

In order to prevent on-site downtime, the following package is optionally available.

- Spare PCB Mainprint or displayprint
(field replaceable by operator in 15 minutes, see chapter 9.1).
- Spare set of wheels
(field replaceable by operator in 10 minutes)
- *See website for prices and details*



9. Replacing Service Part

9.1 Replacing the Mainprint

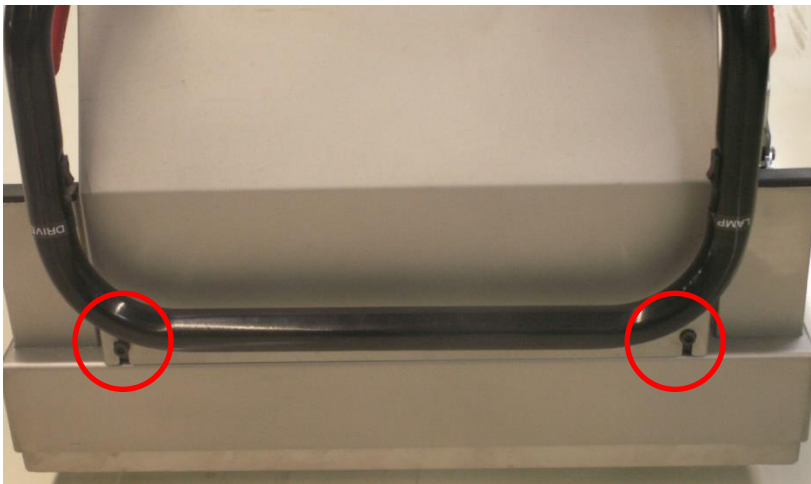


**Make sure the DecoRad® Floormate is cooled down
Remove the power cable**

1. Make sure the handle bar has been folded forward and is secured.



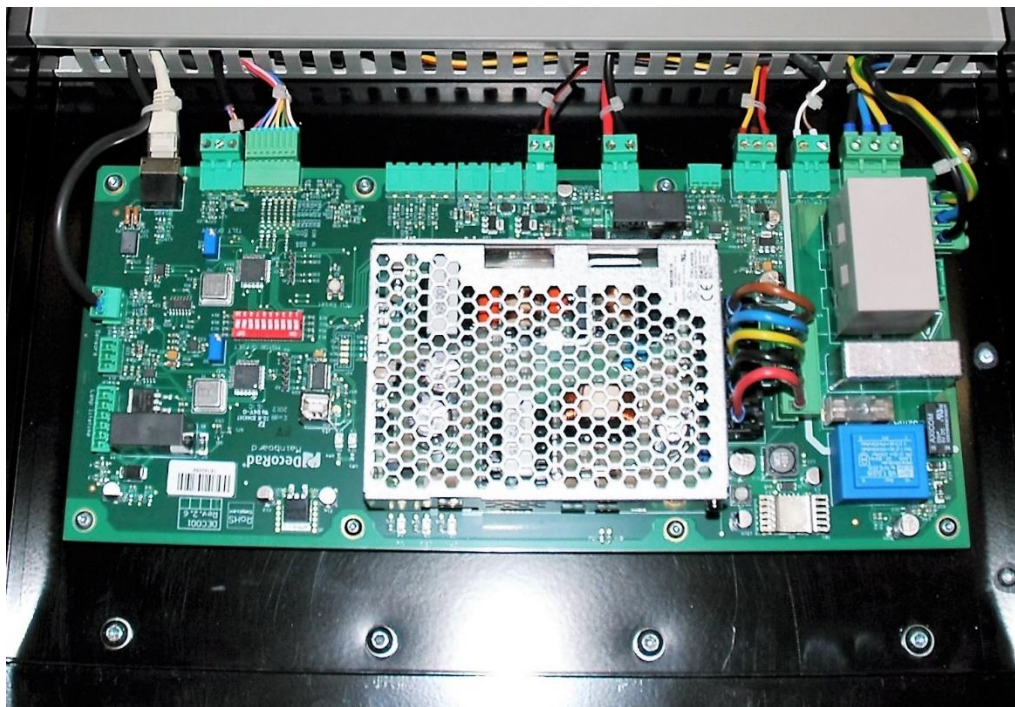
2. Half-loosen the 2 indicated socket head screws.



3. Open the lid.

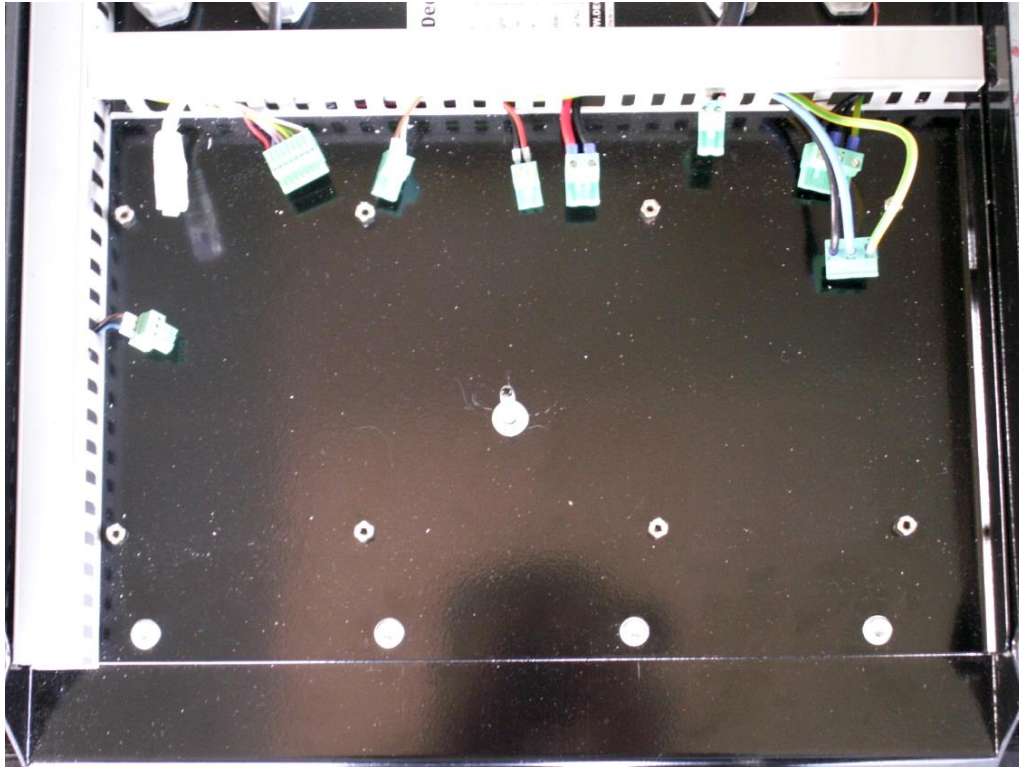


4. Carefully pull off all connectors by hand.
! LEAVE THE WIRES IN THE CONNECTORS!



5. Remove the 8 socket head screws with which the print is attached.

6. Remove the Mainprint from the DecoRad® Floormate

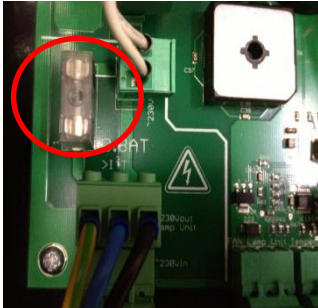


7. Place the new Mainprint into the DecoRad® Floormate.
8. Secure the Mainprint with 8 socket head screws into the DecoRad® Floormate.
9. Connect all connectors to the Mainprint.

9.2 Replacing the Fuses of the Mainprint

Follow the steps below for replacing fuses on the Mainprint.

1. Spare fuse is packed in a bag and is located inside the DecoRad® Floormate.
(1x 32mA)

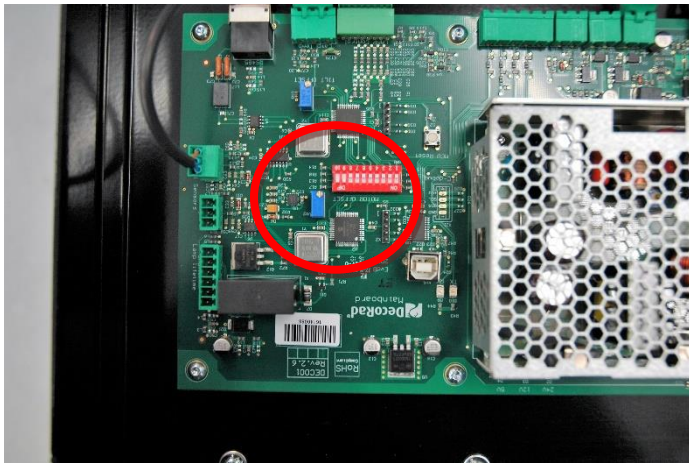


2. Remove the indicated fuse cap and then the fuse.
3. Insert new fuse.
4. Replace cap.

9.3 Calibrating speed

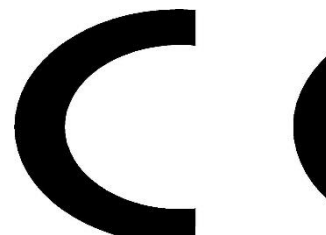
Please follow the following steps to calibrate the speed of the DecoRad® Floormate
(Check the speed frequently)

1. Put a range of 5 meters / 15 feet
2. Set the speed of the DecoRad® Floormate to – meters/ft per minute.
3. Measure for 1 minute the distance travelled.
4. If the distance deviates, adjust the potentiometer on the mainprint to set the right speed (circled in red)
5. Turn the screw on the potentiometer in little steps until the correct speed is achieved.



10. Appendices

10.1 CE Declaration



We DecoRad® Systems bv
Fokkerstraat 25
3905 KV Veenendaal
The Netherlands

Declare 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 vapours
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
EN 60204-1 (2006)	:Machines with Emergency-Stop function

Product	:DecoRad® Floormate
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