

User Manual

DecoRad® LED Linemate GEN3



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Preface

The DecoRad® Linemate is a small industrial line for curing UV LED (hardwax) oil up to a speed of 10-13 metres per minute depending on the LED (hardwax) oil used.

We are in close contact with institutes of knowledge and our partners to look at different techniques to cure coatings, including LED curing. The DecoRad® LED Linemate is the result of many years of experience and research.

- 1150 Watt power consumption
- 40 cm cure path
- Adjustable cure speed
- Board/plank detection sensor to UV LED unit ON
- Scanning height board/plank sensors with positioning module
- Overheating protection
- UV output protection

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



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

Keep this user manual with the DecoRad® Linemate.

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1. Introduction



Carefully read through this user manual before using the DecoRad® Linemate.

The DecoRad® Linemate can only be operated by sufficiently qualified personnel.

1.1 Manufacturer

The DecoRad® Linemate is manufactured by:

DecoRad® Systems bv

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www.decorad.com

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

1.2 Guarantee

The manufacturer of the DecoRad® Linemate provides a 12 month warranty for parts and repair costs*. This warranty is only valid if the DecoRad® Linemate is used according to the specifications and the user and maintenance instructions are observed.

The DecoRad® Linemate warranty* lapses in case of:

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

The normal replacement parts do not fall under the factory warranty.

* At the discretion of DecoRad® Systems bv

1.3 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.

1.4 Liability

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

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

2. Safety

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

2.2 Symbols on the DecoRad® Linemate

The following symbols can be found on the DecoRad® Linemate:



Electricity danger



Surface can become hot when using the DecoRad® Linemate.



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

2.3 Usage

The DecoRad® Linemate 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® Linemate can only be maintained 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 the this user manual. Intensity of the usage is decisive for the degree of maintenance.



Maintenance must be carried out every 3-6 months

*Make sure the Linemate stands on a solid surface and is **completely level**. All 4 support legs must touch the surface and be well secured.

*Conveyor belt must be adjusted correctly and kept clean. It is advisable to precisely align the Linemate with the rest of the equipment. (level)
Make sure the conveyor belt is not damaged.



MAIN POWER SWITCH OFF

Remove the UV-resistant grey polycarbonate cover every 3 months.

Cooling of the UV LED unit is very important !

Clean filters from all four LED-modules with a soft brush and compressed air.

Be careful with compressed air! Do not blow directly into the modules from short distance (due to the sensitive fans of the LED module).

Clean the LED optic lens with a IPA alcohol tissue.

When operating in a very dusty environment increase the frequency of maintenance.

2.5 Safety regulations

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



Always keep the UV-resistant cover closed during operation.



Never look directly into the UV LED light.

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. The effects of UV as a disinfectant have been extensively documented in scientific research. In addition to this, UV radiation is well-known for its application as a catalyst in drying processes

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.

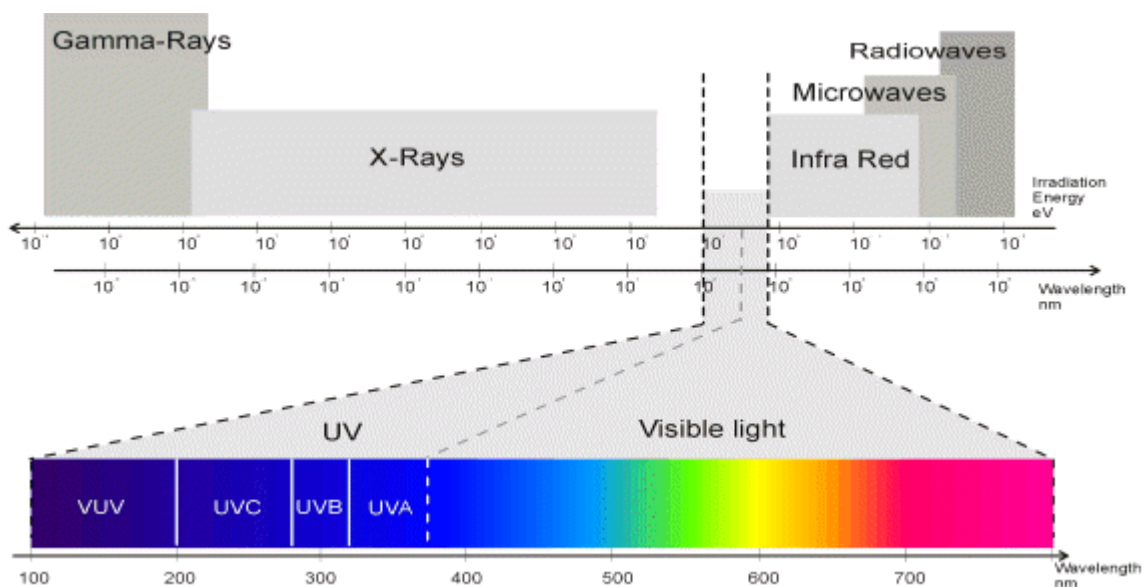
Most of the UV radiation we get comes through sunlight. Not all UV radiation reaches the earth: a part is blocked by the ozone layer.

2.7 Risks of UV radiation

Both UVA (like LED) and UVB can damage cells and genetic material, thus leading to skin cancer. 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, and 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.
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® Linemate.



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



In order to prevent damage to the DecoRad® Linemate and the user, the user is strictly prohibited to work with tools on the DecoRad® Linemate 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® Linemate.

3.1 Overview of the DecoRad® Linemate GEN3



1. Conveyorbelt with motordrive.
2. UV LED-unit UV-A 395 nm with UV-protective cover
3. Signal/control lamp
4. Height measurement to substrate sensor and unit
5. Control box/panel
6. Board/plank detecting sensor (activate UV LED unit)

3.2 Control elements on the control box

1. "Power ON" indicator
2. "OFF" / "ON" conveyorbelt
3. Set speed potentiometer (see speed diagram below)
4. "UV-ON/ UV-OFF"
5. "RESET" button after two seconds when mainpower is switched ON.
6. Emergency stop




Set speed diagram approximately

1 = 6 m/min or 20 ft/min
2 = 7 m/min or 23 ft/min
3 = 8 m/min or 26 ft/min
4 = 9 m/min or 29 ft/min
5 = 10 m/min or 33 ft/min
6 = 11 m/min or 36 ft/min
7 = 12 m/min or 40 ft/min
8 = 13 m/min or 43 ft/min
9 = 14 m/min or 46 ft/min
10 = 15m/min or 49 ft/min

4. Putting into operation

MAIN POWER SWITCH

- 1) Main switch to power **"ON"** position. 
Signal light on top will lit RED.
- 2) Push **"RESET"** **position 5**. The UV LED unit positions.
Signal flashing lamp GREEN.
- 3) Switch **position 2** for **"ON"** conveyor belt starts running.
No lamp signal.
- 4) Adjust speed if needed (potentiometer **position 3**)
- 5) Switch **position 4** choose **UV-On**.
Signal light on top becomes GREEN and Linemate is operational.



The UV LED unit will automatically activate when board/plank passes sensor on conveyor belt.
Distance UV LED unit to boards/planks is set automatically by sensors.



- ! No objects may be placed on or against the UV-resistant cover.
- ! The boards/planks to be treated must not be twisted or bent.
- ! Automatic overheating protection of the UV LED unit (signal light red / acoustic alarm)
- ! Automatic UV LED curing output monitoring (signal light red / acoustic alarm)

5. Service

For technical questions and trouble shooting please contact Service and Support by email service@decorad.com

For urgent questions please contact us by phone:

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