NEW PRODUKT

SurALux 3000

LIGHT-CURING BOX

New Generation

for UVA-cured doming resins, coatings und adhesives ✓

- Material curing within minutes
- Curing surface up to 38 x 42 cm
- 8 UVA Tubes
- Digital Timer
- Two integrated baking papers

CE





SurA Chemicals
Passion for Chemistry

Product Information

SurALux 3000 Light-curing Box

*The **SurALux 3000** light-curing box is CE marked and complies with the provisions of all applicable directives, regulations and conformities. The conformity declaration is attached as a hard copy to the purchased device.*

The following document provides the introduction, application and technical information of the **SurALux 3000** light-curing box.

1. General

SurALux 3000 is an advanced, fully equipped light-curing box and is appropriate for massive quantity productions.

The light-curing box is equipped with a curing area of up to DIN A3+ format, eight UVA-light tubes and digital timer and is, therefore used for the hardening of 3-dimensional stickers in large production quantities.

SurACer® 4460 is the Isocyanate-free, highly flexible and resistant to weather and UV-light doming resin with a very long pot- and storage time, used together with the SuraLux light-curing box technology. The doming resin provides under the irradiation of the **SurALux 3000** light-curing box, transparent, very flexible and optically brilliant protective coatings for either screen-, digital-, sublimation- or transfer printings applications on plastics, metals, glass and ceramics. The very short light-curing time shortens the entire manufacturing process required, in comparison to state-of the-art products.

Provide high quality, visual value and that extra feel of luxury to your doming labels, 3D Stickers or any other promotional articles, in any shape or color. Give your product its own identification using the **SurALux 3000** light-curing box and the SurACer® series doming resin.

Light-curing Box Equipment	
Quantity	**Description**
1	SurALux 3000 Light-curing box
2	Baking paper 420 x 380 mm
8	UVA-Light tube
1	Power supply cable 220 V

Table 1

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Product Information

2. Safety Instructions

When operating with the **SurALux 3000** light-curing box, the application and safety instructions must be always complied!

Warning!

Electric current!

Contact with live or current-conducting parts, damages of insulation and disassembling the electrical device can be life threatening.

Warning!

UVA radiation!

Do not look directly at the UVA-light source and for a long time

Warning!

Hot surfaces!

Surfaces of components, such as the UVA-light tubes can become very hot during operation. Skin contact with hot surfaces causes serious injuries.

3. Doming Resin

The Isocyanate-free SurACer® 4460 doming resin is a solvent-free, low-viscosity protective coating based on a highly reactive SH/en system. The doming material contains a tremendous long pot-life and is cured, in combination with the SurALux light-curing boxes, within minutes. The doming material provides transparent, very flexible and optically brilliant protective coatings for either screen-, digital-, sublimation- or transfer printings applications.

To obtain the optimum SurACer® 4460 properties, the correct mixing process & mixing ratio, storage, pot-life and curing procedure of the material must be followed. Before use, it is strongly recommended to consult the product- and application information for the SurACer® 4460 doming resin.

4. Dispensing process

The processing and dosing of the SurACer® 4460 doming material can be performed manual, such as with squeeze-bottles, syringes, manual or pneumatic pinch valves and digital dispensers, or automatic with doming robots and dispensing units.

During dispensing, the resin will flow independently on the article to be domed up to its edges, regardless its shape or size. If the desired height is not reached, redispense carefully.

For eventual overruns of the doming resin outside the article to be domed, wipe up the resin with an absorbing material and recoat the article. For cleaning surfaces, the SurAChem® 5380 special cleaner is to be used.

While dispensing, eventual air can be trapped in the resin mixture. The resulting bubbles can be removed with a sharp object, such as knife-, metal- or glass- tips or, alternatively, with a pipette.

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5. Light-curing Box

SurALux 3000 is an advanced, fully equipped light-curing box with eight UVA-light tubes, digital timer and a curing area of up to 420 x 380 mm and is, thus, appropriate for large productions. Table 2 displays the material´s technical characteristics.

SurALux 3000	
Input voltage:	230 V AC
Size:	534 x 483 x 210 mm
Curing time:	8 - 10 min
Curing area:	420 x 380 mm
UVA-light:	8 tubes each 36W (ca.305-420 nm)
Standards:	CE
Fuse :	4 Ampere
Timer:	Digital adjustable

Table 2

5.1 Initial Start-up

- Unpack the **SurALux 3000** light-curing box and place it on a stable work surface.
- Inspect carefully the device for eventual damage and verify the delivery of all associated and evtl. additional purchased items.
- Pull the drawer out up to its stop position and inspect the interior of the device (Fig. 1).
- Plug the power-supply cable in the socket of the device and in the 230 V mains (Fig. 2).
- Switch on the power "I / O" on the backside of the device (Fig. 3).

5.2 Operation

- Pull the drawer outwards up to its stop position and place on it the baking paper with the respective foil. The baking paper and the drawer have a common mark, indicating the orientation the baking paper shall be inserted in the drawer. The baking paper shall always be cold or hand-warm and the self-adhesive foil must lie appropriate on it.

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- Push the drawer with the baking paper on it inwards up to its stop position and set the curing time with the digital timer (figure 4). The display indicates "0: 00: 00". The left "0" indicates the set-time for the range of hours (for this application not required). The two zeros "00" displayed in the middle indicate the set-time for the range of minutes and the two zeros "00" displayed on the right indicate the set-time for the range of seconds.
- After the setting of the curing time the curing process starts with the "START / STOP" button. The internal cooling of the light-curing box with the integrated fan start after approx. one minute. The display shows the remaining curing time.
- The light-curing process can be interrupted and once more set on operation at any time via the "START / STOP" button, regardless the adjusted time.
- After completion of the curing process, an acoustic signal sounds and the display indicates the last setting of the time-range. The curing process is completed and the cured article can be removed. The internal ventilation runs for about three minute after the completion of the curing process. **Attention!** It is not allowed to pull the drawer out during the curing process.
- **Attention! The device heats up during the curing processes! Make sure you give the light-curing box periodically time to cool.**

Figure 1

Figure 2

Figure 3

Figure 4

5.3 Digitaler Timer

The setting of the curing time is performed with the "PROG" button. By pressing the button once, the set-time "0" for the hours blinks (for this application not required). **Attention!** Curing times with the hours set-time activated lead to overheating and damage of the light-curing box and, therefore set the device in serious risk.

By pressing the button twice, the set-time "00" for the minutes blinks. The curing time can be adjusted with the buttons "+" and "-". The maximum curing time shall not exceed ten minutes.

By pressing the "PROG" button a third time, the set-time "00" for the seconds blinks. The curing time can be adjusted with the buttons "+" and "-". By pressing the "PROG" button a fourth time, the curing time is set and the numbers do not blink anymore.

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5.4 Curing Process

The curing process is performed within 8-10 minutes under UVA-light irradiation. This time-period depends on the surface area and height of the dome and must be determined experimentally before proceeding to mass production. Factors that affect the necessary exposure time are:

- thickness of the layer used
- size of the curing area
- type of film used
- temperature of doming resin applied

Doming articles with diameters of 2.5 - 3.0 cm and layer thicknesses of 1.4 - 1.5 mm are in general recommended.

For the achievement of the material properties stated by the manufacturer, it is absolutely necessary to use the specified doming resin (SurACer® series), developed exclusively for this purpose. The doming resin SurACer® 4460 impressively enhances the decorative effect of printed motives on polyester, PVC, and metallic foils as well as on aluminum or plastics, obtaining a crystal-clear, shiny and tack-free surface after their curing process under the **SurALux 3000** light-curing box. Except SurACer® 4460 doming material, also the SurACer® 4497 scratch-resistant coating can be processed with the **SurALux 3000** light-curing box.

A fingernail test will reveal whether the hardening process is completed (no depression possible) or not. If there is still liquid present in the interior of the dome, the resin is not fully cured and needs to be further exposed. This exposure time should be extended in gradual stages, each of which will afterwards be once more inspected. Eventual overexposure after the hardening process is completed is not critical.

The following guideline presents some of the common exposure times:

Type	Layer thickness	Surface	Approximate time
Label	1.0 – 2.0 mm	1 - 10 cm²	6 - 8 min
Label	1.5 – 2.0 mm	10 - 100 cm²	1 + 1 + 6 min curing with pauses
Script	1.5 – 2.5 mm	up to 60 mm length	7 min
Script	1.5 – 2.5 mm	> 60 mm length	1 + 1 + 5 min curing with pauses
Area	1.0 – 2.0 mm	d = / <60 mm	7 min
Area	1.5 – 2.5 mm	d> 60 <150 mm	1 + 1 + 1 + 6 min curing with pauses

Note: For large areas, the curing time should be divided (curing with pauses) to avoid damage caused by shrinkage on the surface (i.e. 7 minutes = 1 + 1 + 1 + 4 minutes). The above application examples shall be always verified with individual tests.

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5.5 After Curing Completion

After the curing process is completed, the baking paper with the cured articles are removed. To ensure adequate heat dissipation from the chamber, the drawer can remain open / partially open, until the next curing process begins. After the process is entirely completed, the light-curing box is turned off by pressing the "I / O" switch on the backside of the devise to "O" position.

6. Tube replacement

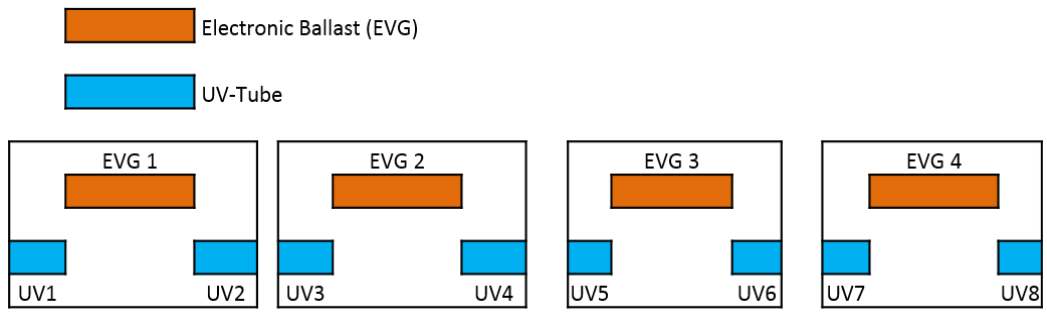
The **SurALux 3000** light-curing box is equipped with ten UVA-tubes, each with 36 W power and a wavelength of ca. 340-450 nm. The intensities in this spectrum-area are so selected that the light-irradiation reacts with the specific doming resin series manufactured by the company.

6.1 Principle

The **SurALux 3000** light-curing box consists of eight UVA-tubes connected to four electronic ballasts (EVG):

UV1 and UV2 with EVG1, UV3 and UV4 with EVG2…, UV7 and UV8 with EVG4 (see Scheme 1).

- A UVA tube is defect, then two UVA tubes lying next to each other do not illuminate
- The EVG is defect, then two UVA tubes lying next to each other do not illuminate
- A connection between UVA tube and EVG is loose, then two UVA tubes lying next to each other do not illuminate. **Attention**! Eventual repair of the EVG and its connections, as also electrical components of the device, may only be performed by e qualified electrician
- If no UVA tube illuminates and the digital timer has no indication, then the fuse is defect (a spare fuse is located in the on-off switch)



Scheme 1

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6.2 Example

- UV1 and UV2 do not illuminate
- UV1 or UV2 is defect (the possibility that both tubes are defect is very low)
- To check this perform the following test (before starting, switch off the light-curing box and unplug it from the mains)
- Pull out UVA-tube UV1 und UVA-tube UV3 from their mounting sockets until they disengage (first remove the safety straps), then place UVA-tube UV1 in the socket of UVA-tube UV3
- UVA-tube UV1 is illuminating, UVA-tube UV1 functions. If UVA-tube UV1 does not illuminate, then the tube is defect
- Pull out UVA-tube UV2 und UVA-tube UV3 from their mounting sockets until they disengage (first remove the safety straps), then place UVA-tube UV2 in the socket of UVA-tube UV3
- UVA-tube UV2 is illuminating, UVA-tube UV2 functions. If UVA-tube UV2 does not illuminate, then the tube is defect
- If both UVA-tubes function but none of them illuminates, the respective EVG is defect or a connection among them is loose. **Attention!** Eventual repair of the EVG and its connections, as also electrical components of the device, may only be performed by e qualified electrician

6.3 Tube replacement

In case of a burned UV-light tube, that must be changed in order to further operate with the light-curing box. Furthermore, it is recommended to replace the tubes if the curing procedure exceeds the period of 10 minutes permanently.

- Switch off the device and disconnect the power-supply cable from the mains
- Let the device cool sufficiently before replacing the respective tube (the unit heats up during curing process)
- Pull the drawer out up to its stop position
- Remove the safety strap and pull out the damaged UVA-light tube from the socket mounted until it disengages. **Attention**! In some cases you must remove neighbouring UVA tubes, in order to reach physically the tubes to be replaced
- Insert the new UVA-light tube and push it firmly to the mounted sockets until it engages. Reposition the safety strap. After mounting the UVA-light tubes, close the device´s drawer.

7. Warranty

The **SurALux 3000** light-curing box has a bring-in warranty of 24 months from the day of sale.

The warranty covers:

- Material damages
- Functional damages
- Damages caused during transportation

The warranty will not apply in case of:

- Defects caused by improper use or misuse of the device, including the UVA tubes and fuses.
- Incorrect or careless insertion of the UVA light-curing tubes or installation of parts not purchased from the manufacturer.
- Claims for replacement of processed materials with the purchased product, consequential damages or components out of production.
- Damages during transportation and incomplete deliveries. Such cases must be immediately reported written to the supplier (Fax: 03641-352929), as also the shipping company. In any other case apply the general terms & conditions and warranty terms & conditions of the supplier.
- A necessary return of the device to the supplier applies only in its original package and the respective disposable- or Euro pallet.
- Before eventual return-transport, the light-curing box is to be filled with bubble wrap (or similar) protecting the UVA-light tubes. In case the device is not placed in its original package during return-transport, the customer is to be charged for eventual device damages. The supply of accessories or repair is organized by the supplier.

For eventual questions or doubts concerning your product, we encourage you to get in touch with SurA Chemicals GmbH.

The technical consultation given by SurA Chemicals GmbH, verbally or written, is based on the company´s best knowledge and shall only be considered as non-binding advice, also in respect of the protected rights of third parties. The company´s technical consultation does not release the customer from own examination concerning the suitability and usability of the company´s product. The manufacturer's liability extends solely to the value of the products supplied by SurA Chemicals GmbH and applied by the customer.

SurA Chemicals GmbH guarantees its products to be of perfect quality as stated in its general terms and conditions of sale and delivery.

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