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VarseoWax TRAY

INSTRUCTIONS FOR USE

Partners in Progress

BEGO

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VarseoWax Tray

Resin for 3D printing of customised impression trays.

1. Intended use / Indication

VarseoWax Tray is an acrylic acid-based monomer for the production of customised 3D printed impression trays. Suitable for printing of all types of customised dental impression trays.

2. Contraindications

VarseoWax Tray should not be used for any purposes other than the production of customised dental impression trays. Any processing which deviates from that described in the instructions for use can have negative consequences on the chemical and physical quality of VarseoWax Tray. Please contact a practitioner/doctor if an allergic reaction or intolerance occurs.

3. Safety instructions

VarseoWax Tray is produced and tested according to the most stringent quality standards. In order to ensure optimum further processing, please read the information contained in the instructions for use carefully. Improper use and failure to observe the information can have a detrimental effect on the quality. Nitrile gloves, safety goggles and a coat must be worn as a means of protection when handling the resin and the plastic that has not been post-cured yet.
The safety and care instructions set down in the VarseoWax Tray instructions for use and safety data sheet shall apply to the handling of liquid resin and printed objects that have not been post-cured (objects in the "green condition"). A dust mask must be worn too due to potential dust formation while the printed objects are being processed.
It is prohibited to use plastic parts made of VarseoWax Tray as auxiliary equipment for food and drink applications.

CE

4. Side effects and precautions

Inhalation

Irritates the respiratory organs. High concentrations can lead to irritation of the respiratory passages, dizziness, headaches and loss of consciousness.

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Skin contact
Sensitisation or irritation are possible from contact with the skin. Repeated and/or extended skin contact can cause inflammations.

Eye contact
High air concentrations can lead to eye irritations.

Swallowing
Low oral toxicity; ingestion can, however, lead to irritation of the gastrointestinal tract.

Precautions/Protection
It is essential that protective clothing be worn when handling VarseoWax Tray. Safety goggles and nitrile gloves must be used. Further information on handling the product can be found in the safety data sheet and also downloaded from the BEGO Download Centre at www.bego.com. However, we cannot completely rule out the possibility of personal reactions to individual components in isolated cases. In such cases, the respective user should discontinue use of the VarseoWax Tray. If intolerances or allergies occur upon contact with the patient, the material should not be further used on the patient.

WARNING

Information on hazards as per MSDS
- Causes skin irritation
- May cause an allergic skin reaction
- Causes serious eye irritation
- May cause respiratory irritation
- May cause long lasting harmful effects to aquatic life

Safety instructions as per MSDS
- Avoid inhaling aerosol
- Wear protective gloves/eye protection
- Call a POISON CENTRE or doctor/physician if you feel unwell
- If skin irritation or rash occurs: Get medical advice/attention
- If eye irritation persists: Get medical advice/attention
- Dispose of contents/container as per local and national regulations

Contains:
Poly(oxy-1,2-ethanediyl), alpha, alpha'-[(1-methylethylidene)di-4 1-phenylene]bis[omega-[(2-methyl-1-oxo-2-propenyl)oxy]-; phenyl-bis (2,4,6-trimethylbenzoyl)-phosphine oxide

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5. General information on handling

Delivery

VarseoWax Tray is supplied in light-tight, sealed bottles.
Filling quantity:

- REF 41013 = 1 kg

Please check the following points on receipt of the goods:

- Integrity of the bottle/pack
- Quantity
- Shipping documents and designation

Storage

VarseoWax Tray must be stored in the original sealed bottle at room temperature (approx. 22 °C) in a dark, dry place. It must be ensured that the temperature does not drop below +5 °C and does not exceed +35 °C! The minimum shelf life date printed on the product must be observed. Perfect processing cannot be guaranteed if materials which have exceeded their minimum shelf life date are used.

6. Processing

VarseoWax Tray is one of the system components in the BEGO Varseo 3D print system and has been optimised for use in the Varseo 3D printer. The printing settings can be found in the instructions for use for the respective equipment.

Note: Ensure a minimum wall thickness of 2 mm when designing!
For further information on waxing up and processing, please refer to the guidelines on the production of customised dental impression trays using the 3D printing method (REF 82089)*.

Please wear protective gloves (nitrile gloves), protective clothing, goggles and/or face protection during processing!
The ideal working temperature range for VarseoWax Tray is between 20 and 30 °C. **The material must be shaken thoroughly for approx. 5 min before being poured into the clean Varseo container.** If not shaken sufficiently, this can lead to colour deviations in the tray material.
When decanting, make sure that the printing resin is exposed to daylight for as short a period of time as possible.
For further processing – selecting the resin, setting up the print job – as part of the printing process, follow the respective Varseo printer instructions for use. **Before starting any printing procedure, VarseoWax Tray must be mixed so as to form a homogeneous mixture. Before each print job, check that there are no solids (fillers) on the cartridge film. Deposited solids**

*The waxing-up software shown as an example in the guidelines is 3Shape; useful tips for exocad users can be found in the "exocad wiki" at wiki.exocad.com

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can have a detrimental effect on the printing results. The resin can be mixed using the blank cards from BEGO (REF 19551). Alternatively, a silicone spatula can also be used. Avoid using sharp objects such as metal spatulas so as not to damage the film!

Subsequent processing
On completion of printing, the print objects are detached from the build platform by actuating the ejector** and/or using the spatula supplied. The print object should be cleaned in two steps with ethanol (96 %) using an ultrasonic bath.

Note: Never fill ethanol directly into the ultrasonic bath; place it in the recommended container (REF 19621) in the ultrasonic bath filled with water. Use an explosion-proof ultrasonic bath.

1. Clean the print object for 3 min in a reusable ethanol solution (96 %) in an **unheated** ultrasonic bath.
2. The precleaned print object must be cleaned thoroughly for 2 min using a fresh ethanol solution (96 %). The print object is then removed from the ethanol bath and sprayed with additional ethanol (96 %) in order to rinse off any remaining resin residue fully. **Tip:** Resin residues can also be removed using a brush soaked in ethanol (96 %).

The entire cleaning process should not take longer than 5 minutes as this could otherwise have a detrimental effect on the print objects. After cleaning, the print object is dried using compressed air, if possible under suction. If there is liquid resin still adhering to the print object, this can be completely removed by spraying again with ethanol (96 %) and re-drying.

Finishing
The support structures are then removed. To this end, either a cutting wheel or side cutters can be used. It must be ensured that the printed object is not deformed!
The completely cleaned print objects must be post-cured to attain the required material properties and biocompatibility.
The final properties of the print object depend on the post-curing process.
The final material properties are achieved using light polymerisation units with the following performance data: two xenon stroboscopic lamps, flash frequency 10 Hz, light spectrum 300–700 nm (e.g. BEGO Otoflash) or one Xenon stroboscopic lamp, flash frequency 20 Hz, light spectrum 390–540 nm (e.g. HiLite Power, Heraeus Kulzer).

** Varseo and Varseo L cartridges

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VarseoWax Tray		
Post-curing device	BEGO Otoflash (with protective gas)	HiLite Power
Flash	2 x 2,000	–
Time [seconds]	–	2 x 180

Note: The use of the BEGO Otoflash (REF 26465) results in a further reduction of the already low remaining monomer content due to the use of the protective gas function. In doing so, the protective gas function should be set to switch position 1. Details can be found in the instruction manual for the post-curing device (REF 86089).

Recommended post-curing process in steps:
1. Remove the supports and finish the tray surface
2. Place on the model and check fit
3. Post-cure the outer surface of the tray with 2000 flashes or 180 seconds
4. Turn the tray and cure the inner surface with 2000 flashes or 180 seconds
5. Smooth and clean the tray surface

Note: The times given only apply to regularly maintained equipment that guarantees a corresponding light intensity.

7. Storage and transportation of printed objects

The fully cured print objects should ideally be stored at room temperature away from light and transported in a suitable, light-tight transport box!

8. Cleaning in the dental laboratory and dental practice

Fully cured tray material made of VarseoWax Tray can be easily cleaned and disinfected. Steam cleaning (e.g. with Triton SLA) is possible. Disinfection in the immersion bath is also possible (e.g. with alcoholic disinfectants and an exposure time of up to 15 minutes). It must be ensured that the disinfectant is suitable for the material.

9. Disposal

The cured, separated material (base plate, support structure) can no longer be used. Cured material can be disposed of as domestic waste. Unused resin or ethanol used for cleaning with resin residues must be disposed of via the local waste disposal authority or a hazardous waste collection point stating the safety data sheet.

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10. Material properties and scope of delivery

Physical data			
Colour	opaque blue	Flexural modulus	≥ 1,500 MPa
Density	approx. 1.12 g/cm³	Layer thickness	100 µm
Viscosity	1,100 mPa*s	Charpy impact strength	≥ 3 kJ/m²
Flexural strength	≥ 50 MPa	Wavelength	405 nm

Scope of delivery				
	Contents	**Unit**	**Qty**	**REF**
VarseoWax Tray	1 kg	bottle	1	41013

11. Equipment

VarseoWax Tray has been designed for use in the Varseo printers from BEGO Bremer Goldschlägerei Wilhelm-Herbst GmbH & Co KG.

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12. Label symbols

 Manufacturer

Batch code

Catalogue number

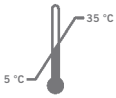
 Protect from sunlight

 CE mark

 Consult instructions for use

 Minimum shelf life

 Warning



Storage and transport temperature

For professional use only

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BEGO Bremer Goldschlägerei Wilh. Herbst GmbH & Co. KG
Wilhelm-Herbst-Str. 1 · 28359 Bremen, Germany
Tel. +49 421 20 28-0 · Fax +49 421 20 28-100
www.bego.com · E-Mail: info@bego.com

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