Index

Headquarters
Brüsseler Straße 51
45968 Gladbeck
Germany
Phone +49 2043 98 75 11
Fax +49 2043 98 75 99
support@envisiontec.de

EnvisionTEC, Inc.
15162 S. Commerce Dr.
Dearborn, MI 48120
USA
Phone +1 313 436-4300
Fax +1 313 436-4303
www.envisiontec.de

Material description

Purpose

The purpose of E-Model Light is to produce dental models and aligner models for dental applications that will be used for Dental prostheses and orthodontic appliances.

Dental model

aligner model

orthodontic model

Preparation of material

E-Model Light should be storage and processed at room temperature. To neutralize the separation of the material components on the bottom of the bottle, the material bottle has to stand in an Ultrasonic bath for 5 – 10 minutes. Afterwards, the bottle needs to be shake well and mixed thoroughly on a bottle-roller with ceramic balls inside the bottle for minimum 30 minutes. Ensure that the material has no air pockets or bubbles; this could cause bad results on the final object.

This procedure needs to be done before every refill of the material in a basement.

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The material inside the basement need to be mixed well before every building process, otherwise there could be sedimentation on the bottom of the basement.

Ensure that the storage temperature is not lower than 23°C; this could cause a less reactive material and could have a negative effect of the quality of the component. Too high temperature causes a rapid aging process and reduces the period of use of material.

If a further building job is started not immediately, the material should be mixed and refilled to the bottle through a filter to avoid that cured particles are going back into bottle.

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Equipment for successful parts building

- Filter
- Ceramic balls
- Bottle roller
- Ultrasonic bath
- Isopropanol for cleaning
- Incubator
- Postcuring-unit

Job preparation

- For E-Model Light we advise to use a Buildstyle of 0,1 mm voxel thickness for aligner models and 0,05 mm voxel thickness for dental models
- For a correct shrinkage compensation, an L-shape adaptation is necessary (edges parallel to the build platform).
- It is highly recommend printing dental models horizontal orientated.

Machine preparation

- The E-Model Light resin needs to warmed up to room temperature
- Projector brightness of the Perfactory® 4 DDP series needs daily to be set to 180 mW/dm², UV.
- Projector brightness of the Perfactory® 4 LED series needs daily to be set to 225 mW/dm².
- Projector brightness of the Perfactory® P4K series needs daily to be set to 250 mW/dm².
- The Vida series, the Micro series and the EnvisionOne series do not need a daily adaption of the projector brightness.

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Parts post-processing

Cleaning procedure with Isopropanol

- Parts can be pre-purified with used Isopropanol for approx. 2 min in an ultrasonic bath. For better cleaning, parts can be dried with compressed air.

- The post purifying process takes place in clean Isopropanol for approx. 2 min. Subsequently, the part has to be dried again with compressed air.

Attention:
The part should not stay longer than 5min in Isopropanol. Otherwise, shatter cracks develops.

Cleaning procedure with Propylene Carbonate (PC)

Models can be cleaned using propylene carbonate as an alternative to 99% isopropyl alcohol. For information that is more detailed please see the document "Technical Guide - Post-Processing: Cleaning Propylene Carbonate (PC)".

- Use two containers: one for propylene carbonate and one for water (use room temperature tap water).
- Fill the containers 1-2 inches (need to be filled enough to submerge models).
- Parts can be pre-purified by placing them in the propylene carbonate container in an ultrasonic bath for 5 minutes, low heat.
- Dry the models with compressed air.
- Place models in the second container (water) in an ultrasonic bath for 5 minutes, low heat, dry afterwards with compressed air.

Attention:
Do not leave models to soak longer than necessary.

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Drying process

The parts need to be completely dried and should have no residues of the resin. Afterwards, they need to be placed in an incubator for 30 minutes with 37°C.

Re-hardening process

Post curing via Otoflash G171

- 2 x 300 flashes

All data are just guidelines. The optimal re-hardening process needs to be figured out by the user himself.

Isolation/Release agent for E-Model Light models

We recommend no specific isolation or release agent. "Vaseline", Siliform (Trigroup Technologies) or any other release agent can be used. Please follow the Instruction for Use for this from the manufacturer.

Attention:
If you are using colored powder/liquid for this application it is possible that the used color discolor the model

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