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# zDental Cast

## Instruction for Use

### Product Discription:

zDental Cast is a light-curing resin for the fabrication of castable dental models using 3D LCD printers utilizing wavelengths between 385nm–405nm. zDental Cast is used to print castable removable denture supports, crowns and copings, and other prosthetic cases. zDental Cast is a fast-printing resin with properties of excellent precise, easy-cleaning, complete ablation at high temperature and no ash residue.

### Intended Use:

Castable crowns, castable copings, castable removable denture supports

### Color and Package:

Green, 500ml/bottle

### Contra-indications:

zDental Cast contains (meth)acrylate and phosphine oxide which can cause allergic reactions at skin contact. In case of an allergic reaction, please contact a medical physician.

### Use and Safety Information:

1. Wear nitrile rubber gloves and a face mask when using this resin.
2. Keep the room ventilated.
3. Swallowing such as eating and drinking is forbidden in the printing place.
4. Avoid liquid or uncompletely cured resin directly contact with skin. If contact with skin occurs, wipe resin away and wash thoroughly with cold water, use hand sanitizer or soap to assist in washing. If the users still feel uncomfortable, please see a doctor immediately.
5. If the user accidentally splashes the resin in the eyes, flush with plenty of water and seek medical attention immediately.
6. More safety details please refer MSDS of this resin.
7. The good using temperature for this resin is 21 – 25 °C . Keep the resin away from direct  
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sunlight or any kind of UV light.

## Processing printed parts:

### Mixing resin before using:

In Bottle: Shake bottle vigorously prior to pouring into resin tank.

In resin tank: Stir resin with a soft spatula. Take care not to damage the film of the resin tank.

This step is necessary to avoid getting bad printing job caused by the (possible) pigment sediment from the bottom of the vessel.

After cast is printed, it is recommended to restore the remaining resin into bottle and avoided leave the resin in the resin tank for a long time.

### Preparation:

Prepare a print job using slicing software, such as Uniz Dental, Uniz Desktop or Uniz Maker, in depending with the UNIZ printer type. zDental Cast can be printed in layer thickness of 100µm.

For more information, please refer to the Uniz Dental Software Guide ([www.uniz.com](http://www.uniz.com)).

### Printing:

Turn on the printer and ensure it well. Check and clean build platform, resin tank, LCD printing screen. Put the resin tank filled with mixed resin onto the LCD printing screen, and fix the tank well onto the screen. Upload the slicing file into printer through USB or WIFI, then start printing.

For more information, refer to the printer instructions ([www.uniz.com](http://www.uniz.com)).

## Post-processing:

### Detaching printed parts:

Once the printing process has ended, a dripping time of resin approximately 10 min is recommended, using a soft spatula to remove the resin residue on the build platform into resin tank. Then, carefully detach the printed objects from the build platform.

### Washing:

Wash parts in IPA bath with at least 98% purity. Best results are achieved when using a pre and post wash. UWash ultrasonic cleaner is recommended for washing parts.

- Pre-wash bath: 1 minute. After using, if the IPA density increases 5%, alternate clean IPA for this pre-washing step.

- Post-wash bath: 1 minute, always use clean IPA for each post-washing step.

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If necessary, a dedicated soft brush can be used to help for removing residual resin.

**Drying:**

Use compressed air to dry parts. If residual resin remains, repeat the “washing-drying” steps.

Ensure parts to dry thoroughly before post-curing.

**Post-Curing:**

Post-curing is an UV-LED light treatment to ensure that printed parts obtain optimal polymer conversion, decreasing the residual monomer of printed parts to a minimum and obtaining the required mechanical properties and surface properties.

UCure, a post-cured device from UNIZ, is recommended to cure parts. Both the two sides of the printed parts are needed to be post-cured. Firstly, cure the unsupported side of printed parts with support structure and allow the printed parts to cool down to room temperature, then remove supports by same tools, finally cure the supported side and cool the printed parts down to room temperature for further operation. Insufficient cooling can distort the shape of the printed parts.

- One side: 1 minute, level 1, UCure

- The Other side: 1 minute, level 1, UCure

**Finishing and Polishing:**

Use a fine-toothed carbide bur or wheel rotary and handpiece to sand the support stubs. Once the surface is finished to satisfaction, polish and smooth the outside of printed parts for patient comfort.

For achieving a smooth surface, the printed parts should first be pre-polished with pumice stone.

Then remove any pumice dust and remnants under running water with a dedicated soft brush.

Finally, use a buffer and high-lustre polishing compound without exerting excessive pressure to polish the object to a high smooth surface.

**Final cleaning:**

Clean the printed parts thoroughly. Firstly, use a dedicated soft toothbrush with neutral soap and room temperature water to clean the printed parts. Finally, soak the pre-cleaned parts into unheated water and clean it with ultrasound bath.

**Disinfection:**

For disinfection, the finished parts can be soaked into 70% IPA less than 5 minutes.

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## **Storage:**

Stored in dark place where avoid direct sunlight or any kind of UV light, environment temperature is recommended around 15 to 28°C, and environment humidity is less than 45%RH.

Do not use resin which exceeds the expiry date.

## **Disposal:**

Dispose liquid resin waste in accordance with local regulations.