



Printer compatibility 385nm (UV) / 405nm



Health hazard



Use by date



Batch number



Product reference



Store at 15°C - 30°C



Avoid direct sunlight



Instructions for use



Caution. See references

## Instructions For Use – DentaCAST – Part Number: PN / 04748

### Introduction:

The following instructions for use are for dental professionals who use Asiga DentaCAST as a material for investment casting & ceramic pressing applications. This instruction for use also provides information about safety and environmental aspects. In case more information is needed, contact the reseller.

### Intended Use:

Asiga DentaCAST is intended exclusively for professional dental work.

Asiga DentaCAST is a 3D print resin intended for the manufacturing of 3D printed investment casting patterns.

Asiga DentaCAST is not intended for medical use. The casting patterns produced are suitable for the manufacture of dental devices in metals via investment casting, including partial frameworks, crowns and bridges; and the manufacture of dental devices via ceramic pressing, such as crowns, bridges & veneers.

### Description, Indications & Effects:

Asiga DentaCAST is intended to be used in combination with DLP based 3D printers (i.e. Asiga Max Series or Asiga Pro Series) that support Asiga resins. Printer and resin must be optimized with respect to each other in order to produce complete and precise printed parts. If the printer and resin are not optimized with respect to each other this may have an adverse effect on the accuracy and physical quality of printed parts. DLP based 3D printers and post-curing lightboxes make use of a light source to polymerize the Asiga resin. Therefore, operators are advised to wear UV protective glasses when operating a 3D printer and/or lightbox. Differences in colour nuance may occur due to: production in batches; inadequate shaking and mixing of the original packaging before use; inadequate stirring in the DentaCAST resin before use; insufficient post-curing.

### Contra-Indications:

Asiga DentaCAST should not be used for any other purpose than as a 3D print resin for the manufacturing of dental investment casting and pressing patterns. Any deviation from this instruction for use may have an adverse effect on the chemical and physical quality of Asiga DentaCAST. In case of an allergic reaction, please contact a medical physician.

### Hazard & Precautions:

Please refer to Asiga product safety data sheet for DentaCAST. For material SDS or technical assistance, contact your Asiga resellers or open a support ticket in your account online <https://www.asiga.com/accounts/support/>

### Processing & Post-Curing:

Ensure the 3D printer is clean prior to use, including the imaging area and any optical surfaces. Ensure the material tray is clear of solid debris prior to commencing a print. The presence of solid particles in the resin may cause deformation or failure of the printed objects. Nitrile gloves should be worn at all times when handling Asiga liquid resins up until the finishing step. Avoid contact with skin. If contact with skin occurs, wash thoroughly with cold soapy water. If contact with eyes occur, remove any contact lenses and flush with cold water and seek immediate medical assistance.

### Mixing Before Use:

In Bottle: Agitate/shake bottle vigorously prior to pouring for at least one minute.

In Material Tray: Stir material with a soft spatula. Take care not to damage the film of the Material Tray.

This step is necessary to re-disperse the (possible) pigment sediment from the bottom of the vessel.

Colour deviation and print failures may occur if insufficiently mixed.

### Fill Material Tray:

Ensure the temperature of the resin is between 15 and 30°C / 59 and 86°F and prevent exposure to direct sunlight.

Pour the resin into the material tray of the 3D printer.

### Printer Settings:

Asiga DentaCAST is optimised to build parts using light with 385nm or 405nm wavelength.

For Printer Settings, See manual or user guides of Asiga 3D Printers (Asiga Max Series or Asiga Pro Series).

Ensure the film of the Material Tray is clear of any debris before starting the print.

Ensure you are using the latest material ini file. You can access the latest material ini file for this material in your Asiga account online here:

[https://www.asiga.com/accounts/#tab\\_material](https://www.asiga.com/accounts/#tab_material)





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**Washing:**

Wash parts in at least 98% pure Isopropyl alcohol (IPA) in a well ventilated area.

Best results are achieved when using a pre and post wash. Either steps 1 or 2 can be processed to achieve desired results.

1. Using glass/suitable containers, agitate manually:
  - Pre-wash: Agitate in IPA for 4 to 5 minutes.
  - Post-wash: Agitate in IPA for 4 to 5 minutes.
2. Using an ultrasonic cleaning device:
  - Pre-wash bath: 3 minutes.
  - Post-wash bath: 3 minutes.

Important: Ensure a dedicated bath is used for washing DentaCAST parts. Do not wash in IPA that has previously been used for washing other materials. Allow parts to dry thoroughly before post-curing. Extended soaking in IPA may cause parts to lose their colour, weaken, or develop surface cracks.

**Post-Curing:**

1. After washing and drying, let the printed parts rest for at least 10 minutes to ensure the printed parts are free of alcohol residue.
2. Place the printed parts in a UV curing unit for final polymerization for 20 minutes. Asiga flash post-curing box is suitable. Please see Asiga Flash unit user guide.
3. When optionally using the NK Optik Otoflash G171 post-curing system, cure for 2000 flashes, then allow the parts to cool for 5 minutes before turning over and curing for an additional 2000 flashes. Total: 4000 flashes (2 x 2000 flashes). Place parts inside Otoflash chamber on the support mesh, do not use a plastic tray inside the chamber.

Post-curing is an UV-light treatment to ensure that DentaCAST printed parts obtain optimal polymer conversion. Through this the residual monomer is reduced to a minimum and the required mechanical properties are obtained. Inert gas is not required. Parts may optionally be submerged in glycerol to facilitate surface cure.

**Investment Casting:**

Follow the investment and burnout cycles recommended by the investment manufacturer.

**Storage Conditions, Expiry Date & Transport:**

Store the resin in the original packaging at room temperature in a dry, cool and dark area. Close the packaging after each use.

The expiry date of the product is mentioned on the product label along with the lot number.

Store on printer for up to 4 weeks with hood closed or store in bottle for up to 36 months in a cool dark place.

The product performance is no longer guaranteed once the expiry date is exceeded. Do not expose to UV-light.

Standard transport conditions apply to this product. There are no restrictions for transport related to hazardous substances.

**Waste Disposal:**

Asiga resin in its polymerized form is not environmentally harmful thus can be disposed of in general waste. Asiga resin in its liquid state should be treated as chemical waste. Special disposal requirements are applicable, check with your local, federal, or other regulatory agencies for disposal requirements.

**Delivery Units:**

Asiga DentaCAST is available in 1 colour only: Green, 1kg.