






IFU NextDent[®] Cast

3D Print resin for the manufacturing of castable parts.

Explanation of symbols

 EN Batch code	 EN Manufacturer
 EN Keep away from sunlight	 EN Consult instructions for use
 EN Use-by date	

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Intended use

NextDent Cast is for dental professional use only and intended as dental casting material. The product is indicated exclusively for professional dental work.

Description & Effects

NextDent Cast can be used in combination with 3D VAT polymerization printers (e.g., NextDent 5100) that support NextDent resins.

Performance characteristics

NextDent Cast is a monomer based on acrylic esters for manufacturing of 3D-printed castable parts. Suitable for printing all types of castable parts.

Contra-indications

NextDent Cast should not be used for any other purpose than casting only. Any deviation from this instruction for use may have negative effect on the chemical and physical quality of NextDent[™] Cast. The product is contra-indicated to people allergic to acrylic derivatives.

Warnings

- Do not use when the package is damaged.
- Differences in color nuance may occur due to:
 - production in batches
 - inadequate shaking and mixing of the original packaging before use
 - inadequate stirring in the resin tray before use
 - insufficient post-curing
- If printer and resin are not optimized for each other this may have an adverse effect on the accuracy and physical quality of printed parts.



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- Wear UV protective glasses when operating the 3D printer and/or lightbox.
- Use nitrile gloves when handling the NextDent resins up until the finishing step.
- Any deviation from this instruction for use may have an adverse effect on the quality of the product.
- Vertex Dental is not responsible for any adverse effects, safety or performance issues when not following the manufacturer's instructions for use.
- Use the product before its use-by date.

Hazard & Precautions



Hazardous ingredients

methacrylate ester monomer; (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate; 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide; Exo-1,7,7- trimethylbicyclo[2.2.1]hept-2-yl acrylate; Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl methacrylate.

Hazardous statements

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 - Wear protective gloves, eye protection, face protection.

P302+P352 – IF ON SKIN: wash with plenty of soap and water.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P273 - Avoid release to the environment.

P391 - Collect spillage.

Processing & Post-curing

Make sure that you work as clean as possible, dirty reservoirs or equipment can cause deformation and therefore failure of the printed objects!

Mixing



Shake the bottle for a few minutes prior to use. The mixing is necessary to disperse the resin and the pigments. Color deviation and print failures may occur when shaken insufficiently.



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Fill printer reservoir



Make sure the temperature of the resin is between 18 and 28 °C / 64 and 82 °F and prevent exposure to (sun)light. Pour the resin in the reservoir of the 3D printer. Do not mix different batches of the same product.

For printer settings see manual of 3D Printer



Follow the instructions for use of the 3D printer (e.g. User guide NextDent 5100).

Remove printed parts from platform



When the 3D printer has finished its program remove the building platform from the machine. Place the platform on some paper or cloth. The printed parts can now be removed from the platform using a suitable tool.

Cleaning printed parts - Step 1



Wash the printed parts for 3 minutes with ethanol to remove any excess resin, using the NextDent Wash, an ultrasonic bath or comparable wash-system.

Cleaning printed parts - Step 2



Clean for another 2 minutes in clean ethanol (>90%). The total cleaning time in ethanol should not take longer than 5 minutes, as this may cause defects in the printed parts.

Post-Curing



After cleaning, let the printed parts rest for at least 10 minutes to make sure that the printed parts are free of ethanol residue. Then place the printed parts in a UV-light curing box for final polymerization (e.g., NextDent LC-3DPrint Box or NextDent Cure). Post-curing is a UV-light treatment to ensure that NextDent printed parts reach complete polymerization. This way, residual monomer content is reduced to a minimum and the required mechanical properties are obtained.

Specific curing time for NextDent LC-3DPrint Box and NextDent Cure

UV-light Box	NextDent material	Curing time	Temperature
LC-3DPrint Box	NextDent™ Cast	5 minutes	60°C/ 140F
NextDent Cure	NextDent™ Cast	15 minutes	Ambient

Please notice that the UV-light box and the 3D printer need a routine maintenance following the manufacturer instructions.

Finishing

Remove any support structures and finish the cured parts using conventional dental methods and instruments. NextDent 3D printed cured parts should be cleaned with non-aggressive and non-abrasive cleaning products.

Casting

NextDent Cast can be used in combination with most common dental investment materials. NextDent Cast will burn without residue at a minimum of 800°C over a 90 minute period.

Storage and transport conditions

Store the resin in the original packaging or in a closed resin tray garage, at room temperature in a dark area. Close the packaging after each use. Do not expose to UV-light. Standard transport conditions apply to this product.

Waste disposal

NextDent resins in its polymerized form are not environmentally harmful. NextDent resins in its liquid state should be treated as chemical waste. Special disposal requirements are applicable, check your local, federal, or other authority for disposal requirements.

Information for dental professionals and patients

- Do not use the product when you have a known allergy for acrylics or acrylic derivatives.
- In case of an allergic reaction, do not use the resin or the device. Contact a medical physician.
- Clean the device with non-aggressive and non-abrasive dental cleaning products.
- Should any serious incident or injury with the patient occur, report this to Vertex Dental and competent authority.

For more information contact the reseller.

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