

## Instruction For Use

### NextDent™ Cast

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#### Preface

The following instructions for use are for dental technicians, dentists and orthodontists who use NextDent™ Cast as a dental casting material. NextDent™ Cast is intended exclusively for professional dental work. This instruction for use provides also information about safety and environmental aspects, a safety datasheet is available on [www.nextdent.com](http://www.nextdent.com) and at local dealers. In case more information is needed about the processing of NextDent™ Cast material contact the NextDent Office. Also see information at the end of this document.

#### 1. Introduction

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

#### 2. Description and effects

NextDent™ Cast can be used in combination with all laser and DLP based 3D printers which support NextDent materials.

#### 3. Contra-indication

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. In case of an allergic reaction, please contact a medical physician.

#### 4. Hazard & Precaution (H & P phrases )

**Inhalation:**

Sensitizing to respiratory system

**Skin contact:**

May cause sensitization by skin contact

**Eye contact:**

High vapor concentration may cause irritation.

**Protection:**

Wear protection when handling NextDent™ Cast. Protective glasses and nitrile gloves are advised. Information about the handling of the product can be found in the safety datasheet, which is available on [www.nextdent.com](http://www.nextdent.com).

Hazard Phrases:	H317	May cause an allergic skin reaction
	H319	Cause serious eye irritation

#### 5. Storage conditions, expiry date and transport

Store the product in the original packaging at room temperature in a dry and dark area, preferably not exceeding 25°C. Close the packaging after each use. The expiry date of the product is mentioned on the product label. In case of exceeding the expiry date, the product is no longer guaranteed in terms of treatment.

#### 6. Processing/ postcuring

We advise to use nitrile gloves when using NextDent™ Cast until post-curing.

Before using NextDent™ Cast, make sure to shake the product in the original packaging for approximately 5 minutes. Color deviations may occur when shaken insufficiently.

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

Pour the liquid material in the reservoir of the 3D-printing machine. Start the machine. Follow the instructions for use for the printer. These are delivered together with the printer. When the machine has finished its program remove the building platform from machine Place the platform on some paper or cloth with the builded jobs facing upwards. The printed jobs can now be removed from the platform using a putty knife. Rinse the printed jobs twice in an alcohol solution (96%) to get rid of any excess material, making use of an ultrasonic bath. Rinse the first time for three minutes, second time for two minutes The second rinse must be carried out with a clean alcohol solution (96%). Rinsing in alcohol solution should not take longer than 5 minutes, as this will cause defects in the printed parts.

After cleaning make sure the printed part is dry and free of alcohol residue. Then place the printed jobs in a UV- light curing box for final polymerization. Time of curing depends strongly on type of lamps/ lightbox used. The final properties and also final color depend on the post curing process. Post-curing is an UV-light treatment to ensure that NextDent materials obtain full polymer conversion, through this the residual monomer is reduced to a minimum and the highest mechanical properties are obtained.

This procedure is a necessary step. We strongly advise to make use of the Vertex-Dental™ LC-3DPrint Box

### Specific curing time NextDent™ Cast

NextDent Material	Time min.	Wavelength nm	Total output Light Watt	UV lightbox output W*sec=J kJ
Cast	5	Blue UV-A + UV-Blue 315-400 + 400-550 nm	UV-A 108 UV-Blue 108	129,6

The specifications of the NextDent materials are determined on the basis of test plates, produced on the DLP 405 3D printer. With the corresponding settings which are registered in the software. Please notice that the light sources and the printing machine need a routine maintenance following the manufacturer instructions.

### 7. Finishing

Remove any support structures and finish jobs if necessary, using conventional dental methods and instruments. Differences in color nuance may occur due to production in batches of the raw material and product, inadequate shaking of the original packaging before use or insufficient postcuring.

### 8. Casting.

NextDent™ Cast can be used for the casting of all types of dental metals. Making use of phosphate-bonded investing materials. We recommend Shera RP™ or VarseoVest P from BEGO. NextDent™ Cast will burn without residue at a minimum temperature of 550 °C over a 45 minute period.

### 9. Plastic and packaging waste

The product NextDent™ Cast in its polymerized form is not harmful for the environment. Residual waste material in its liquid state should be delivered to a collection point for chemical waste material.

### 10. Cleaning and disinfecting instructions

NextDent 3D-printing material should be cleaned with non-chemical products. If disinfecting before intended use is required, an ethanol solution can be used.

### 11. Delivery units

The product NextDent™ Cast is available in the following packaging size: 1000gr.

### Explanation of symbols on labelling

	: Keep away from sunlight
	: Batch number of product
	: Consult instructions for use
	: Manufacturer
	: Use-by date

**Distributor**

NextDent B.V. Centurionbaan 190 3769 AV Soesterberg The Netherlands	Telephone	: +31 88 616 04 40
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**Manufacturer**

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