

# Structo Denture Base

## Instructions for Use (IFU)

### 3D Printing Resin for Denture Base

#### For Professional Dental Use Only

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#### 1. Introduction

This document provides Instructions for Use (IFU) for **dental professionals** utilizing *Structo Denture Base* resin in the **3D printing of denture bases**. It also includes guidelines on safety, handling, and environmental precautions. For further assistance, contact the manufacturer or an authorized reseller.

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#### 2. Intended Use and Indications

- For **professional dental applications only**.
  - Designed for the **additive manufacturing** of **denture bases** using Structo **MSLA Dentaform** or compatible **DLP 3D printers**.
  - Intended for use in **removable dentures for adult patients**.
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#### 3. Product Description and Considerations

- Compatible with **Structo MSLA Dentaform**, SLA, and DLP 3D printers.
  - For optimal results, ensure **printer and resin are properly calibrated and validated together**.
  - Suboptimal combinations may lead to **reduced accuracy and mechanical performance**.
  - **UV light** is required for curing.
  - **Color variations** may result from:
    - Batch-to-batch variability
    - Inadequate mixing
    - Poor stirring within the tray
    - Incomplete post-curing
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#### 4. Contraindications

- Not suitable for applications other than denture base manufacturing.
  - Misuse can compromise **chemical and mechanical integrity**.
  - In case of allergic reaction, discontinue use and seek **medical attention** immediately.
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## 5. Hazards and Precautions

- Refer to the **Safety Data Sheet (SDS)** for detailed safety information.
  - Always wear **nitrile gloves** when handling liquid resin.
  - Avoid contact with skin or eyes:
    - **Skin contact:** Wash with soap and cold water.
    - **Eye contact:** Remove contact lenses, flush with cold water, and seek emergency care.
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## 6. Preparation and Post-Curing

### Before printing:

- Clean printer optics and tray.
- Remove solidified particles that may interfere with printing.

### Post-curing:

- Required UV light wavelength: **385 nm**.
  - Use only **Structo-recommended post-curing equipment**.
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## 7. Resin Mixing Instructions

- **In Bottle:** Shake vigorously for **at least 1 minute** before each use.
- **In Tray:** Gently stir with a soft spatula to prevent sedimentation.

**⚠** *Do not damage the tray film. Improper mixing may result in color irregularities and print defects.*

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## 8. Filling the Material Tray

- Use resin at temperatures between **15°C – 30°C (59°F – 86°F)**.
- Avoid direct sunlight exposure.
- Pour gently into the resin tray to minimize bubbles.

## 9. Printer Settings

- Optimized for light sources at **385 nm wavelength**.
  - Refer to Asiga printer documentation for specific settings for:
    - **Asiga Max Series**
    - **Asiga Pro Series**
  - Ensure:
    - Tray film is clean and free of debris.
    - Latest material .spj file is used.
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## 10. Washing Instructions

- Wash printed parts using **≥98% pure isopropyl alcohol (IPA)** in a well-ventilated environment.
- Use **dedicated IPA baths** for Structo Denture Base.

### Ultrasonic cleaning protocol:

- Pre-wash: **2 minutes**
- Post-wash: **2 minutes**

**⚠** *Allow parts to dry completely before post-curing.*

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## 11. Post-Curing Procedure

1. Dry washed parts thoroughly with **compressed air** to remove IPA residue.
2. Place parts in **NK Optik Otoflash G171** curing unit.
3. Cure first side for **2000 flashes**.
4. Allow parts to cool, flip, and cure second side for another **2000 flashes** (Total: 4000 flashes).
5. Use support mesh (not plastic trays) in the chamber.

Inert gas is **not required**. Proper post-curing enhances polymer conversion and minimizes residual monomer.

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## 12. Soaking (Hydration)

- After post-curing, soak parts in **fresh, drinkable water** at **room temperature** for **60 minutes** to ensure optimal biocompatibility.
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### 13. Bonding of Artificial Teeth

Artificial teeth printed with **Structo Permanent Crown resin** can be bonded:

- **Before or after post-curing**
- Using **Structo Denture Base resin** as adhesive

#### Procedure:

1. After washing and drying, apply fresh resin to bonding area.
2. Position the tooth to ensure the gap is filled.
3. Remove excess resin with a **lint-free, dry cloth**.
4. Repeat **post-curing and soaking** steps.

Bond at ambient temperature for best color matching.

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### 14. Finishing

- Remove supports and finish using standard **dental rotary tools** compatible with plastic materials.
  - Do not exceed the **tool manufacturer's recommended speed**.
  - Clean using **water or ethanol**.
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### 15. Storage, Shelf Life, and Transport

- Store in **original sealed packaging** at **room temperature**, in a **cool, dry, and dark** location.
- Close lid after each use.

#### Storage duration:

- Up to **4 weeks** in printer (with hood closed)
- Up to **36 months** in bottle

#### Important:

- Check **expiry date** and **lot number** on the label.
- Do not use expired resin or expose to UV light.

- No special transport conditions required (non-hazardous material).
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## 16. Waste Disposal

- **Cured resin:** Dispose of as general waste (non-hazardous).
  - **Liquid resin:** Treat as **chemical waste**.
  - Follow **local hazardous waste regulations** for proper disposal.
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## 17. Patient Communication

Dental professionals must inform patients that:

1. Regular check-ups are necessary to assess denture fit and oral health.
  2. Broken dentures may cause injury to the mouth or esophagus. Seek prompt care.
  3. Any signs of allergic reaction should be immediately reported to a physician.
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## 18. Reporting of Adverse Events

Any **serious incident** related to the use of Structo Denture Base must be reported to:

- The **manufacturer**, and
  - The **competent authority** in the country where the patient or user is located.
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## 19. Delivery Format

- **Color:** Pink
  - **Packaging:** 1 kg bottle
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