


Formlabs Form 2 Custom Tray Resin



Formlabs Form 2 Custom Tray Resin User Guide

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Formlabs Form 2 Custom Tray Resin



Specifications

- **Material:** Light-curable polymer-based resin
- **Designed for:** Fabricating biocompatible, short-term use, removable dental appliances
- **Intended Use:** Dental impression trays
- **Manufacturer Part Number:** PRNT-0098 Rev 02

FAQ

Frequently Asked Questions

- **Q:** Can I use a different brand of resin tank or mixer with Custom Tray Resin?
 - **A:** To ensure biocompatibility compliance, it is recommended to use the dedicated resin tank and mixer validated by Formlabs for this resin.
- **Q:** What should I do if my printed parts have defects or imperfections?
 - **A:** Check the printing parameters, resin cartridge, and cleanliness of the equipment. Adjust settings in PreForm software if needed, and ensure proper post-processing steps are followed.

Custom Tray Resin is a light-curable polymer-based resin designed for fabricating biocompatible, short-term use, removable dental appliances such as dental impression trays by additive manufacturing. This Manufacturing Guide will give equipment, printing and post-processing recommendations and requirements to ensure the correct and safe usage of this material.

Specific Manufacturing Considerations

Custom Tray Resin specifications have been validated using the hardware and parameters below. For biocompatibility compliance, validation used a dedicated resin tank and mixer, build platform, wash unit and post-processing equipment that were not mixed with any other resins.

1. Hardware:

- **Formlabs 3D Printer:** Form 2, Form 3B/3B+, Form 3BL, Form 4B
- **Print Accessories:** Formlabs Build Platforms, Formlabs Resin Tanks

2. Software:

- Formlabs Preform

3. Printing Parameters:

1. **Part Orientation:** Intaglio surface facing away from the build platform
2. **Layer Thickness:**
 - Form 2, Form 3B/3B+, Form 3BL: 200 µm
 - Form 4B: 100 µm
3. **Part Thickness:** 2 mm minimum

4. Recommended Post-Processing Equipment and Accessories:

- **Formlabs Processing Accessories:** Form Auto, Resin Pumping System
- **Formlabs Validated Wash Unit:** Form Wash, Form Wash (2nd Generation), Form Wash L, Ultrasonic Wash Unit
- **Formlabs Validated Cure Unit:** Form Cure, Form Cure L, Fast Cure

Using Instructions

PRINTING

1. Shake cartridge: Shake the cartridge before every print job. Color deviations and print failures may occur if the cartridge is shaken insufficiently.
2. Set up: Insert resin cartridge into a compatible Formlabs 3D printer. Insert resin tank and attach mixer to the tank.
3. Printing:
 - Prepare a print job using PreForm software. Import desired part STL file.
 - Orient and generate supports.
 - Send the print job to the printer.
 - Begin print by selecting a print job from the print menu. Follow any prompts or dialogs shown on the printer screen. The printer will automatically complete the print.

PART REMOVAL

Remove the build platform from the printer. To remove parts from the build platform, wedge the part removal tool under the printed part raft, and rotate the tool. Formlabs Build Platform 2 or Build Platform 2L may be used for easy, tool free removal. For detailed techniques visit support.formlabs.com.

WASHING

Place the printed parts in a Formlabs-validated wash unit with 99% Isopropyl Alcohol.

1. Form Wash, Form Wash (2nd Generation) – High speed*, or Form Wash L:
 - Wash for 10 minutes or until clean.
 - If parts do not appear clean after washing, consider replacing used Isopropyl Alcohol in the wash unit with fresh solvent.

For Form Wash (2nd Gen), High speed settings are validated for use.

2. Ultrasonic Wash Unit:

NOTE: Using Isopropyl Alcohol in an ultrasonic bath presents a risk of fire or explosion. When using an ultrasonic wash read and follow all safety recommendations from the ultrasonic wash manufacturer.

- Use clean 99% Isopropyl Alcohol for each wash.
- Place parts in a secondary disposable plastic container or plastic resealable bag then fill with 99% Isopropyl Alcohol, ensuring parts are fully submerged.
- Place the secondary container in the ultrasonic unit water bath and sonicate for 2 minutes or until clean*

Washing efficacy depends on the ultrasonic unit size and power. Formlabs testing was conducted with ultrasonic units at 36 W/L or higher.

DRYING

1. Remove parts from Isopropyl Alcohol and leave to air dry at room temperature for at least 30 minutes.
 - **NOTE:** Dry times can vary depending on the design of parts and ambient conditions. Do not let parts sit in Isopropyl Alcohol for longer than needed.

2. Inspect printed parts to ensure that parts are clean and dry. No residual solvent, excess liquid resin or residue particles should remain on the surface before proceeding to subsequent steps.
3. If the residual solvent is still present, dry parts longer. If resin residue is still visible, rewash parts until clean and dry.

POST-CURING

Place the printed parts in a Formlabs-validated post-curing unit and cure for the required time.

1. Form Cure or Form Cure L:
 - Cure for 30 minutes at 60 °C
 - Allow the Form Cure or Form Cure L unit to cool down to room temperature between cure cycles.
2. Fast Cure:
 - Cure for 5 minutes at Light Intensity 9
 - Allow the Fast Cure unit to cool for at least 10 minutes between cure cycles.

SUPPORT REMOVAL & POLISHING

1. Support marks can cause abrasion if not removed and polished. Remove supports using a cutting disk and handpiece, cutting plier, or other appropriate finishing tools.
2. Inspect the parts for any cracks. Discard if any damage or cracks are detected.

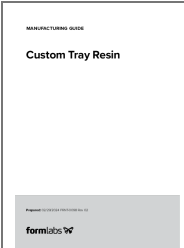
CLEANING & DISINFECTION

1. Appliances may be cleaned with dedicated soft toothbrush, neutral soap, and room temperature water.
2. The appliances may be disinfected according to facility protocols. Tested disinfection method: soaking the finished appliance in fresh 70% Isopropyl Alcohol for 5 minutes. Do not leave the part in the alcohol solution for longer than 5 minutes.
3. After cleaning and disinfection, inspect the part for damage or cracks to ensure that the integrity of the designed part meets performance requirements. Discard if any damage or cracks are detected.

HAZARDS, STORAGE & DISPOSAL

1. Cured resin is non-hazardous and may be disposed of as regular waste.
2. See SDS for more information at support.formlabs.com.

Documents / Resources

	<p>Formlabs Form 2 Custom Tray Resin [pdf] User Guide Form 2 Custom Tray Resin, Form 2, Custom Tray Resin, Tray Resin, Resin</p>
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References

- [!\[\]\(3da2b303d29c1ea489bbe26a3f5ac664_img.jpg\) customer_v2](#)
- [User Manual](#)

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