Resinify MD600™ & MD800™

Material Best Practice Guide — Preparing, Post-Processing & Finishing

This document serves as a comprehensive guide to preparing parts, post-processing, and finishing using Resinify MD600™ and Resinify MD800™. For more help and troubleshooting, visit the Resinify Technology LLC Knowledge Center.

About MD600 & MD800

MD600™ is designed to meet the high standards of precision and reliability required for various dental applications. It is ideal for creating highly accurate models with crisp margins and precise details.

MD800™ is engineered for fast, efficient processing, making it suitable for thermoforming models, diagnostic models, and orthodontic appliance models that require smooth surface resolution, easy cleanup, and a superior fit and finish.

1. Getting Started

Primary Supplies

The following supplies are recommended for producing parts with MD600™ and MD800™:

- Personal protective equipment (PPE)
- Paper towels
- Material mixing: Dual Motion Bottle Roller (all printers); rubber spatula or material mixing cards (generic DLP and mSLA printers)
- Material filtering: cone-shaped paint filter, plastic funnel, spare material storage bottle
- Part removal: paint scraper
- Washing unit (generic washing unit)
- Washing agent: 99% isopropyl alcohol (IPA)
- Spray bottle filled with 99% IPA
- Air compressor
- Curing unit: CUREbox Plus UV Post-Cure Chamber (Wicked Engineering), or a third-party unit such as the UVitron Intelliray 400
- Part finishing: snips, precision blade, or similar tool

2. Designing Parts

MD600™ and MD800™ are compatible with the universal .STL file format, making them suitable for almost all dental CAD and model design software as well as digital design services. Models may be designed in-house or outsourced to a design partner.

Hollow dental models printed in MD600™ or MD800™ must have a minimum wall thickness of 3.0 mm.

> **NOTE:** In the printing software, an orange highlight indicates that a surface is contacting the build platform. This highlight must be visible all the way around.

It is recommended to add channels or drainage holes to hollow models, allowing uncured material to drain from the hollow feature during printing.

Orienting Models

Orient models in the printing software with the flat base side down, parallel with the build platform.

- **Spacing:** place models a minimum of 2.5 mm apart
- **Level at build platform:** place unsupported models 0 mm from the build platform
- **Resolution:** 100 µm Z resolution

Ensure the bottom surface of the model is oriented flat-to-plate and makes full contact with the build platform — confirmed by an orange highlight visible all the way around the contact surface.

Autopilot: Autopilot > Models in the printing software can be used to quickly orient all selected orthodontic models — it aligns the largest flat surface with the build platform, spaces models across the build platform, and transfers the job automatically to the printer.

3. Print Preparation

Mix Material

MD600™ and MD800™ material must be mixed in the material bottle prior to use:

1. Place the sealed material bottle on a Dual Motion Bottle Roller for a minimum of 30 minutes, or manually shake the sealed bottle for 1 minute.
2. Wait for bubbles to subside before filling the material tray.
3. Mix material in the material tray before each print with a rubber spatula or material mixing card until uniform in color.

> **NOTE:** Ensure there are no small, cured particles in the material. If found, the material must be filtered.

Fill Material Tray

Do not overfill the material tray — overfilling can cause material to overflow when the build platform moves down at the start of a print job. To add more material, carefully pour it into the tray between prints.

> **ATTENTION:** Adding material while a print is paused or in progress will cause a small shift line in the model.

4. Printing

To start the print, follow the instructions in the printer's Operations & Maintenance Guide. To remove models from the build platform after the print completes, follow the instructions in the printer's Operations & Maintenance Guide. Refer to the Knowledge Base for the detailed Operations and Maintenance Guide for your specific printer model.

5. Post-Processing

Materials Safety

Safety Data Sheets (SDS) for materials used in the printing process are available from Resinify Technology LLC or directly from suppliers. Read and understand the information in these documents prior to operating the printer or handling any media.

> **WARNING:** Fire hazard — some washing materials may be flammable. Do not wash parts near any potential ignition sources. Washing or drying equipment must be approved for use with flammable solvents. Read the SDS and contact your EHS representative.

Clean Models

Use a recommended parts washer. Always wear gloves when handling uncured material and alcohol. Do not expose MD600™/MD800™ to alcohol for longer than five minutes — excess exposure may cause discoloration and warping.

1. Using the touchscreen, select the High washing program. Set the timer to 3 minutes and press Start.
2. Remove the model as soon as the program is complete.
3. Spray the models with a spray bottle filled with 99% IPA.
4. Use compressed air to remove all IPA from the model surface as soon as possible.

Dry Models

Models must be completely dry before post-curing.

1. Place the models on a clean surface lined with a paper towel.
2. Leave the models to dry for 5 minutes.

6. Post-Cure Printed Models

Post-cure parts using one of the following curing options: Otoflash G171, PCA4000, PCA2000, CUREbox Plus UV Post-Cure Chamber (Wicked Engineering), or UVitron Intelliray 400.

> **NOTE:** For every curing unit below, place models with as much space between them as possible — models should never touch one another while curing. Let models cool completely before handling after each cycle.

Otoflash G171:

1. Cure the models for 500 flashes.
2. Let cool completely before handling.
3. Repeat, flipping the models between cycles for an even cure.

PCA 4000:

1. Cure for 1 minute at 20°C and 100% power.
2. Let cool completely before handling.

PCA 2000:

1. Cure for 2 minutes at 20°C and 100% power.
2. Let cool completely before handling.
3. Repeat, flipping the models between cycles for an even cure.

CUREbox Plus:

1. Cure for 5 minutes at 30°C.
2. Let cool completely before handling.
3. Repeat, flipping the models between cycles for an even cure.

UVitron Intelliray 400:

1. Cure for 15 seconds at 80% power.
2. Let cool completely before handling.
3. Repeat, flipping the models between cycles for an even cure.

For more help and troubleshooting, visit the Resinify Technology LLC Knowledge Center.

7. Support

Thank you for choosing Resinify Technology LLC for your dental 3D printing needs. Resinify MD600™ and Resinify MD800™ are designed to provide exceptional quality and precision, ensuring optimal results for your dental applications. By following the best practices in this guide, you can achieve superior outcomes and enhance the productivity of your workflow.

For additional support or troubleshooting, visit the Knowledge Center or contact customer service at support@resinifytechnology.com.

Manufacturer

Resinify Technology LLC · Detroit, Michigan, USA
Telephone: +1 (810) 888-7373 · Email: support@resinifytechnology.com · Website: www.ResinifyTechnology.com

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