Legal Notice

About This Guide

This document serves as a comprehensive guide to prepare parts, post-process, and finish using **MD600** and **MD800**.

For more help and troubleshooting, visit our Knowledge Center.

About MD600 and MD800

MD600

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

MD800 is engineered for fast and 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.

Getting Started

Primary Supplies

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

- **Personal Protective Equipment (PPE)**
- **Paper Towels**
- **Material Mixing:**
    - All printers: Dual Motion Bottle Roller
    - Generic DLP and mSLA printers: Rubber spatula or material mixing cards
- **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 Options:**
    - Generic curing unit: CUREbox Plus UV Post-Cure Chamber from Wicked Engineering
    - Third-party curing unit: UVitron Intelliray 400
- **Part Finishing:**
    - Snips

- Precision blade or similar tool

Design Parts for MD600 and MD800

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 and MD800 must have a minimum wall thickness of 3.0 mm.

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

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

Software

Orient Models for MD600 and MD800

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 that the bottom surface of the model is oriented flat-to-plate and is making full contact with the build platform. An orange highlight indicates that the surface is contacting the build platform. This orange highlight must be visible all the way around.

- **Model correctly oriented flat-to-plate**
- **Model incorrectly oriented**

Autopilot

Autopilot > Models in the printing software can be used to quickly orient all selected orthodontic models.

- **Models:** Aligns the largest flat surface with the build platform, spaces the models across the build platform, and transfers the job automatically to the printer.

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 material 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 a material mixing card. The material should be a uniform color.

Ensure there are no small, cured particles in the material. If found, then the material must be filtered.

Fill Material Tray

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

Important: Adding material while the print is paused or during a print will cause a small shift line in the model.

Print with MD600 and MD800 Material

To start the print, follow the instructions in the printer's Operations & Maintenance Guide. To remove the models from the build platform after the print is complete, follow the instructions in the printer's Operations & Maintenance Guide.

Refer to the Knowledge Base for detailed guides:

- Operations and Maintenance Guide for your specific printer model.

Post-Processing

Materials Safety

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

WARNING: Fire hazard: Some materials used for washing 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 and MD800** to alcohol for longer than five minutes, as excess exposure may cause discoloration and warping.

Steps to Clean Models:

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 surface of the model as soon as possible.

Dry Models

Models must be completely dry before post-curing.

Steps to Dry Models:

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

For more help and troubleshooting, visit our Knowledge Center.

Post-Cure Printed Models

Post-cure parts using one of the following curing options:

- **Otoflash G171**
- **PCA4000**
- **PCA2000**
- **CUREbox Plus UV Post-Cure Chamber from Wicked Engineering**
- **UVitron Intelliray 400**

Cure Models with the Otoflash:

1. Place the models in the curing unit with as much space between the models as possible. Models should never touch one another while curing.
2. Cure the models in the Otoflash for 500 flashes.
3. When the cycle ends, let the models cool completely before handling.
4. Repeat Steps 2-3. Flip the models between cycles for an even cure.

Cure Models with the PCA 4000:

1. Place the models in the curing unit with as much space between the models as possible. Models should never touch one another while curing.
2. Cure the models in the PCA 4000 for 1 minute at 20°C and 100% power.
3. When the cycle ends, let the models cool completely before handling.

Cure Models with the PCA 2000:

1. Place the models in the curing unit with as much space between the models as possible. Models should never touch one another while curing.
2. Cure the models in the PCA 2000 for 2 minutes at 20°C and 100% power.
3. When the cycle ends, let the models cool completely before handling.

4. Repeat Steps 2-3. Flip the models between cycles for an even cure.

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Cure Models with the CUREbox Plus:

1. Place the models in the curing unit with as much space between the models as possible. Models should never touch one another while curing.
2. Cure the models in the CUREbox Plus for 5 minutes at 30°C.
3. When the cycle ends, let the models cool completely before handling.
4. Repeat Steps 2-3. Flip the models between cycles for an even cure.

Cure Models with the UVitron Intelliray 400:

1. Place the models in the curing unit with as much space between the models as possible. Models should never touch one another while curing.
2. Cure the models in the UVitron Intelliray for 15 seconds at 80% power.
3. When the cycle ends, let the models cool completely before handling.
4. Repeat Steps 2-3. Flip the models between cycles for an even cure.

5. Conclusion

6. Thank you for choosing **Resinify Technology LLC** for your dental 3D printing needs. Our products, **MD600** and **MD800**, are designed to provide exceptional quality and precision, ensuring optimal results for your dental applications.
7. We hope this comprehensive guide has provided you with all the necessary information to prepare, print, and post-process your models efficiently and effectively. By following the best practices outlined in this document, you can achieve superior outcomes and enhance the overall productivity of your workflow.
8. For additional support or troubleshooting, please visit our Knowledge Center or contact our customer service team at support@resinifytechnology.com. We are here to assist you with any questions or concerns you may have.
9. Thank you for your continued trust and partnership. We look forward to supporting your success with **MD600** and **MD800**.