

keyprint™

by keystone industries

3D PRINTING RESINS

KeyMask™

INSTRUCTIONS FOR USE

Product Description: KeyPrint™ KeyMask™ is a light-curing resin for 3D printing of simulated gingival tissue used in restoration planning. For use in DLP 3D printers utilizing wavelengths between 385nm - 405nm.

Warnings & Precautions:

- 1. For professional use only.
- 2. Not for intra-oral use. For bench/lab work ONLY.
- 3. Review the product Safety Data Sheet prior to use.
- 4. Wear personal protective equipment when handling KeyPrint™ resins and printed parts.
- 5. When pouring the resin, be careful not to splash.
- 6. Store in cool, dry place, away from light.

Processing Tips:

- 1. Ensure that resin is tempered to ambient temperature of 23°C prior to printing.
- 2. The bottle should be agitated approx. 1 hour before use to achieve consistency of the resin and to prevent bubbles at the time of use. If bubbles are present, remove with a clean instrument/spatula.
- 3. Only use KeyPrint™ product specific pre-determined settings for your DLP 3D printer.

Below are the recommended cure settings for KeyMask™

KeyMask™ should be used with a 385nm - 405nm UV light source. Printers using alternative light sources will need to be verified by Keystone for optimal settings. Unless specified, always run with the following settings (additional printer settings can be found at www.keystoneindustries.com):

Model Layer Thickness	Energy	MiiCraft 125 (factory intensity)
100µm	27 (mJ/cm²)	6 seconds
50µm	20.3 (mJ/cm²)	4.5 seconds
Base Layer	54 (mJ/cm²)	12 seconds
Buffer/Burn-in Layers = 4		

When the building process is finished a direct post treatment is recommended.

Resin coated parts should be cleaned with Isopropanol (97%) within a timeframe of about 10 minutes from the completion of the print. Do not allow the parts to sit in IPA for longer than 5 minutes as the properties may begin to deteriorate. For best casting results, it is recommended that parts are post-cured within 8 hours of print.

- 1. Remove part from printer and build platform.
- 2. Remove support structures from the part (optional to remove supports before or after post-cure in Otofash G171 cure box).
- 3. Place into Stage 1 Isopropanol Alcohol (IPA) bath.
- 4. Remove excess liquid resin from the printed part. This can be done by running fingers over the surface, swishing the part, or even placing on a rotary table mixer (with a closed lid container).
 - a. The Stage 1 bath is an IPA bath used for the first wash of any part coming from the 3D printers.
- 5. Transfer the part(s) into a Stage 2 bath. The second wash is the final wash. In order to achieve optimal final print, use fresh-like IPA with lower concentration of contaminants. Using a scrub brush or tooth brush can help remove excess resin. An explosion-protected ultrasonic bath can also be used to clean parts in place of the Stage 2 bath.
- 6. Use compressed air to dry part, looking for residual liquid resin that is left behind.
 - a. Residual resin will be easy to spot as it flows when exposed to the compressed air and does not dry (like the IPA).
- 7. If residual resin remains, repeat cleaning the part in Stage 2 bath or spray with fresh IPA (if you have a spray bottle) until the residual resin does not appear.
- 8. Once part is confirmed free of residual liquid resin, place the part in the Otofash G171 cure box.
- 9. Run the Otofash G171 for 4,000 cycles, flip part over to ensure cure on all angles.
- 10. Run an additional 4,000 cycles.
- 11. Perform final processing (i.e. polishing).
- 12. Part is ready for testing/use.

Disposal Considerations: KeyPrint™ KeyMask™ is not considered an environmental hazard in its final, fully cured state. Dispose of unused and non-recyclable liquid resin materials in accordance with environmental protection, waste disposal legislation, and regional local authority requirements.

