BLUECAST X-WAX®

X-Wax: More Than a **Castable Resin** — A Game-Changer for Jewelry and 3D Printing

X-Wax is a technical product designed for professional use by experienced users. Please read this guide in its entirety before proceeding with printing.

PRODUCT FEATURES

Step into the future of 3D printing for jewelry with X-Wax, the groundbreaking resin that redefines quality and reliability standards. X-Wax is the first **castable resin** for LCD printing (also compatible with DLP printers) that contains real investment casting wax in a concentration of over 80%. Developed through years of research and innovation, X-Wax represents a paradigm shift in the micro-casting industry: a resin that is not just like wax but is wax, designed to simplify and enhance every step of the production process.

Key Features

- Liquid wax for 3D printing: Thanks to its high wax content, X-Wax stands apart from any other **castable resin** on the market.

- Outstanding castability: With over 80% real micro-casting wax content, it performs on par with traditional wax models.

- Universal compatibility: Suitable for all casting investments and burnout cycles.

- Flawless burnout: No ash or residue left behind.

- Absolute precision: Guaranteed dimensional stability with no shrinkage or expansion.

- Easy to print: This is the first wax-based **castable resin** compatible with all LCD and DLP printers.

- Minimal bleeding: Clean, sharp results with no resin build-up.

- Enhanced user experience: Minimal odor and fumes during both printing and burnout.

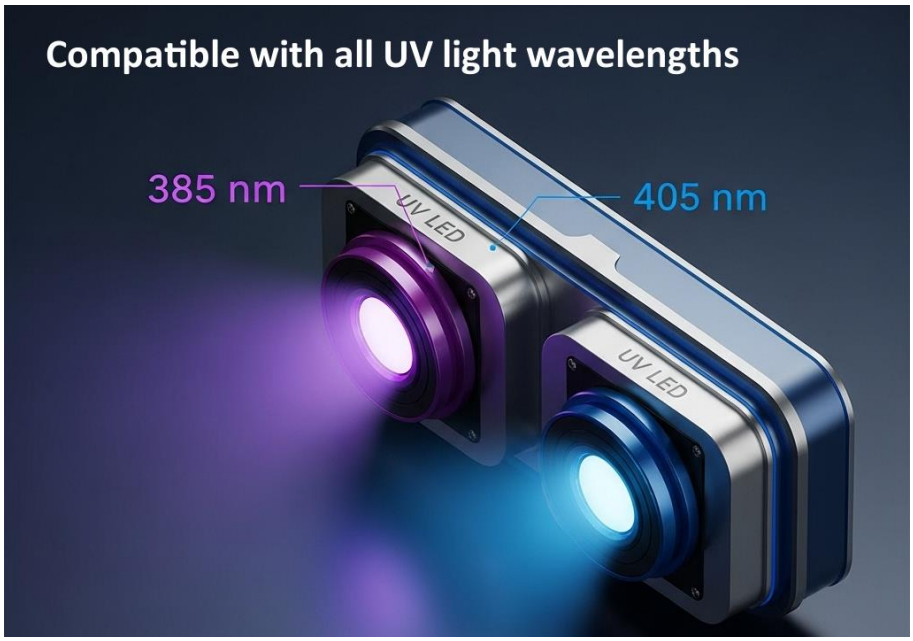
- Simplified post-processing: A quick alcohol wash is all you need for professional results.

- Health-conscious: Made with materials that are not classified as hazardous.

- Environmentally friendly: Over 80% of its composition comes from natural wax, reducing its environmental impact throughout production, use, and disposal.

- As it is made primarily of wax, X-Wax can solidify during storage

- Compatible with 405 and 385 nu UV lights. X-Wax was optimized for 405nm and 385nm UV light to offer the best performance with any 3D printer. The 385nm UV wavelength has lower penetration, enabling precise control over resin curing depth.



X-WAX: A REAL INNOVATION, NOT JUST A CLAIM

X-Wax is the world's first resin that can truly be called "real wax for 3D printing." This is not just marketing hype but a proven reality that allows jewelers, artisans, and designers to achieve flawless results without the need for expensive wax printing technologies. With X-Wax **castable resin**, creating precise and castable models has never been so simple and accessible.

Thanks to its exceptional accuracy, dimensional stability, and castability, X-Wax is perfect for a wide range of applications, including celebration rings, engagement rings, pavé and micro-pavé settings, eternity bands, earrings, pendants, bracelets. Its high wax content makes the prints slightly more delicate than other castable resins, but a minimal UV curing can be used to strengthen thinner and lighter models without compromising quality or precision.

MAIN ADVANTAGES AND DISVANTAGES OF X-WAX CASTABLE RESIN PRINTING WITH LCD AND DLP PRINTERS COMPARED TO TRADITIONAL WAX PRINTERS

Thanks to the new BlueCast resin, it is now possible to print wax models even with printers costing less than $300.

PRO:

- **Low initial investment**: accessible even for those with a limited budget.
- **Affordable material cost**: a cost-effective option.
- **Printing speed up to 5 times faster** than traditional wax printers.
- **Smoother and more detailed surfaces**, ensuring a superior finish.
- **Greater model durability** compared to those produced with wax printers.

CONS:

- **Presence of supports**, which are necessary during printing.

However, tests have shown that the finishing process and metal weight loss of models printed with LCD and DLP printers (X-WAX) are lower compared to those produced with wax printers, where polishing and refining rough surfaces are more demanding.

This solution represents a significant evolution in the industry, combining efficiency, quality, and affordability.

QUICK START GUIDE FOR LCD PRINTERS

Following informations are suitable only for X-Wax **castable resin** and will not apply to other BlueCast resins.

BlueCast X-Wax resin is fully compatible with the new monochromatic LCD Generation and DLP printers. With certain machines that tilt the tank, printing can be challenging because it's not possible to manage the “waiting time before print”. In this case, the use of a PFA film can be helpful.

Baseline Printing Settings for Monochrome LCD Printers

Layer Height – 0.03 mm
Bottom Layer count – 10
Bottom Exposure Time – 30
Layer Exposure Time – 8.0 s
Rest Time Before Print – 1 s
Bottom layer speeds – 50 mm/min
layer speeds – 150 mm/min

For accurate printing parameters, please visit:
https://onedrive.live.com/?id=791D0F8C763D19D0%2127074&cid=791D0F8C763D19D0

Printing Preparation

As it is made primarily of wax, X-Wax **castable resin** can solidify during storage. Here's how to prepare it:

1. Before opening the bottle, it is necessary to warm the product for 5 minutes at a temperature between 30 and 40 degrees Celsius. In order to warm the resin you've got options: a **microwave** (just don't zap it for more than 30 seconds!), an **ultrasonic cleaner**, a **baby bottle warmer**, or even just some **hot air**.

PAY ATTENTION, heating the resin above 60 degrees Celsius can irreversibly damage it. The manufacturer is not responsible for an incorrect use of the product.

2. Shake the bottle vigorously for about 1 minute to ensure optimal mixing.

3. Use PFA films with a thickness of 127 microns or less to maximize the resolution of modern 3D printers.

4. For printers that have a vat tilt mechanism, it is suggested to use an ACF film.

5. Ensure the printer is placed in an environment with temperatures between 18/20°C and 45°C.

THE OPTIMAL OPERATING RANGE IS BETWEEN 25°C and 35°C

6. To prevent wax solidification during printing, it is recommended to use a heated resin tank or a printer with a heated chamber (30° Celsius).

7. There are several ways to warm the bottle before printing. The safest method is to use a baby bottle warmer at a temperature of 40°C or an ultrasonic cleaner.

Storing the closed bottles should be done at a temperature between 10 and 25 degrees Celsius.

A simplified process for superior results

X-Wax is designed for simplicity and efficiency. A double alcohol wash for a total of 10 minutes, followed by air drying (cold compressed air), is all you need. No lengthy UV curing, glycerin baths, or boiling models in water - just simplicity combined with perfection.

POST-PRINTING CLEANUP AND TREE PREPARATION

1. Wash the patters in IPA alcohol or Ethyl alcohol for 5 minutes.

2. Blow the prints with compressed air to remove excess uncured resin.

3. Perform a second wash in IPA clean alcohol for 3 minutes, then dry the prints again with

compressed air.

4. For a more thorough cleaning, you can use 3D wash stations or ultrasonic cleaners.

5. Allow the models to rest for at least 15-20 minutes before assembling the casting tree.

The washing is also effective with ethyl alcohol.

X-Wax is also compatible with BlueCast Liquid Curing.

1. Wash the patterns in BlueCast Liquid Curing for 10 minutes.

2. Blow the prints with compressed air to remove any excess uncured resin.

3. Rinse the model with water, then dry the prints again using compressed air.

Helpful Tips

- If printed in environments with temperatures below 20 °C, models may develop a layer of solidified wax/resin at the print end. In this case, wash them in an ultrasonic cleaner with IPA alcohol for 10 minutes approx, maintaining the tank temperature at around 40 °C.

- If the resin solidifies in the vat, you can liquefy it again using a hair dryer and a silicone spatula.

Suggested Investment

Extensive testing of X-Wax **castable resin** with a diverse range of investment materials for casting has been conducted. The most favorable casting outcomes were observed using Plasticast, Optima Prestige, and SRS Classic at a water/plaster ratio of 37:100, and X-Vest v2 at a water/plaster ratio of 38:100, provided that the flask was allowed to rest for 2 hours prior to the burnout process.

Burnout Cycles

Recomended
Stage 1 – Ramp up from 0°C to 150°C / Hold at 150°C for 2 hours
Stage 2 – Ramp up from 150°C to 700°C / Hold at 700°C for 3 hours
Then cool down to casting temperature

Standard Cycle
Stage 1 – Ramp up from 0°C to 150°C / Hold at 150°C for 2 hours

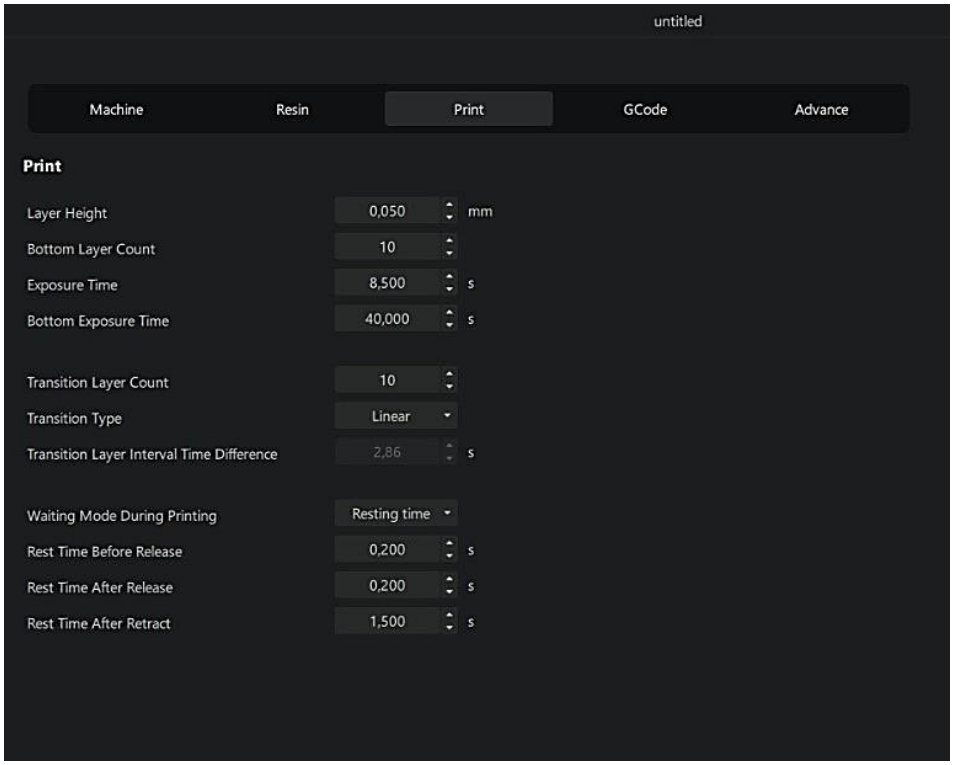
Stage 2 – Ramp up from 150°C to 450°C / Hold at 450°C for 2 hours
Stage 3 – Ramp up from 450°C to 700°C / Hold at 700°C for 3 hours
Then cool down to casting temperature

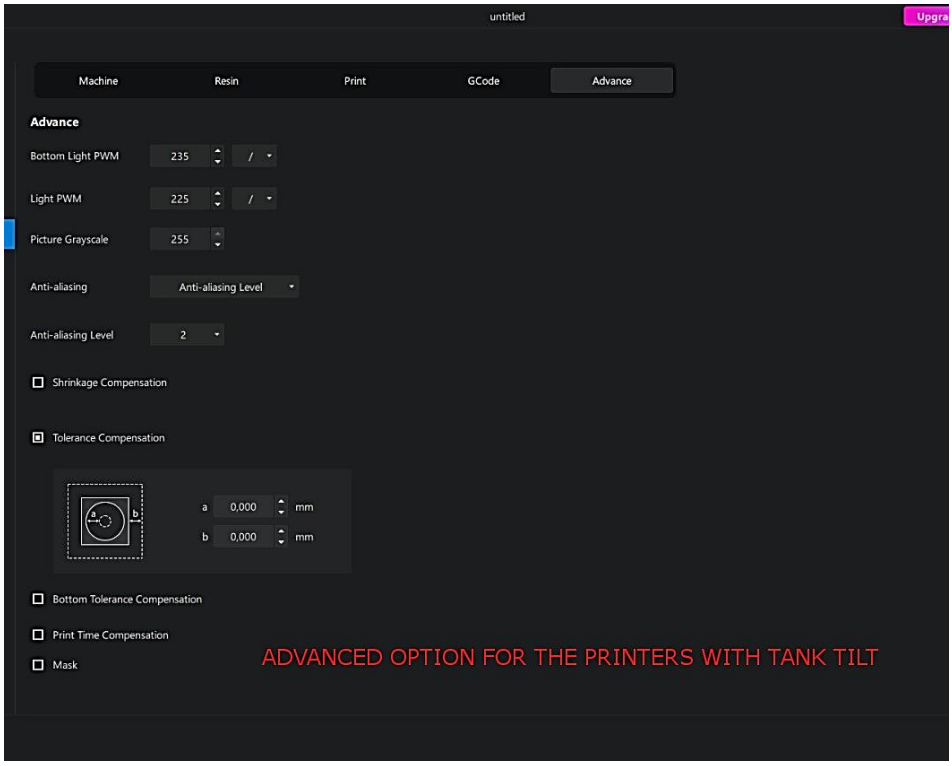
Fast Cycle
Stage 1 – Ramp up from 0°C to 720°C / Hold at 720°C for 2 hours
Then cool down to casting temperature

The Future is Here

With X-Wax, BlueCast has set new quality standards for **castable resins** and 3D printing in jewelry. This revolutionary resin combines tradition and innovation, offering designers and artisans a unique tool for creating impeccable models with ease. The path to success is clear: join the revolution with X-Wax.

Generic Printing Settings for Monochrome LCD Printers

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Anti-aliasing Level
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Shrinkage Compensation
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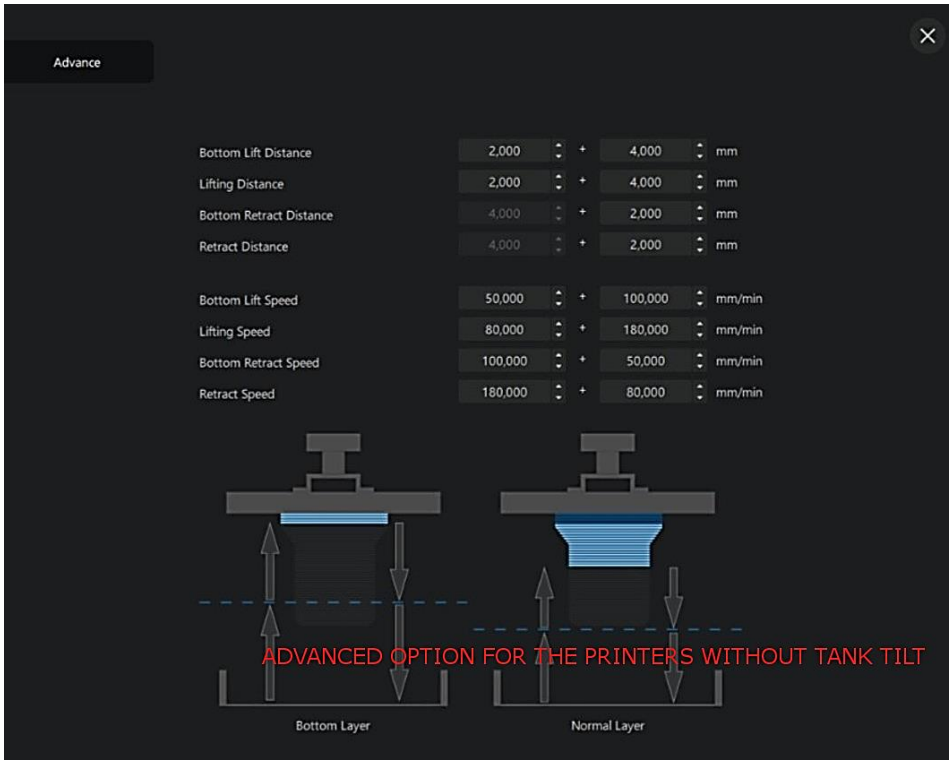
Mask
ADVANCED OPTION FOR THE PRINTERS WITH TANK TILT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Lifting Speed
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Bottom Retract Speed
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Retract Speed
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ADVANCED OPTION FOR THE PRINTERS WITHOUT TANK TILT
Bottom Layer
Normal Layer