ANYCUBIC VC-a3-83591

ANYCUBIC 405nm SLA UV-Curing Resin (Clear, 2kg) Instruction Manual

Comprehensive guide for safe and effective use of ANYCUBIC 405nm SLA UV-Curing Resin.

1. Product Overview

The ANYCUBIC 405nm SLA UV-Curing Resin is designed for LCD 3D printing, offering a balance of precision, curing speed, and material stability. This resin is formulated to minimize shrinkage during the photocuring process, contributing to high-precision prints with smooth surface finishes. Its excellent fluidity facilitates quick curing times, and models exhibit good stability in various environments after curing. The resin provides a combination of hardness and toughness, aiding in model removal and detail retention.

Image 1.1: ANYCUBIC Standard Resin (Clear) product packaging.

Image 1.2: Illustration of high print quality achieved with the resin, demonstrating low shrinkage and smooth surfaces.

Image 1.3: The resin's low viscosity reduces adhesion to the FEP film, contributing to a higher success rate in printing.

Image 1.4: The resin exhibits excellent fluidity, which shortens curing times and allows for faster print completion.

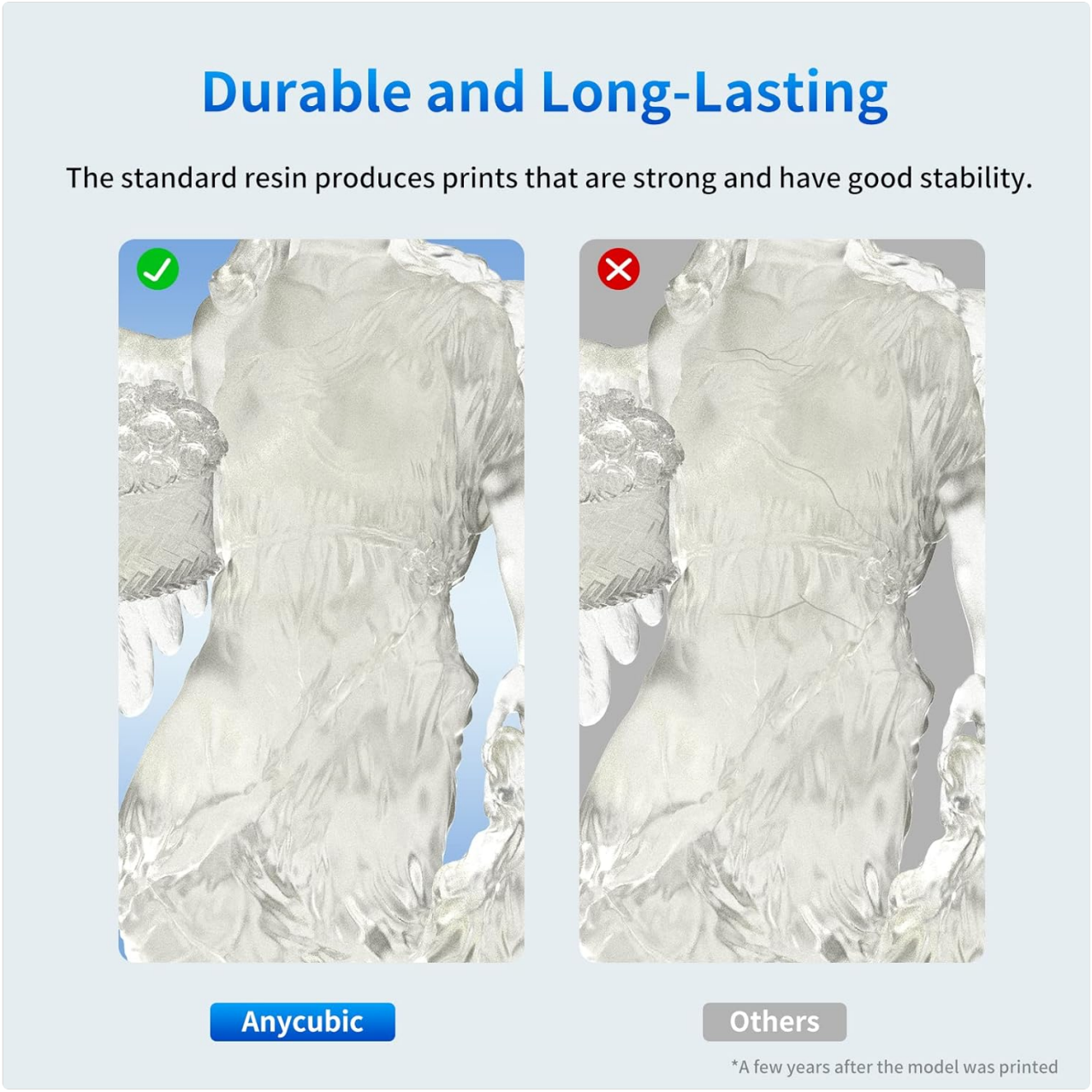

Image 1.5: The standard resin produces durable prints with good stability over time.

Image 1.6: The resin is compatible with a wide range of LCD and DLP 3D printers.

2. Safety Information

Handling UV-curing resin requires adherence to safety protocols to prevent exposure and ensure a safe working environment.

- **Ventilation:** Always use resin in a well-ventilated area. If adequate ventilation is not possible, use a respirator with appropriate filters.
- **Skin Protection:** Wear nitrile gloves to prevent direct skin contact. In case of skin contact, wash immediately with soap and water.
- **Eye Protection:** Wear safety goggles to protect eyes from splashes. In case of eye contact, flush immediately with plenty of water for at least 15 minutes and seek medical attention.
- **Ingestion:** Do not ingest. If swallowed, do not induce vomiting. Seek immediate medical attention.

- **Storage:** Store resin in a cool, dry, dark place, away from direct sunlight and heat sources. Keep the bottle tightly sealed when not in use.
- **Children and Pets:** Keep out of reach of children and pets.

3. Setup and Preparation

Proper preparation of the resin and printing environment is essential for successful 3D prints.

1. **Shake Well:** Before each use, thoroughly shake the resin bottle for at least 1 minute to ensure all functional components and color paste are evenly mixed. Inadequate mixing can lead to uneven coloring or print failures.
2. **Environmental Temperature:** Ensure the printing environment is within the recommended temperature range, typically 20-25°C (68-77°F). Extreme temperatures can affect resin viscosity and curing performance.
3. **Clean Resin Vat:** Ensure the resin vat and FEP film are clean and free of debris or cured resin particles before pouring new resin.
4. **Pour Resin:** Carefully pour the desired amount of resin into the printer's resin vat. Avoid overfilling.

4. Operating Instructions

This resin is compatible with most DLP/LCD 3D printers. Refer to your specific printer's manual for detailed operation. The following parameters are general recommendations and may require fine-tuning based on your printer model, ambient conditions, and desired print quality.

4.1 Recommended Printing Parameters

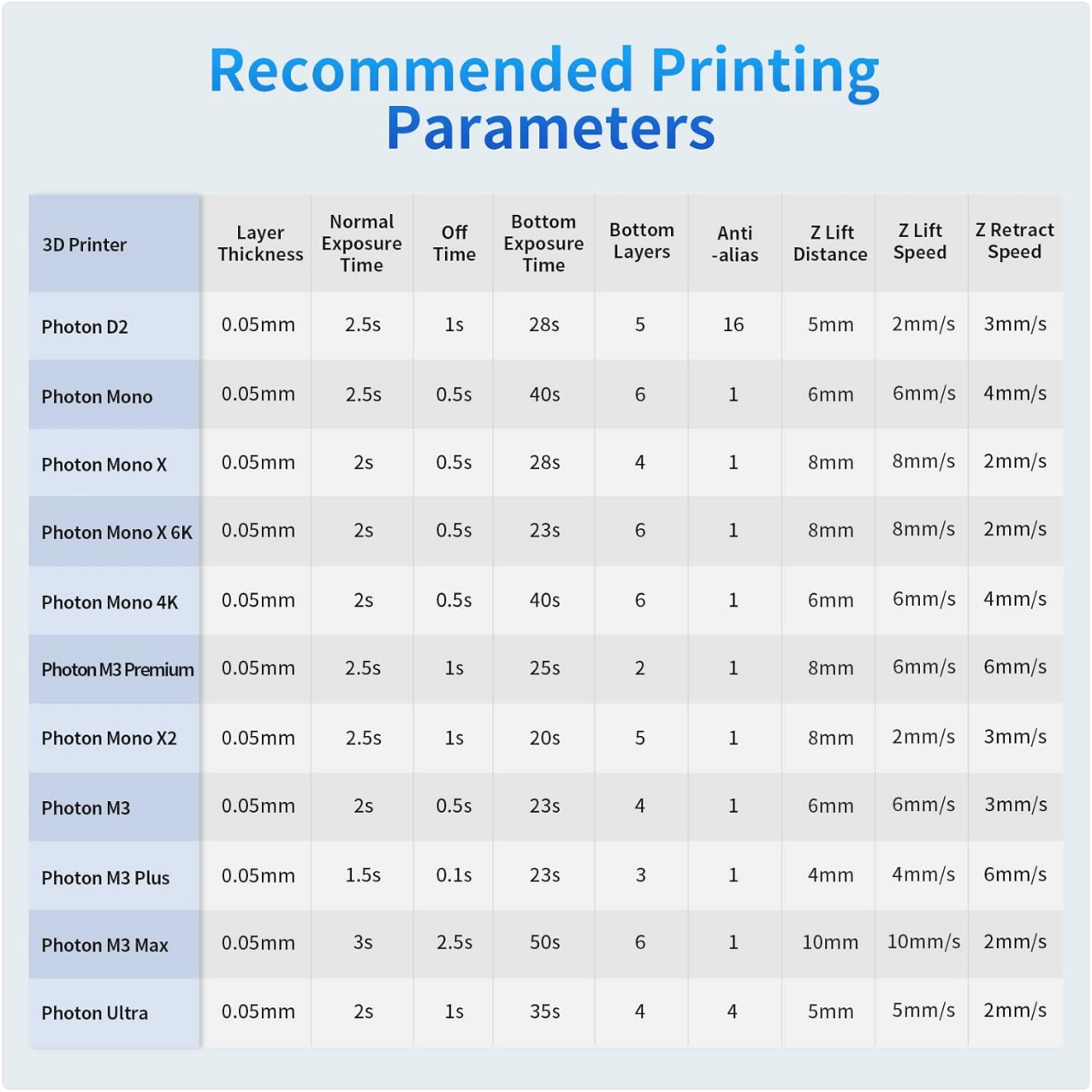

Image 4.1: Recommended printing parameters for various ANYCUBIC Photon series 3D printers.

Recommended Printing Parameters for ANYCUBIC 405nm Resin

3D Printer	Layer Thickness	Normal Exposure Time	Off Time	Bottom Exposure Time	Bottom Layers	Anti-alias	Z Lift Distance	Z Lift Speed	Z Retract Speed
Photon D2	0.05mm	2.5s	1s	28s	5	16	5mm	2mm/s	3mm/s
Photon Mono	0.05mm	2.5s	0.5s	40s	6	1	6mm	6mm/s	4mm/s
Photon Mono X	0.05mm	2s	0.5s	28s	4	1	8mm	8mm/s	2mm/s
Photon Mono X 6K	0.05mm	2s	0.5s	23s	6	1	8mm	8mm/s	2mm/s
Photon Mono 4K	0.05mm	2s	0.5s	40s	6	1	6mm	6mm/s	4mm/s

3D Printer	Layer Thickness	Normal Exposure Time	Off Time	Bottom Exposure Time	Bottom Layers	Anti-alias	Z Lift Distance	Z Lift Speed	Z Retract Speed
Photon M3 Premium	0.05mm	2.5s	1s	25s	2	1	6mm	6mm/s	6mm/s
Photon Mono X2	0.05mm	2s	1s	20s	5	1	8mm	2mm/s	3mm/s
Photon M3	0.05mm	2s	0.5s	23s	4	1	8mm	6mm/s	3mm/s
Photon M3 Plus	0.05mm	1.5s	0.1s	23s	3	1	4mm	4mm/s	6mm/s
Photon M3 Max	0.05mm	3s	2.5s	50s	6	1	10mm	10mm/s	2mm/s
Photon Ultra	0.05mm	2s	1s	35s	4	4	5mm	5mm/s	3mm/s

Note: These parameters are starting points. Optimal settings may vary based on specific printer calibration, model complexity, and environmental factors. Always perform calibration prints when using new resin or printer settings.

4.2 Post-Processing

1. **Washing:** After printing, remove the model from the build plate. Wash the printed model in isopropyl alcohol (IPA) with a concentration of 95% or higher, or a dedicated resin cleaner, for approximately 1-3 minutes to remove uncured resin. Use a wash and cure station or a separate container.
2. **Drying:** Allow the washed model to air dry completely or use compressed air. Ensure no residual alcohol or cleaner remains on the surface.
3. **Post-Curing:** Place the dried model in a UV curing box or under direct sunlight for final curing. Curing times vary depending on the UV light intensity and model thickness, typically ranging from 2-10 minutes per side in a UV curing station. This step enhances the model's hardness and stability.

5. Maintenance and Storage

Proper maintenance and storage extend the resin's shelf life and ensure consistent print quality.

- **Storage Conditions:** Store the resin in its original opaque bottle, tightly sealed, in a cool (15-35°C / 59-95°F), dry, and dark place. Avoid exposure to direct sunlight or UV light sources, as this will cause the resin to cure.
- **Shelf Life:** The resin typically has a shelf life of 12 months when stored correctly. Check the expiration date on the bottle.
- **Unused Resin in Vat:** If resin remains in the vat after printing, filter it through a fine mesh or paint filter back into the original bottle to remove any cured particles. Do not return filtered resin to a new, unopened bottle.
- **Disposal:** Uncured liquid resin should not be poured down drains. Cure any waste resin under UV light until solid, then dispose of it as regular plastic waste according to local regulations. IPA used for washing should also be disposed of responsibly.

6. Troubleshooting

Common issues encountered during resin 3D printing and potential solutions:

- **Failed Prints/Poor Adhesion:**
  - Ensure the build plate is properly leveled and clean.
  - Increase bottom exposure time to improve initial layer adhesion.
  - Verify ambient temperature is within the recommended range.
  - Check for cured resin debris in the vat or on the FEP film.
- **Uneven Curing/Soft Spots:**
  - Ensure the resin is thoroughly shaken before use.
  - Increase normal exposure time slightly.
  - Ensure adequate post-curing, exposing all sides of the model to UV light.
- **Brittle Prints:**
  - Excessive post-curing can sometimes lead to brittleness. Optimize post-curing times.
  - Ensure models are fully washed to remove uncured resin, which can also cause brittleness.
- **Print Lines/Layer Separation:**
  - Check Z-axis stability and lead screw for any issues.
  - Ensure proper Z lift and retract speeds are set.
  - Verify the FEP film is not damaged or too loose/tight.

7. Product Specifications

- **Brand:** ANYCUBIC
- **Model Name:** VC-a3-83591
- **Color:** Clear
- **Quantity:** 2kg
- **Printing Technology:** SLA/LCD
- **UV Wavelength:** 405nm
- **Product Dimensions:** 10.63 x 8.27 x 4.25 inches (packaging)
- **Item Weight:** 2000 Grams (4.41 Pounds)
- **Date First Available:** October 12, 2021

8. Warranty and Support

ANYCUBIC products are typically covered by a manufacturer's warranty against defects in materials and workmanship. Specific warranty terms and duration may vary by region and product. Please retain your proof of purchase for warranty claims.
For technical support, troubleshooting assistance, or warranty inquiries, please visit the official ANYCUBIC website or contact their customer service directly. You can find more information and resources on the ANYCUBIC Official Store on Amazon.