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## phrozen Water-washable Rapid Black Resin

# Phrozen 3D Printer Water-Washable Rapid Black Resin User Manual

Model: Water-washable Rapid Black Resin | Brand: Phrozen

## PRODUCT OVERVIEW

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The Phrozen Water-Washable Rapid Black Resin is a 405nm LCD UV-Curing photopolymer resin designed for high-precision 3D printing. This resin offers ease of use and post-processing due to its water-washable properties, low viscosity, and low odor. It is formulated to produce sturdy and tough printed parts, making it suitable for various models and prototyping applications.



Image: A bottle of Phrozen Water-Washable Rapid Black Resin positioned next to a highly detailed black 3D printed model, showcasing the resin's capability for intricate designs.

## SAFETY INFORMATION

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When handling Phrozen Water-Washable Rapid Black Resin, it is crucial to follow safety guidelines to prevent direct skin contact and ensure proper disposal. Always work in a well-ventilated area.

- **Recommended Temperature:** Maintain a working temperature between 20°C - 25°C for optimal resin performance.
- **Personal Protective Equipment:** Always wear gloves and a mask to avoid direct skin contact and inhalation of fumes.
- **Storage:** Keep the resin away from children, dust, and direct sunlight to maintain its quality and prevent premature curing.
- **Emergency Contact:** In case of direct skin contact with resin, wash immediately with plenty of water. Seek medical attention if irritation persists.
- **Waste Disposal:** Do NOT dump waste water directly. Cure the waste water with sunlight OR add 10% Waste

Disposal Agent and filter the residue before dumping. This ensures environmental safety.



Image: A bottle of Phrozen Water-Washable Rapid Black Resin with text overlay highlighting important safety precautions and usage tips, including recommended temperature, wearing PPE, and proper disposal.

## SETUP AND PREPARATION

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1. **Shake the Bottle:** Before each use, shake the resin bottle well to ensure the photopolymer components are thoroughly mixed.
2. **Prepare the Printer:** Ensure your 405nm LCD 3D printer is clean and ready for operation. Check the FEP film for any damage or residue.
3. **Pour Resin:** Carefully pour the Phrozen Water-Washable Rapid Black Resin into the printer's resin vat. Avoid overfilling.



# Formulated to be easily rinsed with water



Image: A close-up of a hand pouring the black resin into the printer's vat, demonstrating the resin's low viscosity and ease of pouring.

## OPERATING INSTRUCTIONS

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Phrozen Water-Washable Rapid Resin is optimized for 405nm LCD printers, designed for fast printing without compromising quality.

1. **Slicer Settings:** Refer to your 3D printer's specific slicer software for recommended exposure times and layer heights. For this resin, a recommended layer height is 30-100  $\mu\text{m}$ .
2. **Start Printing:** Initiate the printing process according to your printer's instructions. The resin's rapid curing properties contribute to faster print times.
3. **Monitor Print:** Observe the initial layers to ensure proper adhesion and formation.

Your browser does not support the video tag.

Video: This video demonstrates the capabilities of Phrozen 3D printers and the precision achievable with their resins, including the ease of use and high-speed printing features. It showcases various applications, from artistic models to dental molds, highlighting the versatility of the Phrozen ecosystem.

## MAINTENANCE AND POST-PROCESSING

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Proper post-processing is essential for achieving the best results and durability from your prints.

1. **Cleaning:** Unlike standard resins, Phrozen Water-Washable Resin can be cleaned with water. Rinse the printed part thoroughly with water to remove uncured resin. For best results, use a soft brush or ultrasonic cleaner.
2. **Drying:** Ensure the cleaned part is completely dry before post-curing. You can use compressed air or allow it to air dry.
3. **Post-Curing:** Cure the cleaned and dried part under UV light (405nm) to achieve maximum hardness and strength. The resin is designed to be tough and non-brittle after proper curing.
4. **Support Removal:** Printed parts are sturdy, allowing for easier support removal. Carefully remove supports using appropriate tools.

### High Hardness & Non-Brittle

Tougher than general water-washable resins.



Image: A 3D printed model is shown being rinsed under flowing water, emphasizing the water-washable characteristic of the resin for easy cleanup.



Image: A side-by-side comparison of two ghost-shaped 3D printed models. One, labeled "phrozen", is smooth and intact, while the other, labeled "others", shows visible cracks, illustrating the superior toughness and non-brittle nature of Phrozen resin.

## TROUBLESHOOTING

Problem	Possible Cause	Solution
Print Fails to Adhere to Build Plate	Insufficient bottom exposure time, cold resin/environment, dirty build plate.	Increase bottom exposure time. Ensure resin and room temperature are within 20-25°C. Clean and level the build plate.
Printed Part is Brittle	Insufficient post-curing, over-exposure during printing.	Increase post-curing time under UV light. Reduce normal exposure time slightly if over-exposure is suspected.
Sticky/Tacky Surface After Cleaning	Incomplete cleaning, insufficient drying before curing.	Rinse thoroughly with water, ensuring all uncured resin is removed. Ensure the part is completely dry before post-curing.

Problem	Possible Cause	Solution
Poor Print Detail/Resolution	Incorrect layer height, resin not properly mixed, printer calibration issues.	Verify layer height settings (30-100 µm recommended). Shake resin bottle well before use. Calibrate your printer if necessary.

## PRODUCT SPECIFICATIONS

- **Weight:** 1KG per bottle
- **XY Resolution:** 50 µm
- **Recommended Layer Height:** 30-100 µm
- **Curing Wavelength:** 405nm UV light
- **Viscosity:** Low
- **Odor:** Low
- **Properties:** Water-Washable, Tough, Non-Brittle, Fast-Printing
- **Product Dimensions:** 3.5 x 3.5 x 8.2 inches
- **Item Weight:** 1 Kilograms
- **Manufacturer:** PHROZEN TECH CO., LTD.
- **Date First Available:** June 12, 2020

## WARRANTY AND SUPPORT


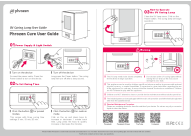

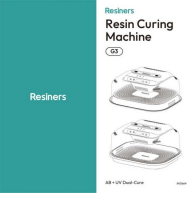
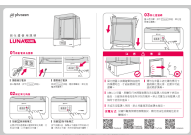

For detailed warranty information, technical support, or further inquiries regarding your Phrozen Water-Washable Rapid Black Resin, please visit the official Phrozen website or contact their customer service. Keep your purchase receipt for warranty claims.

**Phrozen Official Website:** [www.phrozen3d.com](http://www.phrozen3d.com)

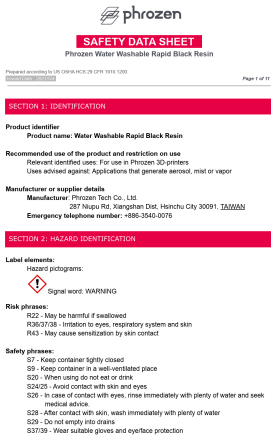
**Amazon Store:** [Phrozen Amazon Store](#)

### Related Documents - Water-washable Rapid Black Resin



	<p><a href="#">Anycubic Water Washable Resin Plus Performance Parameters</a></p> <p>Technical specifications and performance parameters for Anycubic Water Washable Resin Plus, including viscosity, wavelength, tensile strength, flexural strength, hardness, and more.</p>
	<p><a href="#">Phrozen Cure UV Curing Lamp User Guide</a></p> <p>User guide for the Phrozen Cure UV Curing Lamp, detailing power supply, operation, setting curing times, and maintenance procedures.</p>
	<p><a href="#">Phrozen CURE+ User Manual: Setup, Operation, and Settings</a></p> <p>User manual for the Phrozen CURE+ curing unit. Provides instructions on setup, environmental requirements, machine parts, accessories, product specifications, getting started, curing settings (brand resin, custom list, manual), and system settings. Learn how to operate and maintain your Phrozen CURE+ for optimal 3D print curing.</p>
	<p><a href="#">Resiners Resin Curing Machine G3 User Manual and Guide</a></p> <p>Comprehensive guide to the Resiners Resin Curing Machine G3, covering setup, operation modes, safety precautions, and technical specifications for resin art and 3D printing.</p>
	<p><a href="#">Phrozen LUNA CURE UV Curing Lamp User Guide</a></p> <p>Comprehensive user guide for the Phrozen LUNA CURE UV Curing Lamp, covering power operation, curing time settings, safety warnings, and maintenance procedures.</p>
	<p><a href="#">Anycubic Standard Resin User Guide: Properties, Usage, and Troubleshooting</a></p> <p>Comprehensive user guide for Anycubic Standard Resin, detailing its properties, recommended printing parameters, slicing support settings, cleaning procedures, post-curing, waste disposal, and common troubleshooting tips for 3D printing.</p>

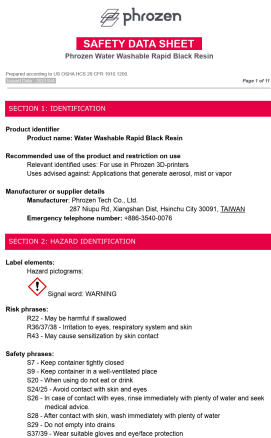




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SAFETY DATA SHEET Phrozen Water Washable Rapid Black Resin Prepared according to US OSHA HCS 29 CFR 1910.1200. Issued Date : 2021/5/4 Page 1 of 11  
SECTION 1: IDENTIFICATION Product identifier Product name: Water Washable Rapid Black Resin Recommended use of the product and restriction on use Relev...  
lang:en score:31 filesize: 138.7 K page\_count: 11 document date: 2023-07-25



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