phrozen PHAQUA8K

Phrozen Aqua-Gray 8K 3D Printing Resin User Manual

MODEL: PHAQUA8K

Introduction to Phrozen Aqua-Gray 8K Resin

The Phrozen Aqua-Gray 8K 3D Printing Resin is engineered for exceptional detail and precision, specifically optimized for 8K LCD 3D printers. This resin allows users to produce highly intricate models with smooth finishes and accurate dimensions, making it suitable for a wide range of applications from complex prototyping to detailed miniatures.

Image: Phrozen Aqua-Gray 8K Resin bottle alongside a highly detailed 3D printed dwarf model, showcasing the resin's capability.

Key Features:

- **Low Shrinkage & High Precision:** Developed for minimal shrinkage and high accuracy, ensuring precise parts with low warpage and excellent dimensional stability.
- **Optimized for 8K Printers:** Specifically designed to work best with 8K 3D printers like the Sonic Mini 8K, enabling the creation of high-quality and extremely intricate models.
- **Wide Application:** Versatile for various uses including precision model printing, complex prototyping, miniatures, and busts.
- **Low Viscosity & Low Odor:** Easy to print and post-process due to low viscosity, with minimal resin fumes for a more comfortable printing environment.
- **Quality Packaging:** Supplied in a leak-proof bottle to ensure product integrity.

Image: Visual representation of the key features of Phrozen Aqua-Gray 8K Resin, highlighting its precision, low shrinkage, fluidity, and low odor.

Safety Information and Handling

Proper handling of 3D printing resin is crucial for safety and optimal results. Always adhere to the following guidelines:

- **Shake Well Before Use:** Ensure the resin is thoroughly mixed before pouring into the vat to achieve consistent print quality.
- **Recommended Temperature:** Use the resin in an environment with a recommended temperature of 20°C - 25°C (68°F - 77°F) for best 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. Store in a cool, dry, and dark place.
- **First Aid (Skin Contact):** In case of direct skin contact with resin, wash immediately with plenty of water.

Image: Safety instructions for handling Phrozen Aqua-Gray 8K Resin, emphasizing shaking before use, temperature, PPE, storage, and skin contact first aid.

Setup and Preparation

Before beginning your 3D printing project, ensure your workspace and equipment are properly prepared.

1. **Workspace Preparation:** Set up your 3D printer in a well-ventilated area, ideally with a stable ambient temperature between 20°C and 25°C.
2. **Printer Calibration:** Ensure your 8K LCD 3D printer is properly calibrated according to its manufacturer's instructions. This includes leveling the build plate and checking the FEP film tension.
3. **Resin Bottle Preparation:** Shake the Phrozen Aqua-Gray 8K Resin bottle vigorously for at least 30 seconds to ensure all components are evenly mixed.
4. **Pouring Resin:** Carefully pour the desired amount of resin into the printer's resin vat. Avoid overfilling.

Image: Demonstrates the low viscosity of the resin as it is poured into the printer's vat, making it easy to handle.

Operating Instructions

Follow these steps for successful 3D printing with Phrozen Aqua-Gray 8K Resin.

1. **Slicer Settings:** Load your 3D model into your preferred slicing software. Apply the recommended settings for Phrozen Aqua-Gray 8K Resin. Typical settings for a Phrozen Sonic Mini 8K are:
    - Layer Height: 0.05mm
    - Exposure Time: 1.3 - 2.5 seconds (adjust based on printer and environment)
    - Bottom Layers: 6
    - Bottom Exposure Time: 30 - 40 seconds
    - Lifting Distance: 8mm
    - Lifting Speed: 45mm/min
    - Retract Distance: 8mm

- Retract Speed: 150mm/min

Image: Recommended basic print settings for Aqua-Gray 8K Resin, providing a starting point for optimal printing.

2. **Start Printing:** Transfer the sliced file to your 3D printer and initiate the printing process.
3. **Monitoring:** Monitor the first few layers to ensure proper adhesion and print initiation.
4. **Post-Processing:** Once printing is complete, carefully remove the print from the build plate. Clean the printed model using isopropyl alcohol (IPA) to remove uncured resin.
5. **Curing:** Cure the cleaned model using a UV curing station or direct sunlight until fully hardened. Avoid over-curing, as this can lead to brittleness.

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Video: An official Phrozen video demonstrating the use of Aqua-Gray 8K Resin, highlighting its compatibility with 8K printers and ability to produce super-fine details.

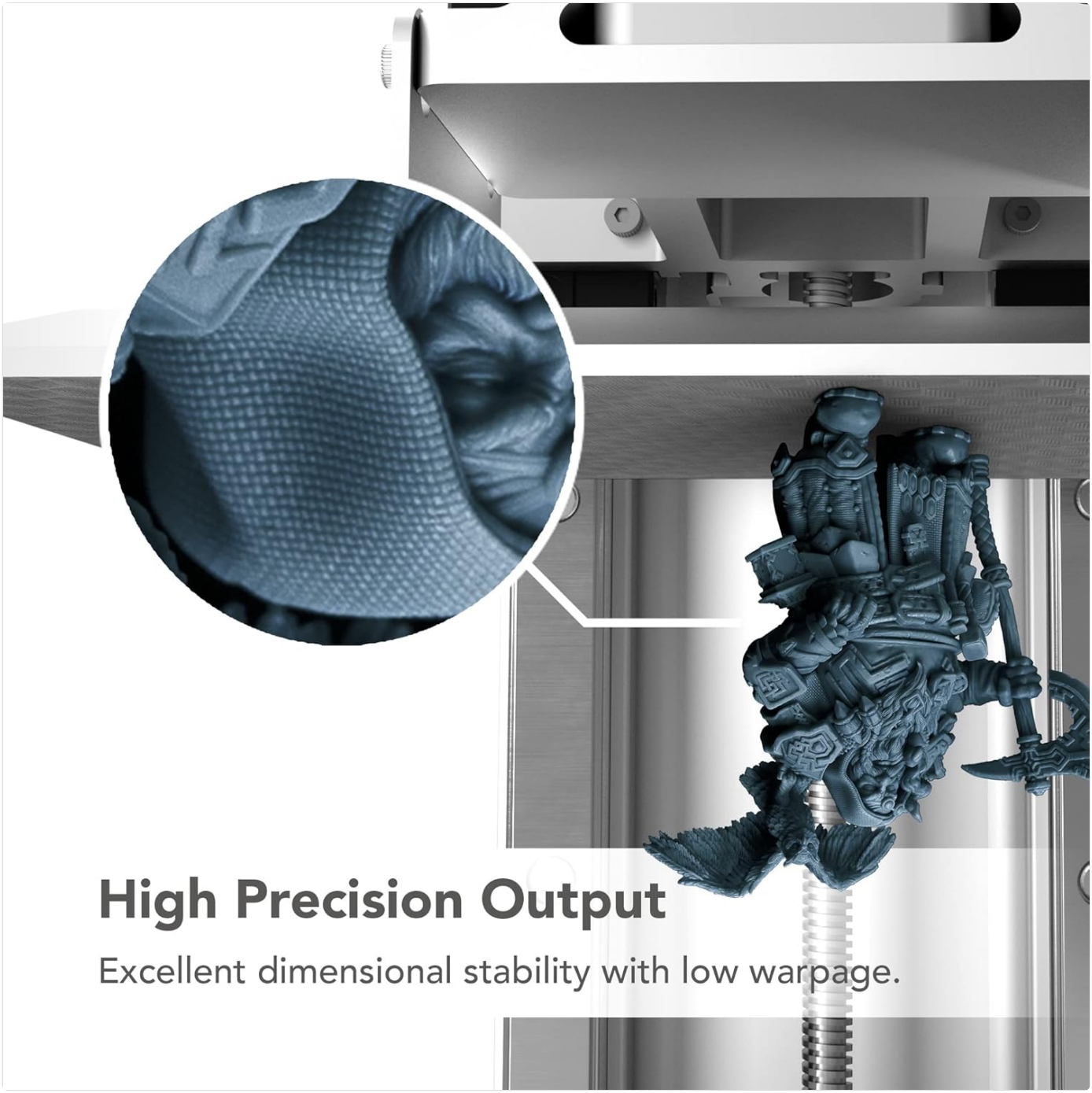


Image: Illustrates the high precision output achievable with Phrozen Aqua-Gray 8K Resin, showing fine details on a printed object.

Image: A detailed view of a 3D printed model, emphasizing the ability to capture intricate details with 8K quality prints.

Maintenance and Storage

Proper maintenance of your resin and equipment ensures longevity and consistent print quality.

- **Resin Storage:** Store unused resin in its original, sealed, leak-proof bottle in a cool, dark place away from direct sunlight and heat sources.
- **Vat Cleaning:** After printing, if you plan to store resin in the vat for an extended period, cover it to prevent dust and light exposure. For long-term storage or changing resin types, clean the resin vat thoroughly with IPA.
- **Printer Cleaning:** Regularly clean your 3D printer's build plate and other components that come into contact with resin using IPA.
- **Disposal:** Dispose of cured resin and contaminated IPA according to local regulations. Never pour liquid resin down the drain.

Troubleshooting Common Issues

Here are some common issues encountered during resin 3D printing and their potential solutions:

Issue	Possible Cause	Solution
Prints are brittle after curing.	Over-curing with UV light.	Reduce UV exposure time during post-curing. Ensure models are clean before curing.
Prints feel tacky or sticky.	Insufficient cleaning or curing.	Ensure thorough washing with fresh IPA. Increase curing time slightly, or ensure all surfaces are exposed to UV light.
Parts of the print are missing or incomplete.	Failed supports, insufficient exposure, or resin contamination.	Check support structure in slicer. Increase exposure time slightly. Filter resin for cured bits. Clean the FEP film.
Poor adhesion to build plate.	Build plate not leveled, insufficient bottom exposure time, or cold resin/environment.	Re-level the build plate. Increase bottom layer exposure time. Ensure resin and room temperature are within recommended range (20-25°C).

Product Specifications

Attribute	Detail
Brand	phrozen
Model Number	PHAQUA8K
Item Weight	1 Kilograms
Item Volume	1 Liters
Product Dimensions	3.54 x 3.54 x 8.86 inches
Manufacturer	PHROZEN TECH CO., LTD.
Date First Available	January 10, 2022

What You Will Receive

Each package of Phrozen Aqua-Gray 8K Resin includes the following components:

- 1 x 1kg Bottle of Phrozen Aqua-Gray 8K Resin
- Product Box
- Safety Instructions / Quick Start Guide

Image: The complete package contents for Phrozen Aqua-Gray 8K Resin, including the resin bottle, product box, and safety instructions.

Product Compatibility and Applications

Phrozen Aqua-Gray 8K Resin is designed for high compatibility and versatility across various 3D printing needs.

Printer Compatibility:

This resin is highly compatible with various LCD/DLP 3D printers on the market, especially optimized for 8K resolution printers to achieve the finest details.

Image: The Phrozen Sonic Mini 8K printer shown with the Aqua-Gray 8K Resin, illustrating ideal compatibility.

Image: A collection of different Phrozen LCD/DLP printers, highlighting the broad compatibility of the resin with various models.

Typical Applications:

- **Miniatures and Figurines:** Ideal for highly detailed models due to its 8K resolution capabilities.
- **Prototyping:** Suitable for complex and precise prototypes requiring fine features.
- **Dental Models:** Can be used for accurate dental models as noted in user reviews.
- **General Hobby and Craft:** Excellent for various creative projects where detail is paramount.

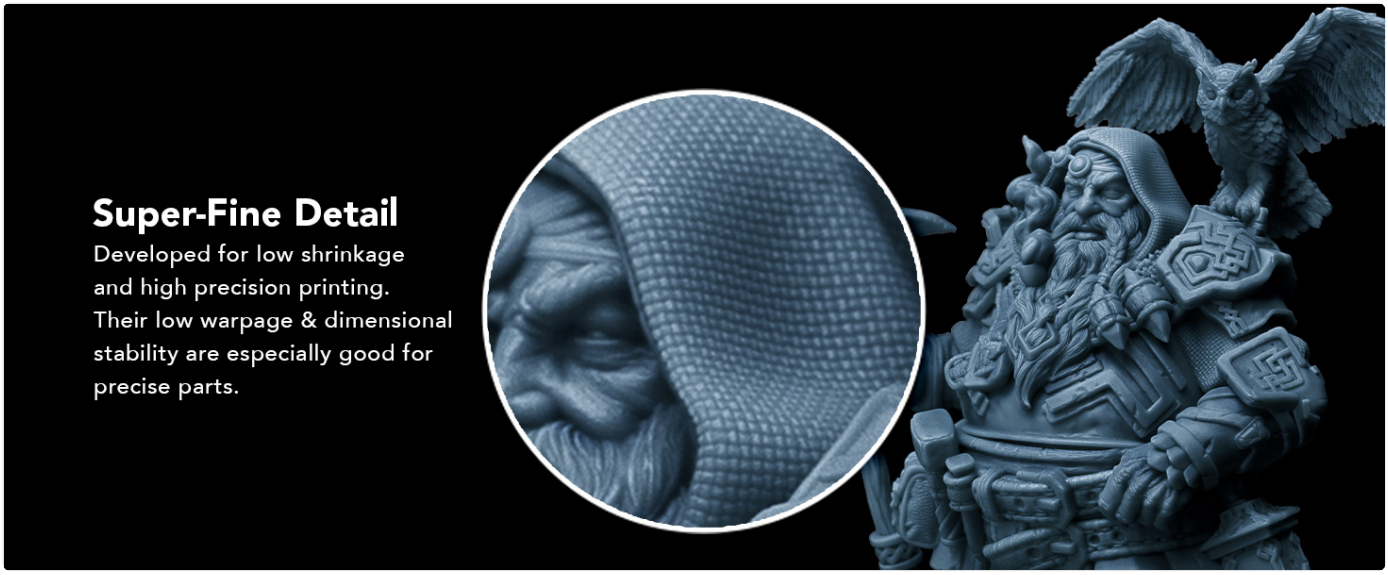


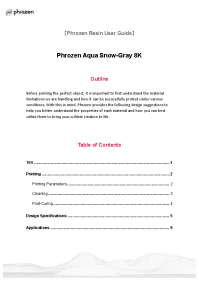
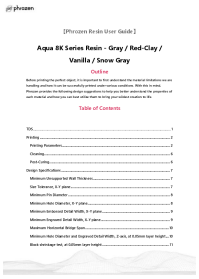
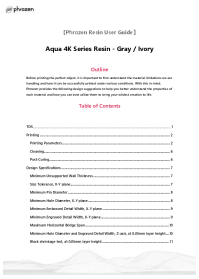
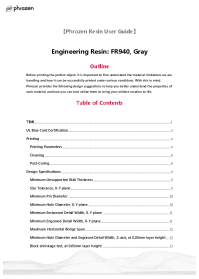
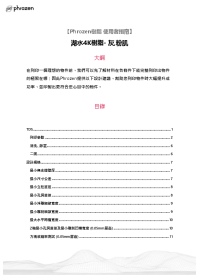
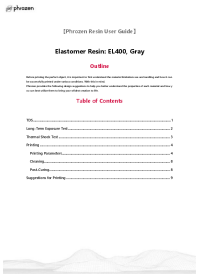
Image: Examples of various applications for Phrozen Aqua-Gray 8K Resin, including articulated models, props, board game pieces, prototypes, gadgets, and action figures.

Image: An extreme close-up of a 3D printed dwarf model, highlighting the super-fine details and low shrinkage achieved with Phrozen Aqua-Gray 8K Resin.

Warranty and Support

Phrozen provides professional support to assist you throughout your 3D printing journey. For any inquiries or assistance, please refer to the official Phrozen support channels or visit their brand store.
Phrozen Brand Store: Visit the Phrozen Store on Amazon

Related Documents - PHAQUA8K

	Phrozen Aqua Snow-Gray 8K Resin User Guide & Technical Specifications Comprehensive user guide for Phrozen Aqua Snow-Gray 8K resin, covering technical data, printing parameters, cleaning, post-curing, design specifications, and applications for 3D printing.
	Phrozen Aqua 8K Series Resin User Guide: Printing Parameters & Specifications Comprehensive guide for Phrozen Aqua 8K Series Resin. Includes technical data (TDS), detailed printing parameters for various Phrozen 3D printers (Sonic, Mighty, Mega series), and essential design specifications for optimal 3D printing.
	Phrozen Aqua 4K Series Resin User Guide: Properties and Printing Parameters Comprehensive user guide for Phrozen Aqua 4K Series Resin (Gray/Ivory), detailing technical specifications (TDS), printing parameters for various Phrozen printers, cleaning, post-curing, and design guidelines.
	Phrozen Engineering Resin FR940 Gray User Guide and Technical Specifications Comprehensive user guide and technical data sheet for Phrozen Engineering Resin FR940, Gray. Includes TDS, printing parameters for various Phrozen printers, UL certification details, and design specifications for optimal 3D printing.
	Phrozen Aqua 4K Resin User Guide and Technical Specifications A comprehensive user guide for Phrozen Aqua 4K resin, detailing its technical properties, optimal printing parameters for various Phrozen 3D printers, post-processing instructions, and critical design specifications for successful prints.
	Phrozen Elastomer Resin EL400 Gray User Guide and Technical Data Comprehensive user guide for Phrozen Elastomer Resin EL400, Gray, detailing technical specifications (TDS), long-term exposure tests, thermal shock tests, printing parameters for various Phrozen printers, cleaning, post-curing, and usage suggestions.