RI RESIONE RESIONE-1

RESIONE F69 Flexible 3D Printer Resin

INSTRUCTION MANUAL

1. Introduction

The RESIONE F69 Flexible 3D Printer Resin is a 405nm UV-curing photopolymer designed for DLP, LCD, and MSLA printers. It offers unique rubber-like properties, making it ideal for applications requiring flexibility, tear resistance, and folding resistance. This manual provides essential information for safe and effective use of the F69 resin.

Figure 1: RESIONE F69 Flexible 3D Printer Resin and a sample print.

2. Safety Precautions

Always prioritize safety when handling 3D printer resins. F69 resin, like other photopolymers, requires careful handling to prevent exposure and ensure a safe working environment.

- **Ventilation:** Work in a well-ventilated area to minimize inhalation of fumes. Consider using an air purifier or working near an open window.
- **Personal Protective Equipment (PPE):** Always wear chemical-resistant gloves (nitrile or neoprene) and safety glasses to protect skin and eyes from direct contact. A respirator is recommended for prolonged exposure.
- **Skin Contact:** In case of skin contact, wash immediately with plenty of soap and water. Do not use solvents.
- **Eye Contact:** In case of eye contact, flush thoroughly with water for at least 15 minutes and seek immediate medical attention.
- **Ingestion:** Do not ingest. If swallowed, do not induce vomiting. Seek immediate medical attention.
- **Storage:** Store resin in a cool, dark, and dry place, away from direct sunlight and heat sources. Keep the bottle tightly sealed when not in use.
- **Disposal:** Dispose of uncured resin and contaminated materials according to local regulations. Cured resin can typically be disposed of as regular plastic waste.

Figure 2: General safety guidelines for resin handling.

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3. Setup

Proper setup is crucial for successful prints with RESIONE F69 Flexible Resin.

1. **Printer Compatibility:** RESIONE F69 is compatible with 405nm UV-curing DLP, LCD, and MSLA 3D printers.
2. **Temperature:** The recommended printing temperature is between 25-32°C (77-89.6°F), with an optimum range of 28-32°C (82.4-89.6°F). Below 25°C, the resin's viscosity increases, which can reduce print success rates, especially for large-area prints.
3. **Shake Well:** Before each use, shake the resin bottle thoroughly for at least 1 minute to ensure all components are well mixed.
4. **Pouring Resin:** Carefully pour the desired amount of resin into your printer's resin vat. Avoid overfilling.

Figure 3: Preparing the resin for printing.

4. Operating the Printer with F69 Resin

Follow these guidelines for optimal printing results with RESIONE F69 Flexible Resin:

1. **Print Settings:** RESIONE provides detailed print settings for most mainstream 3D printers. It is highly recommended to download and use these settings from the official website or the product page.
2. **Support Settings:** Flexible resins often require specific support structures. If prints fail, adjust support settings (e.g., increase contact diameter, density) as per RESIONE instructions.
3. **Exposure Time:** Ensure adequate exposure time for each layer. Printers with mono screens may experience light decay, requiring slight adjustments to normal exposure times.
4. **Post-Curing:** For F69 prints with a thickness of more than 3mm, both the front and back sides need to be post-cured for more than 30 minutes when using a 40W UV intensity post-curing box. Fully post-cured prints are stronger, have a dry surface, and are less likely to be scratched.
5. **Flexibility and Detail:** F69 resin produces prints with fine details and rubber-like flexibility, tear resistance, and folding resistance.
6. **Toughening Agent:** F69 resin can be mixed with tough resins (e.g., K/M58/M68/G217) to increase the toughness and durability of printed parts, preventing long-term brittleness.

Figure 4: Accessing and applying recommended print settings.

Figure 5: Examples of fine details achievable with F69 resin.

Figure 6: F69 resin can be used as a toughening agent.

Figure 7: F69 resin exhibits excellent flexibility and resistance to tearing.

Figure 8: Wide range of applications for F69 flexible resin.

Video Demonstration: F69 Flexible Resin Properties

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Video 1: This video demonstrates the flexibility, rebound, and tear resistance of RESIONE F69 resin compared to F80 elastic resin, showcasing its suitability for various flexible applications like watchbands and tire models.

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5. Maintenance

Proper maintenance ensures the longevity of your prints and resin.

- **Cleaning Prints:** After printing, clean excess uncured resin from your prints using Isopropyl Alcohol (IPA). Ensure thorough cleaning, as uncured resin can remain sticky.
- **Resin Storage:** Store unused resin in its original opaque bottle, tightly sealed, in a cool, dark, and dry place away from direct UV light. This prevents premature curing and degradation.
- **Resin Vat Cleaning:** Regularly clean your resin vat and FEP film to prevent cured resin particles from interfering with future prints.

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6. Troubleshooting

Common issues and their solutions when using RESIONE F69 Flexible Resin:

- **Failed Prints/Poor Adhesion:**
  - Ensure the build plate is perfectly leveled.
  - Verify print settings match RESIONE's recommendations for your specific printer.

- Increase bottom layer exposure time and normal layer exposure time if prints are not adhering or are too soft.
- Check ambient temperature; if below 25°C, warm the resin or increase exposure times.
- Adjust support settings: use heavier supports, increase contact diameter, and ensure adequate support density for flexible parts.

- **Prints Remain Sticky After Curing:**
  - Ensure prints are thoroughly cleaned with IPA before post-curing.
  - Increase post-curing time, especially for thicker parts (e.g., >30 minutes for >3mm thickness).
  - Ensure your UV curing light is sufficient (e.g., 40W UV intensity).
- **Strong Fumes:**
  - Ensure adequate ventilation in your printing area.
  - Consider using a carbon filter or moving the printer to a dedicated, well-ventilated space.
- **Deformation During Printing (for flexible parts):**
  - RESIONE F69 is designed to minimize deformation, but ensure print speeds (especially lift and retract) are appropriate for flexible resins, which may be slower than rigid resins.

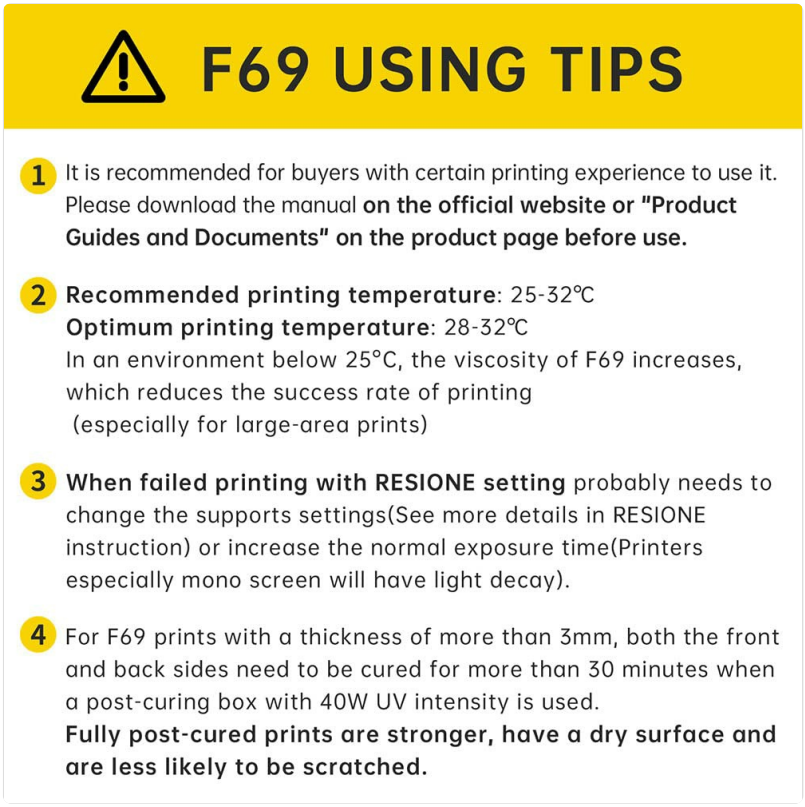

Figure 9: Key tips for using F69 resin effectively.

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7. Specifications

Product Details:

Brand	RI RESIONE
Model Number	RESIONE-1 (F69-1kg)

Material	Resin
Color	Black
Item Weight	1 Kilograms (2.2 Pounds)
Package Dimensions	10 x 4.09 x 4.06 inches
UPC	744119503310
Date First Available	May 26, 2021

Mechanical Properties (Approximate Values):

Shore Hardness	60-75A
Tear Strength	47.2KN/m
Tensile Strength	7.9MPa
Elastic Modulus	2.0MPa
Elongation at Break	255.1%
Viscosity (25°C)	1250mPa.s

Figure 10: Detailed mechanical properties of RESIONE F69 Flexible Resin.

8. Warranty and Support

For detailed product information, troubleshooting, and support, please refer to the official resources:

- **Official User Guide:** A comprehensive user guide in PDF format is available for download.Download User Guide (PDF)
- **Manufacturer Support:** For any specific questions, technical assistance, or warranty inquiries, please contact RESIONE directly through their official channels or the seller on the platform where the product was purchased.
- **Return Policy:** This product typically comes with a 30-day return policy for refund or replacement, subject to the retailer's terms and conditions.