

## RESIONE F39T

# RESIONE F39T Flexible 3D Printer Resin User Manual

Model: F39T

## 1. PRODUCT OVERVIEW

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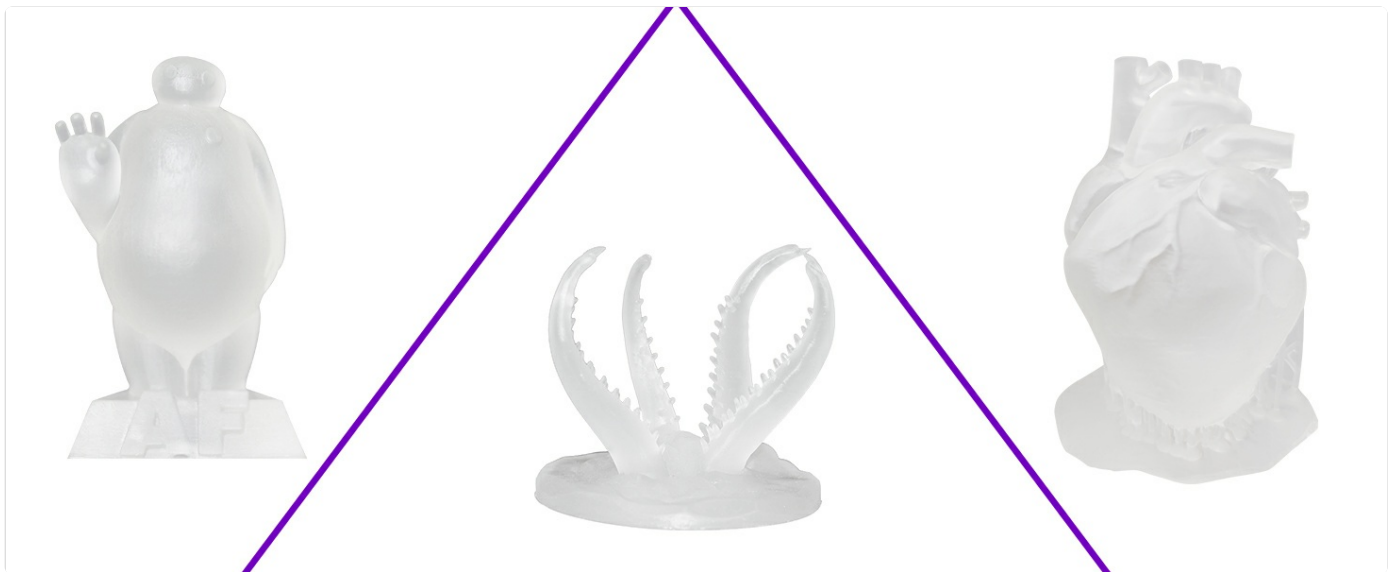
The RESIONE F39T is a high-performance flexible 3D printer resin designed for 405nm LCD, DLP, and MSLA UV curing 3D printers. This resin offers exceptional elasticity, tear resistance, and high elongation, making it ideal for creating rubber-like models and parts that require flexibility and durability.

Key characteristics include:

- **High Elongation & Tear Resistance:** Features an elongation at break of 255% and a tear strength of 47.2 KN/m, allowing printed objects to bend and stretch without breaking.
- **Rubber-like Softness:** With a Shore Hardness of 60-75A, models exhibit a soft, rubbery feel at temperatures above 20°C, becoming firmer at lower temperatures (e.g., impact-resistant at 5°C).
- **Versatile Application:** Suitable for printing prototypes like shoes and wearable devices, as well as flexible figures and resin parts such as tires.
- **Toughening Agent:** Can be mixed with other tough resins like K/M58/M68/G217 to enhance the durability and prevent brittleness of printed objects over time.



RESIONE F39T Flexible Resin bottle and a transparent flexible 3D printed heart model, demonstrating its rubber-like properties.



Various models printed with F39T resin, showcasing its application in creating flexible and detailed objects.

## 2. SAFETY PRECAUTIONS

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Always prioritize safety when handling 3D printer resins. The following guidelines are essential for safe use and disposal of RESIONE F39T Flexible Resin:

### 2.1 During Use

- **Operating Temperature:** Maintain an ambient temperature between 20-35°C (68-95°F).
- **Shake Before Use:** Shake the resin bottle thoroughly before each use. If the resin is highly viscous, preheat the bottle in 60°C hot water to improve flow.
- **Personal Protective Equipment:** Always wear nitrile gloves to prevent skin contact.
- **Ventilation:** Ensure the working area is well-ventilated to minimize inhalation of fumes.

- **UV Exposure:** Do not use the resin near balconies, windows, or other strong UV light sources, as this can cause premature curing.
- **Emergency Contact:** In case of eye or mouth contact, rinse immediately with plenty of water and consult a medical professional.
- **Skin Contact:** If resin gets on skin, wash thoroughly with soap and water or hand sanitizer.
- **Material Compatibility:** Avoid contact with acrylic materials.

## 2.2 Storage

- Store the resin in a cool, dark place, away from direct sunlight and heat sources.
- Keep the resin bottle tightly sealed when not in use.
- Keep out of reach of children and pets.
- If the 3D printer will not be used for more than one day, filter any remaining resin from the tank through a funnel and pour it back into an empty, clean container. Do not return used resin to the original bottle to prevent contamination.

## 2.3 Disposal

- **Unused Resin:** To dispose of unwanted liquid resin, pour small amounts into a transparent container and expose it to direct sunlight until it fully hardens. Once solid, it can be disposed of as general waste according to local regulations.
- **Cleaning Solution:** Do not pour resin-contaminated cleaning solutions (e.g., IPA) directly down the drain. Allow the resin particles in the cleaning solution to settle and harden under sunlight. Filter out the solidified residue, and the cleaned solution can often be reused or disposed of responsibly.

## 【予防措置】

### 使用中:

- 作動温度: 20~35°C, 68°F~95°F
- 毎回使用前によく振ってください。レジンが非常に粘性がある場合は、ボトルを60°Cの温水で予熱してから振ってください。
- 運転中はニトリルゴム手袋を着用し、運転環境を十分に換気してください。
- 窓、バルコニー、その他の強い紫外線環境の近くでレジンを使用しないでください。
- 誤って目、口、鼻にレジンが入った場合は、すぐに大量の水で洗い流し、医師にご相談ください。
- 皮膚に残ったレジンには、ソープや手指消毒剤などで洗うことができます。
- アクリルに触れられない方へのご注意します。

### ストレージ:

- 密閉された日陰の涼しい場所に保管してください。
- 火から遠ざけてください。
- 子供の手の届かないところに保管してください。
- レジンを3dプリンターで1日以上使用していない場合は、フィルター漏斗でレジンを通し、空の容器に注ぐことをお勧めします。ボトル内のレジンに汚染しないように、樹脂タンク内のレジンも元のボトルに直接戻さないでください。

### 廃液について

レジンが不要になった場合は、透明な容器に注ぎ（一度に少量ずつ）、太陽の下に置いてよく硬化させてください。レジンを含む洗浄液は、直接下水道に流さないでください。まず、洗浄液を太陽の下に置き、中のレジンがよく固化して沈殿するまで待つてから、固形残留物をろ過して取り除くと、ろ過した洗浄液を継続して使用できます。

Important safety precautions for using flexible resin.

## 3. SETUP AND PRINTING PARAMETERS

Optimal printing results depend on correct printer settings and environmental conditions. It is recommended for users with some prior 3D printing experience.

### 3.1 Recommended Printing Environment

- **Room Temperature:** The recommended printing temperature is 25-32°C, with an optimal range of 28-32°C.
- **Temperature Impact:** In environments below 25°C, the viscosity of F39T resin increases, which can reduce the printing success rate, especially for large models.

## 3.2 Slicer Settings

When setting up your slicer software, ensure that 'Anti-aliasing' and 'Grayscale' options are turned off. Use the following table as a guide for setting parameters. If you have successfully printed with standard resin, use those settings as a baseline and adjust according to the RESIONE parameters below. These parameters are suitable for printing room temperatures of 25-35°C.

### RESIONE印刷パラメータの設定方法

設定	レジン	標準レジン	F39/F39T	F39/F39T	F69
レイヤーの高さ(μm)		50	50	100	50
初期層の露光時間(s)		A	1*A	1.2*A	1.25*A
露光時間(s)		B	0.8*B	1.4*B	1.2*B
消灯遅延(s)		D	D+1.5	D+1.5	D+1.5
初期層リフト距離(mm)		E	E+2	E+2	E+2
リフト高さ(mm)		F	F+2	F+2	F+2
初期層上昇速度(mm/min)		G	60-120	60-120	60-120
上昇速度(mm/min)		H	60-120	60-120	60-120
リトラクト速度(mm/min)		I	120-180	120-180	120-180

**注意事項:** “アンチエイリアシング” / “グレースケール” はオフのまま。標準レジンを正常に印刷した設定を「標準設定」として定義します。それ以外の場合は、プリンター(またはスライサー)のデフォルトの標準レジンを設定を「標準設定」として使用します。次に、以下の方法で「標準設定」に基づいてRESIONEレジンのパラメータを計算して設定します(印刷室の温度が25~35°Cの場合に適しています)。

RESIONE Printing Parameter Settings Guide.

### RESIONE F39T Recommended Printing Parameters

Setting	Standard Resin	F39/F39T (50μm)	F39/F39T (100μm)	F69
Layer Height (μm)	50	50	100	50
Bottom Exposure Time (s)	A	1*A	1.2*A	1.25*A
Exposure Time (s)	B	0.8*B	1.4*B	1.2*B
Light-off Delay (s)	D	D+1.5	D+1.5	D+1.5
Bottom Lift Distance (mm)	E	E+2	E+2	E+2
Lift Height (mm)	F	F+2	F+2	F+2
Bottom Lift Speed (mm/min)	G	60-120	60-120	60-120
Lift Speed (mm/min)	H	60-120	60-120	60-120
Retract Speed (mm/min)	I	120-180	120-180	120-180

## 4. OPERATING INSTRUCTIONS

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Follow these steps for successful 3D printing with RESIONE F39T Flexible Resin:

1. **Preparation:** Ensure your 3D printer is clean and level. Shake the resin bottle well before pouring. Maintain the recommended room temperature (25-32°C).
2. **Pouring Resin:** Carefully pour the resin into the printer's resin tank, ensuring it does not exceed the maximum fill line.
3. **Printing:** Load your sliced 3D model file into the printer and start the printing process. Monitor the first few layers to ensure proper adhesion.
4. **Post-Processing - Cleaning:** Once printing is complete, carefully remove the build plate. Use a scraper to detach the printed model. Wash the model thoroughly with IPA (Isopropyl Alcohol) or a dedicated resin cleaner to remove any uncured resin. Use a soft brush if necessary for intricate details.
5. **Post-Processing - Drying:** Allow the cleaned model to air dry completely or use a gentle air blower. Ensure no residual IPA remains.
6. **Post-Processing - Curing:** Place the dried model in a UV curing chamber. For F39T prints thicker than 3mm, use a 40W UV post-curing box and cure both the front and back surfaces for at least 30 minutes each. Proper post-curing enhances the model's strength and surface finish.

# 細かいディテール 使いやすいソフトレジン

細部がはっきりしていて、RESIONEは処方に対して専門的な設計を行い、フレキシブルレジン部品が印刷中に変形しやすい欠点を効果的に回避し、印刷の成功を確保した



A transparent 3D printed model undergoing the curing process.

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Video demonstrating the potential medical applications of F39 resin, highlighting its flexibility and suitability for specific uses.

## 5. MAINTENANCE

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Proper maintenance of your resin and equipment ensures consistent print quality and extends the lifespan of your materials.

- **Resin Tank Cleaning:** After each print, inspect the resin tank for any cured resin debris. Use a plastic scraper to gently remove any hardened bits to prevent damage to the FEP film or future prints.
- **FEP Film Care:** Handle the FEP film with care. Avoid touching it directly with bare hands or sharp objects. Replace the FEP film if it shows signs of wear, scratches, or punctures.
- **Printer Cleaning:** Regularly clean the printer's build plate and other components with IPA to remove resin residue.
- **Resin Filtration:** If resin has been sitting in the tank for an extended period or if you suspect contamination, filter it

using a fine mesh filter or funnel filter before reuse or storage.

## 6. TROUBLESHOOTING

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Encountering issues during printing is common. Here are some tips for troubleshooting with RESIONE F39T Flexible Resin:

- **Print Failures (e.g., model not adhering, partial prints):**
  - **Temperature:** Ensure the printing environment is within the recommended 25-32°C range. Low temperatures significantly increase resin viscosity and can lead to failures.
  - **Exposure Time:** If prints are failing, consider increasing the exposure time for single layers. Light attenuation can occur, especially with mono-screen printers.
  - **Support Settings:** Adjust support settings in your slicer. Insufficient or poorly placed supports can cause print failures, especially for flexible resins.
  - **Resin Mixing:** Ensure the resin is thoroughly shaken before use to ensure all components are evenly mixed.
- **Models are too soft or sticky after curing:**
  - **Post-Curing:** Ensure adequate post-curing. For models thicker than 3mm, cure both sides for at least 30 minutes each in a 40W UV curing box.
  - **Cleaning:** Ensure all uncured resin is completely washed off before curing. Residual resin will result in a sticky surface.
- **Models are too brittle:**
  - **Over-Curing:** While flexible, excessive UV exposure during post-curing can sometimes lead to increased brittleness. Adjust curing times if necessary.
  - **Mixing with Toughener:** If increased toughness is desired, consider mixing F39T with other RESIONE tough resins as a toughening agent.

## 7. SPECIFICATIONS

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Detailed technical specifications for RESIONE F39T Flexible Resin:

- **Brand:** RESIONE
- **Model:** F39T
- **Color:** Transparent (available in other colors)
- **Curing Wavelength:** 405nm
- **Printer Compatibility:** LCD, DLP, MSLA 3D Printers
- **Product Weight:** 1.21 kg (for 1000g bottle)
- **Product Dimensions:** 25 x 10 x 10 cm

### 7.1 Mechanical Properties (Post-Cured)

Property	Value
Shore Hardness	60-75A
Tear Strength	47.2 KN/m
Tensile Strength	7.9 MPa

Property	Value
Elastic Modulus	2.0 MPa
Elongation at Break	255.1%
Viscosity (28°C)	1250 mPa.s



## 機械性能

ショア硬度 60~75A

弾性率 2.0MPa

引裂強度 47.2KN/m

破断点伸び率 255.1%

引張強度 7.9MPa

粘度 (28°C) 1250mpa.s

Mechanical properties of RESIONE F39T Flexible Resin.

## 8. WARRANTY AND SUPPORT

For warranty information, technical support, or any product-related inquiries, please contact RESIONE customer service through the official website or the platform where the product was purchased. Experienced engineers are available to provide professional technical support to ensure a successful printing experience.



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