



RESINIFY — INSTRUCTIONS FOR USE (IFU)

ToughFlex 90A (RT-TF900A) — Tough, Semi-Flexible Elastomer Resin (Shore 90A) For Hinges, Snap-Fits, Impact-Resistant Parts & Industrial Flex Components

1. Product Overview

ToughFlex 90A is a **semi-flexible, impact-resistant elastomer resin** engineered for applications requiring a balance of toughness, flex, and rigidity. It performs like a durable TPU-style material, ideal for functional prototypes and production components under repeated stress. Ideal for living hinges, snap-fit designs, shock-absorbing components, grips, covers, vibration-damping parts, and flexible mechanical assemblies.

2. Printer Compatibility

- LCD / mSLA / DLP printers
- 385–405 nm wavelength
- Best results with controlled lift speeds and light-off delay

3. Printing Instructions

Parameter	Recommended
Layer Height	50–100 μm
Normal Exposure	2.8–3.6 sec
Bottom Exposure	40–55 sec
Bottom Layers	6–8
Lift Speed	Slow–Medium



Parameter	Recommended
Light-Off Delay	Enabled

Support Tips:

- Use strong medium supports.
- Angle 20–30° to reduce suction and improve mechanical stability.
- Reinforce flexible areas or hinges during printing.

4. Cleaning Instructions

- Wash **1–2 minutes** in fresh IPA or resin cleaner.
- Do not soak — extended IPA exposure may stiffen elastomer zones.
- Dry fully; IPA trapped inside flexible walls reduces cure performance.

5. Post-Curing Instructions

- UV cure **10–20 minutes**.
- Optional heat cure: **45–55°C for 10 minutes** enhances tear resistance.
- Avoid over-curing, which increases hardness above 90A.

6. Usage Guidelines

- Excellent for repeated flexing without cracking.
- Performs well for semi-rigid functional prototypes.
- Avoid unsupported ultra-thin walls (<1.0 mm).
- Provides strong rebound with controlled elasticity.
- Sands and drills with care — material is flexible.

7. Safety & Disposal

- Wear gloves, mask, and safety glasses.
- Cure all waste resin before disposal.
- Dispose of IPA per environmental regulations.