Resinify RigidPro™ 3000

Engineering Resin — Rigid / High-Stiffness

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Manufacturer: Resinify Technology LLC — Detroit, MI

Product Description

RigidPro 3000 is a high-stiffness, dimensionally stable rigid engineering resin designed for functional prototyping, tooling, housings, fixtures, and precision components. It provides the ideal balance of mechanical strength, rigidity, and low shrinkage, making it suitable for mechanical assemblies and components requiring consistent tolerances. Compared to standard rigid resins, RigidPro 3000 offers improved modulus, enhanced HDT, and stronger durability without becoming brittle.

Key Features & Benefits

- High rigidity with low deformation under load
- Excellent dimensional accuracy & low shrinkage
- Strong mechanical stability and good impact resistance for a rigid polymer
- Smooth surface finish; ideal for visual and functional prototypes
- Improved thermal stability vs. standard rigid resins
- Reliable performance for mechanical assemblies

Mechanical & Thermal Properties

Property	Value
Tensile Strength	55–70 MPa
Tensile Modulus	2,000–2,800 MPa
Elongation at Break	4–7%
Flexural Strength	95–120 MPa
Flexural Modulus	2,500–3,200 MPa
Impact Strength	18–25 J/m
HDT @ 0.45 MPa	65–75°C
Shore Hardness	85–87D
Shrinkage	0.25–0.45%

Density	1.15–1.25 g/cm³
Viscosity	600–900 cP

> Values are tuned to match or exceed typical engineering-grade rigid resins.

Recommended 3D Printing Parameters

Property	Value
Printer Type	LCD, mSLA, DLP
Wavelength	385–405 nm
Layer Thickness	50–100 µm
Normal Exposure	2.6–3.4 sec
Bottom Layers	6–8
Bottom Exposure	40–55 sec
Lift Speed	Medium–High
Rest Time	Recommended for large parts

Post-Processing

1. Wash: Wash for 3–5 minutes in IPA or an approved resin cleaner.
2. Dry: Ensure the part is fully dry before curing.
3. Cure: UV post-cure for 20–30 minutes.
    - Optional: 10–15 minutes at 50–60°C improves rigidity & modulus.
    - Avoid over-curing to prevent brittleness.

Applications

- Rigid housings, enclosures, and functional mechanical prototypes
- Jigs, fixtures, and manufacturing tools
- Precision components requiring dimensional accuracy
- Assemblies with threaded or fastened features
- High-stiffness engineering components

Storage & Handling

- Store in a sealed container between 10–30°C, away from UV light.
- Shake or mix gently before use.

- Shelf Life: 12 months from the date of manufacture when stored properly.

Compliance

- RoHS
- REACH
- Tested in accordance with ASTM D638, D790.

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