RESINIFY – TECHNICAL DATA SHEET

Product Name: RigidPro 6000 **RT Code:** RT-RG6000 **Category:** Engineering Resin – Ultra-Rigid / High-Modulus

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1. Product Description

RigidPro 6000 is Resinify's premium ultra-rigid engineering resin, formulated for applications requiring maximum stiffness, minimal flex, and high thermal stability. Designed to outperform standard rigid resins, RigidPro 6000 achieves **significantly higher modulus and flexural strength**, making it ideal for precision tooling, structural components, and parts exposed to continuous mechanical loads. This resin is engineered to replicate the behavior of high-modulus plastics and fiber-reinforced polymers while remaining 3D-printable on consumer and professional SLA/LCD printers.

2. Key Features & Benefits

- Extremely high stiffness and minimal deformation
- Highest modulus in the RigidPro series
- Excellent heat resistance and dimensional stability
- Low creep under mechanical load
- Ceramic-like hardness and precision
- Ideal for molds, structural components, and precision jigs

3. Mechanical & Thermal Properties

Property	Value
Tensile Strength	60–75 MPa
Tensile Modulus	**3,500–6,000 MPa** (very high)
Elongation at Break	2–4%

Property	Value
Flexural Strength	110–140 MPa
Flexural Modulus	**4,500–6,000 MPa**
Impact Strength	10–18 J/m
HDT @ 0.45 MPa	75–95°C
Shore Hardness	88–90D
Shrinkage	0.20–0.40%
Density	1.25–1.40 g/cm³
Viscosity	900–1500 cP

Note: Designed for ultra-high rigidity and dimensional stability.

4. Recommended 3D Printing Parameters

Parameter	Setting
Printer Type	LCD, mSLA, DLP
Wavelength	385–405 nm
Layer Thickness	50–100 µm
Normal Exposure	3.0–4.0 sec
Bottom Layers	6–10

Parameter	Setting
Bottom Exposure	50–75 sec
Lift Speed	Medium
Rest Time	Recommended (rigidity increases suction forces)

5. Post-Processing

1. **Wash**: Wash for 3–5 minutes in IPA or a dedicated resin cleaner.
2. **Dry**: Dry parts fully before curing.
3. **Cure**: UV post-cure for **30–45 minutes** for maximum modulus.
    - Optional heat cure: **60–70°C for 30 minutes**.
    - Avoid sudden temperature changes to prevent cracking.

6. Applications

- High-precision fixtures, jigs, mold masters, and tooling
- Structural and load-bearing parts
- Components requiring high modulus and stability
- Precision mechanical assemblies and electronics housings requiring absolute rigidity

7. Storage & Handling

- Store in a sealed container between **10–30°C**, away from UV light.
- Stir thoroughly before use (reinforced resin).
- **Shelf Life:** 12 months from the date of manufacture when stored properly.

8. Compliance

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

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