RESINIFY – TECHNICAL DATA SHEET

Product Name: Elastic 40A **RT Code:** RT-EL40A **Category:** Engineering Resin – Elastomeric (40A Shore Hardness)

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1. Product Description

Elastic 40A is a soft, highly flexible elastomer resin designed for applications requiring rubber-like behavior, high elongation, and excellent rebound. With a Shore hardness of 40A, the material closely simulates soft silicone or TPU used in gaskets, grips, seals, wearables, and cushioning components. Elastic 40A provides superior tear resistance, a smooth surface finish, and consistent mechanical performance across LCD, DLP, and mSLA 3D printers.

2. Key Features & Benefits

- Very soft, 40A elastomeric flexibility
- High elongation with excellent rebound
- Smooth, rubber-like tactile feel
- Strong tear resistance and durability
- Ideal for prototyping rubber/silicone components
- Stable performance across multiple printing platforms

3. Mechanical & Thermal Properties

Property	Value
Shore Hardness	40A
Tensile Strength	3–5 MPa
Elongation at Break	150–220%
Tear Strength	High (18–25 kN/m equivalent)

Property	Value
Tensile Modulus	Low (elastic behavior)
Compression Set	Low
Impact Resistance	Very high
Heat Deflection Temp	40–50°C
Density	1.05–1.15 g/cm^3
Viscosity	800–1200 cP

Note: Highly flexible materials do not exhibit traditional rigid mechanical metrics (e.g., flexural properties are not applicable).

4. Recommended 3D Printing Parameters

Parameter	Setting
Printer Type	LCD / mSLA / DLP
Wavelength	385–405 nm
Layer Thickness	50–100 µm
Normal Exposure	3.2–4.0 sec
Bottom Layers	6–10
Bottom Exposure	50–70 sec
Lift Speed	Slow–Medium

Parameter	Setting
Rest Time	Recommended for soft parts

Important: Flexible materials require slower lift speeds and careful support placement to prevent suction forces and layer separation.

5. Post-Processing

1. **Wash**: Wash very gently in IPA for 2–3 minutes. Avoid aggressive shaking or agitation.
2. **Dry**: Air dry at room temperature (avoid heat above 35°C before final cure).
3. **Cure**: Post-cure for 10–20 minutes under 405 nm UV light.
    - For optimal softness, avoid overheating during cure.
    - For maximum elongation, stop curing once the surface is dry and non-tacky.

6. Applications

- Soft gaskets, seals, and cushioning components
- Wearables, straps, and grips
- Robotics soft components and bumpers
- Shock-absorbing and vibration-dampening parts
- Medical training models requiring realistic flexibility

7. Storage & Handling

- Store in a sealed container between **10–25°C**.
- Avoid exposure to sunlight or UV sources.
- Mix gently before use to avoid entrapping air.
- **Shelf Life:** 12 months from the date of manufacture when stored properly.

8. Compliance

- RoHS

- REACH
- Mechanical properties tested in accordance with **ASTM D412** (Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension).

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