RESINIFY – TECHNICAL DATA SHEET

Product Name: ImpactMax **RT Code:** RT-TF1600 **Category:** Engineering Resin – Tough / Impact Resistant

---

1. Product Description

ImpactMax is a high-performance, impact-resistant engineering resin designed to withstand repeated mechanical stress, shock loading, and functional testing. It delivers **high elongation**, **excellent impact strength**, and **superior toughness**, making it ideal for snap-fit components, mechanical housings, protective covers, and prototypes subjected to real-world handling. This resin provides improved durability and reduced brittleness compared to standard "tough" photopolymers, along with excellent dimensional accuracy and surface finish.

2. Key Features & Benefits

- High impact strength and shock resistance
- Excellent toughness with ductile failure behavior
- Strong layer adhesion for durable parts
- Good stiffness–flexibility balance
- Reduced brittleness compared to rigid resins
- Ideal for functional testing and mechanical parts

3. Mechanical & Thermal Properties

Property	Value
Tensile Strength	45–55 MPa
Tensile Modulus	1,300–1,700 MPa
Elongation at Break	25–45%

Property	Value
Flexural Strength	70–90 MPa
Flexural Modulus	1,500–2,000 MPa
Impact Strength	**40–60 J/m**
HDT @ 0.45 MPa	55–65°C
Shore Hardness	80–82D
Notched Izod	35–50 J/m
Water Absorption	<0.45%
Shrinkage	0.3–0.6%
Density	1.12–1.20 g/cm³
Viscosity	600–900 cP

Note: ImpactMax is optimized for ductility rather than rigidity.

4. Recommended 3D Printing Parameters

Parameter	Setting
Printer Type	LCD / mSLA / DLP
Wavelength	385–405 nm
Layer Thickness	50–100 µm

Parameter	Setting
Normal Exposure	2.8–3.4 sec
Bottom Layers	5–8
Bottom Exposure	40–55 sec
Lift Speed	Medium
Rest Time	Recommended for large parts

5. Post-Processing

1. **Wash**: Wash for 3–5 minutes in IPA or a dedicated resin cleaner.
2. **Dry**: Air dry or use compressed air.
3. **Cure**: UV post-cure for **15–25 minutes**.
    - Avoid overheating during cure to preserve elongation.
    - An optional mild heat cure at **45–50°C** can be used for added toughness.

6. Applications

- Snap-fit mechanical parts and high-impact housings & covers
- Jigs, fixtures, and prototypes for functional stress testing
- Sports equipment, tools, and consumer product components
- Robotics and drone parts requiring durability

7. Storage & Handling

- Store in a sealed container between **10–30°C**, away from light.
- Shake or stir gently before use.
- **Shelf Life:** 12 months from the date of manufacture when stored properly.

8. Compliance

- RoHS
- REACH
- Tested in accordance with ASTM D638, D790, D256.

This document is subject to change. For the latest version, please contact Resinify Technology LLC.

RESINIFY – Innovating Additive Manufacturing Materials