



RESINIFY – TECHNICAL DATA SHEET

Product Name: HeatShell Pro **RT Code:** RT-HT200 **Category:** Engineering Resin – High-Temperature Mold Shell

1. Product Description

HeatShell Pro is a high-performance engineering resin designed specifically for mold shells, thermoforming masters, vulcanizing molds, and high-temperature tooling. It delivers a unique balance of **heat resistance, strength, and surface hardness**, allowing it to withstand elevated temperatures, repeated thermal cycling, and mechanical pressure. Compared to standard high-temp resins, HeatShell Pro provides improved durability, greater stability, and enhanced resistance to cracking or deformation during mold fabrication processes.

2. Key Features & Benefits

- High heat deflection and thermal stability
- Excellent surface hardness for mold shell applications
- Strong resistance to deformation under heat and pressure
- Smooth surface finish for fine mold detail
- Low shrinkage and high dimensional accuracy
- Suitable for vulcanizing dies, thermoforming molds, and wax molding

3. Mechanical & Thermal Properties

Property	Value
Tensile Strength	55–70 MPa
Tensile Modulus	2,200–2,800 MPa
Elongation at Break	4–8%
Flexural Strength	95–120 MPa



Property	Value
Flexural Modulus	2,800–3,500 MPa
Impact Strength	18–30 J/m
HDT @ 0.45 MPa	110–130°C
Shore Hardness	88–90D
Notched Izod	18–25 J/m
Water Absorption	<0.35%
Shrinkage	0.25–0.50%
Density	1.25–1.35 g/cm ³
Viscosity	900–1300 cP

Note: Properties may vary with cure conditions and mold thickness.

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



Parameter	Setting
Bottom Layers	6–10
Bottom Exposure	50–70 sec
Lift Speed	Medium
Rest Time	Suggested for large mold forms

Note: For mold accuracy, use heavier supports and slower lift speeds for thick geometries.

5. Post-Processing

1. **Wash:** Wash for 3–5 minutes in IPA or a dedicated resin cleaner.
2. **Dry:** Dry parts thoroughly before curing.
3. **Cure:** UV post-cure for **30–40 minutes**.
 - For maximum heat resistance, a **heat-assisted post-cure is required: 80–100°C for 20–30 minutes**. This annealing improves thermal performance and dimensional stability.

6. Applications

- Thermoforming molds and vulcanizing mold shells
- Wax and urethane casting molds
- High-temperature tooling and prototype injection molding
- Heat-resistant housings and fixtures

7. Storage & Handling

- Store in a sealed container between **10–30°C**, protected from UV exposure.
- Mix gently before use to avoid air bubbles.
- **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***