RESINIFY — INSTRUCTIONS FOR USE (IFU)

Product Name: CeramixCast — High-Strength, High-Temperature Ceramic-Filled Castable Resin **Intended Use:** For Advanced Jewelry Investment Casting

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1. Product Overview

CeramixCast is a ceramic-reinforced castable photopolymer formulated for **maximum dimensional stability**, **minimal thermal expansion**, and **extremely clean burnout**. Adapted from the performance profile of PIC 100, this resin is ideal for professional jewelry manufacturers requiring the most reliable casting results for large rings, heavy patterns, and geometries where deformation must be minimized. CeramixCast maintains structural integrity during handling, investing, and early burnout, providing a casting behavior similar to high-quality photopolymer patterns with measurable ceramic stability.

2. Intended Use

CeramixCast is designed for:

- Large rings, signet designs, thick jewelry components
- Precision casting of high-value alloys
- Production runs requiring predictable thermal behavior
- Investment casting of gold, silver, brass, bronze
- DLP/mSLA 385–405 nm systems

3. Storage & Handling

- Store at **18–28°C (65–82°F)**.
- Mix gently before each use to distribute ceramic fillers evenly.
- Filter resin through a **190–220 µm** filter after printing.
- Keep away from direct sunlight and excessive heat.

4. Printing Instructions

Recommended starting parameters (50 µm layer thickness):

Setting	Recommendation
Layer Height	50 µm (25 µm for high-detail patterns)
Normal Exposure	3.4–4.4 sec
Bottom Exposure	40–55 sec
Bottom Layers	4–6
Lift Speed	Medium
Light-Off Delay	Enabled (ceramic-filled resins benefit from rest time)

Supports & Orientation:

- Use heavier supports than wax-based resins.
- For signet rings or heavy models: tilt **25–35°**.
- Support the underside of large flat surfaces to avoid cupping.
- Add mid-supports to prevent deflection during peeling.

Handling Note: CeramixCast is stronger and more rigid than other casting resins, making it excellent for large patterns.

5. Cleaning Instructions

Two-Stage Wash:

1. **First Wash (20–30 sec):** Fresh IPA; swirl gently.
2. **Second Wash (20–30 sec):** Clean IPA or TPM-style cleaner.

Drying:

- Air-dry for **10–20 minutes**.
- Blow out small cavities with gentle compressed air.

Important: Do **not** soak the pattern in IPA. Excessive exposure can damage surface stability.

6. Post-Curing Instructions

Medium Cure (10–20 minutes):

- UV cure for **10–15 minutes**.
- Keep curing temperature **below 50°C (122°F)**.
- Ceramic reinforcement allows longer cure without risk of burnout residue. *Note:* CeramixCast achieves ideal burnout behavior with moderate curing—avoid over-curing.

7. Investing Instructions

Recommended Investments:

- R&R Plasticast, R&R Ultra-Vest, Gold Star investments
- Any high-temperature gypsum-bonded jewelry investment

Procedure:

- Vacuum mix for **90–120 seconds**.
- Pour investment slowly down the flask wall.
- Light vibration only — heavy vibration may loosen details.
- Allow flask to bench-set for **2–3 hours**.

Model Dryness: CeramixCast must be **fully dry** prior to investing.

8. Burnout Schedule

Standard High-Temperature Cycle:

Step	Temperature	Time
Ramp 1	Room Temp → 300°C (570°F)	2 hours

Step	Temperature	Time
Hold	300°C	1 hour
Ramp 2	300°C → 730°C (1350°F)	2 hours
Hold	730°C	2–3 hours
Optional High-Temp Hold	850°C (for platinum only, if investment permits)	1 hour
Casting	500–650°C flask temp	—

For Large or Thick Patterns:

- Extend 300°C hold to **2 hours**.
- Extend 730°C hold up to **4 hours**.

Notes: CeramixCast contains ceramic components that stabilize the model during ramp-up, reducing deformation compared to fully organic resins.

9. Casting Recommendations

Best alloys for CeramixCast include: Gold (all karats), Sterling silver, Brass and bronze, Palladium and platinum (with proper burnout).

Key Advantages for Casting:

- Excellent dimensional control
- Very low ash residue
- Strong patterns reduce breakage before investing
- Best choice for heavy, solid jewelry pieces

Tips:

- Use proper sprue sizing for large rings.

- Ensure complete burnout before pouring for platinum or silver.

10. Post-Casting Cleanup

- **Quench depending on alloy:** Silver/brass: quench immediately after color change. Gold: short pause before quench.
- Use ultrasonic cleaning or steam to remove investment.
- Surface finishing (polish, tumble, sandblast) depends on alloy hardness.

11. Safety & Disposal

- Wear gloves, mask, and eye protection.
- Avoid inhaling fumes during burnout.
- Cure and harden waste resin before disposal.
- Dispose of IPA and cleaners according to local regulations.
- Do not burn uncured resin.