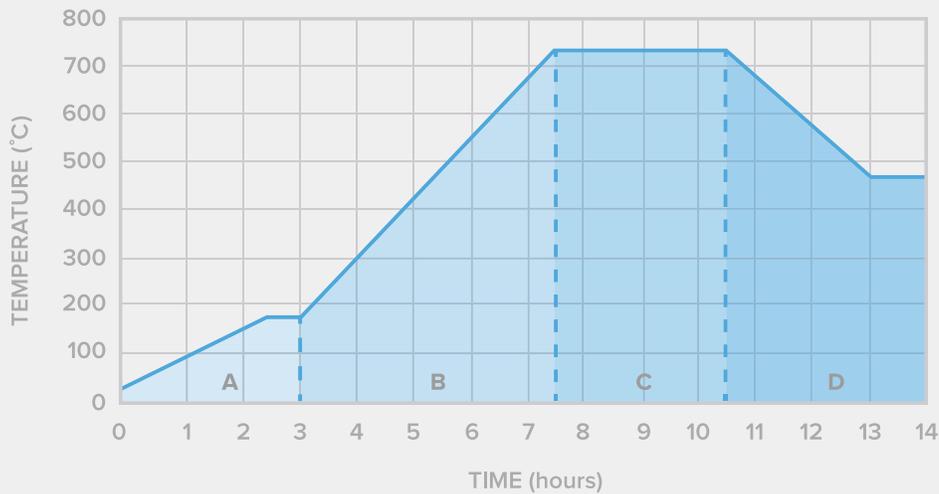


FORMLABS USAGE GUIDE:

Castable Resin: Jewelry Pattern Burnout Process

Castable Resin is our original formulation for direct investment casting. This pure polymer requires an alternate burnout to a typical wax schedule.

Standard Burnout Schedule



The Standard Burnout schedule is designed for compatibility with R&R Plasticast or similar investment materials. Use this schedule as a starting point and make adjustments as needed.

	DESCRIPTION	PHASE	TIME TO TEMP	SCHEDULE °C	SCHEDULE °F
A	Place flasks into a cold oven.	Insert Flasks	0 min	Room temp	Room temp
	Warm Up	Ramp	150 min	1.0 °C/min	1.9 °F/min
	Castable Resin starts to burn out, transitioning directly from solid to gas. The slow ramp rate reduces the chance of cracking in the investment.	Hold	30 min	177 °C	350 °F
B	Main Ramp Castable Resin continues to burn out. The duration of this ramp should be adjusted depending on the size and number of flasks, and the total volume of material being burned out.	Ramp	270min	2.1 °C/min	3.7 °F/min
C	Main Hold Castable Resin should completely burn out during this hold. The duration of this hold depends on the size and number of flasks, and the thickness and total volume of Castable material being burned out. Thicker parts require a longer hold. Increased air flow inside the oven may allow for a shorter hold.	Hold	180 min	732 °C/min	1350 °F
D	Cool Down	Ramp	150 min	-1.7 °C/min	-1.8 °C/min
	Cools the flask down to the desired casting temperature. Temperature is held until flask is cast.	Casting Window	Up to 2 hours	482 °C (or desired casting temp)	900 °F (or desired casting temp)

Washing: It is important to thoroughly clean prints before use. Wash Castable prints in isopropyl alcohol (IPA) for 10 minutes. Rinse for 5 minutes in a second, cleaner IPA bath to eliminate any remaining uncured material. For best results, fully dry parts with compressed air.

Curing: Post-cure Castable parts until the surface is hard and rigid. Formlabs recommends curing Castable parts for 4 hours @ 60 °C in Form Cure, or 8 hours in a UV nail curing box.

Technical Data for Castable V2 FLCABL02 - Post-cured¹

	METRIC ²	IMPERIAL ²	METHOD
Tensile Properties			
Ultimate Tensile Strength	11.6 MPa	1680 psi	ASTM D 638-10
Young's Modulus	220 MPa	32 ksi	ASTM D 638-10
Elongation at Break	13%	13%	ASTM D 638-10

NOTES:

¹Data was obtained from parts printed using Form 2, Castable 50 µm Fine Detail settings and post-cured with 2.5 mW/cm² of fluorescent bulb UV light, centered at 405 nm.

²Material properties can vary with part geometry, print orientation, print settings, and temperature.