

JEWELRY RESIN

# Castable Wax 40

From intricate bridal jewelry to large demanding pieces, Castable Wax 40 Resin offers the easiest workflow on the market for 3D printing and casting challenging, highly detailed designs.

Castable Wax 40 resin offers high detail and surface smoothness, with handling characteristics similar to blue carving wax. With a 40% wax fill and low expansion, Castable Wax 40 Resin supports a wide range of lost wax casting conditions and is compatible with leading gypsum investments.



**FLCW4001**

**formlabs** 

**Prepared** 12 . 10 . 2020  
**Rev** 01 - 03 . 02 . 2018

To the best of our knowledge the information contained herein is accurate. However, Formlabs, Inc. makes no warranty, expressed or implied, regarding the accuracy of these results to be obtained from the use thereof.

# MATERIAL PROPERTIES DATA

# Castable Wax 40 Resin

	METRIC <sup>1</sup>	IMPERIAL <sup>1</sup>	METHOD
	Green <sup>2</sup>	Green <sup>2</sup>	
<b>Burnout Properties</b>			
Temperature @ 5% Mass Loss	249 °C	480 °F	ASTM E 1131
Ash content (TGA)	0.0 - 0.1 %	0.0 - 0.1 %	ASTM E 1131

<sup>1</sup>Material properties can vary with part geometry, print orientation, print settings, and temperature.

<sup>2</sup>Data was obtained from green parts, printed using Form 3, 50 µm, Castable Wax 40 Resin settings, without post-cure.

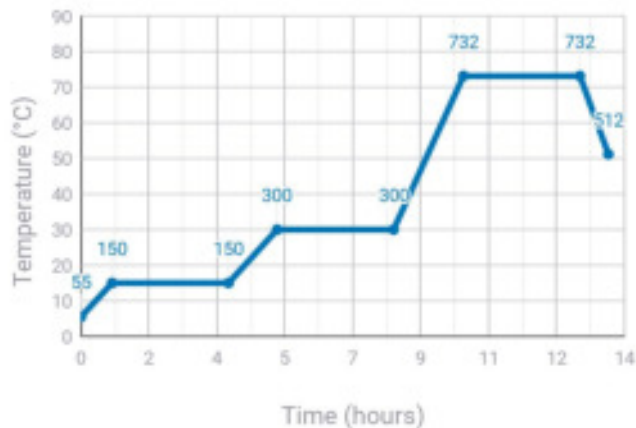
## CASTABLE WAX 40 BURNOUT SCHEDULE 2021

The following burnout schedule is designed to help reduce thermal expansion of resin in the mold, while ensuring a complete burnout for thick jewelry parts. Formlabs recommends Certus Prestige Optima™ investment powder.

**Use this schedule as a starting point and make adjustments as needed.**

Learn how to fine tune burnout and investment preparation for best performance on the [support page](#).

		PHASE	TIME	SCHEDULE °C	SCHEDULE °F
	<b>Heated Bench Rest</b> Place flasks into oven for heated drying after investment set period (30-60 min). Elevated temperature melts solid wax in resin to reduce expansion.	Hold	180 minutes	55 °C	131 °F
<b>A</b>	<b>Thermal Transition</b> Wax sprue melts out, increasing airflow to the resin pattern. Wax in resin diffuses out into investment. Burnout begins gently, breaking down pattern without forceful expansion.	Ramp	48 minutes	2 °C / min	3.6 °F / min
		Hold	180 minutes	150 °C	302 °F
		Ramp	75 minutes	2.0 °C / min	3.6 °F / min
		Hold	180 minutes	300 °C	572 °F / min
<b>B</b>	<b>Burnout</b> Eliminates the remaining resin and ash in the investment.	Ramp	108 minutes	4.0 °C / min	7.2 °F / min
		Hold	180 minutes	732 °C	1350 °F
<b>C</b>	<b>Casting Temperature</b> Cool the flask to casting temperature of the selected metal.	Ramp	44 minutes	- 5 °C / min	- 9 °F / min
		Casting Window	Up to 2 hours	Desired casting temp	Desired casting temp



**Washing Info:**

Wash Castable Wax 40 prints in isopropyl alcohol (IPA) for 5 minutes. Rinse for 5 minutes in a second, cleaner IPA bath to eliminate any remaining uncured material. Fully dry parts with compressed air. Do not use TPM to wash.

**Post-Curing Info:**

Post-curing is not required for bulky Castable Wax 40 prints, but can increase handling strength if desired. Cure parts for up to 30 minutes with no heat.