



CASTABLE RESIN:

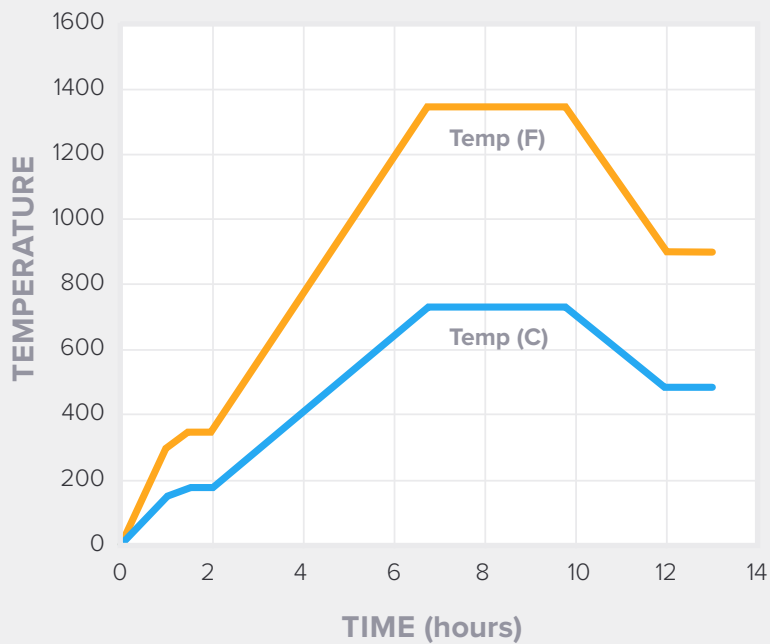
Recommended Burnout Process

Castable Resin allows you to turn the high-resolution prints of the Form 1+ desktop 3D printer into investment ready pieces. Optimized for investment casting, the resin burns out cleanly with no ash or residue, making it perfect for jewelry making, metalwork, and engineering applications.

WARNING

Castable Resin is optimized for the best burnout performance, however, developing a specific burnout and casting process is best left to your discretion. Below, we provide guidelines for a process that has worked well during our testing process. Not following the burnout schedule provided may result in damaged parts.

Burnout Schedule



PROCESS

Ramp	300 °F/h	167 °C/h
Change ramp	300 °F	149 °C
Ramp	100 °F/h	56 °C/h
Hold	350 °F, 30 min	177 °C, 30 min
Ramp	210 °F/h	117 °C/h
Hold	1350 °F, 3 h	732 °C, 3 h
Ramp	-200 °F/h	-111 °C/h
Hold	900 °F, 1 h	482 °C, 1 h

Recommended Investment:

R&R Plasticast with BANDUST

Our Castable Resin is designed to burn out cleanly. We've tested the burnout schedule above with great results using [R&R Plasticast with BANDUST](#).

1. Preparing a Print for Investment Casting

PRINT AND FINISH YOUR PART

The investment casting process starts with a good, finished print. Print your part as normal, ensuring [optimal orientation](#) and [support](#). Follow the usual post-print procedure:

- Allow part to fully dry after removing from the IPA bath.
- Carefully remove support material from your print.
- Gently sand away any support marks so they do not appear in your cast.
- Post-cure the part in a UV chamber for at least 2 hours.

WARNING

When using Castable Resin, **do not finish the print with mineral oil after sanding.**



PREP THE MODEL FOR CASTING

Add wax sprues and gates to the print as you would for lost-wax casting. Ideal positioning will vary with part geometry. Instead of adding wax sprues post-print, you can build them into the part directly using your CAD design software.

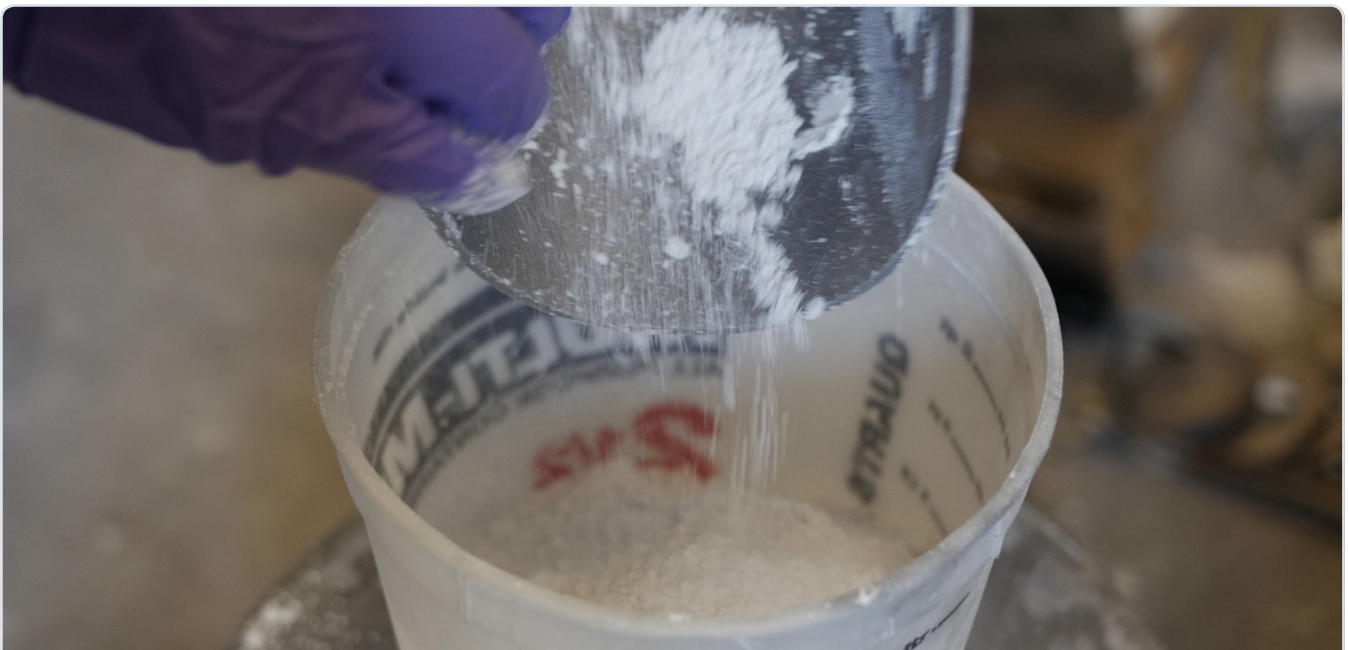


Attach the part to a rubber sprue base using softened wax. Make sure the wax is as smooth as possible.



Attach a casting flask to the rubber sprue base.

2. Preparing the Mold



Weigh and mix the investment according to the manufacturer's instructions.



Degas the container with mixed investment in a vacuum chamber.



Pour investment into casting flask.



Degas the filled casting flask in the vacuum chamber again. Place filled casting flask on flat surface and allow to dry according to manufacturer's instructions. Remove the rubber sprue base and allow investment to dry for another two hours.

3. Burnout



Place casting flask in a furnace and heat according to the burnout schedule provided on page 2. Remove the mold from the furnace. Cast as you normally would. Casting is an involved process. For best results, work with a casting specialist.



L – R: 3D printed manifold in Castable Resin, cast in brass, and after final polishing.

To learn more about suitability of the Form 1+ and our line of functional resins, talk to a member of our sales team: sales@formlabs.com
Learn more at [formlabs.com](https://www.formlabs.com)