

Defiant 25 User Guide



Introducing Siraya Tech Defiant 25 Platinum Silicone:

Welcome to the Siraya Tech Defiant 25 User Guide! We've designed this guide to be an engaging and accessible resource for users of all skill levels. So, whether you're new to mold-making/3D printing or a seasoned pro, we're confident that you'll find this guide helpful and easy to follow. Let's dive in!

FEATURES OF DEFIANT 25 PLATINUM SILICONE:

- Hardness index of Shore 25A.
- Exceptional resistance to silicone poisoning, especially from UV resin.
- Minimal post-processing required for proper mold curing.
- Ideal balance of hardness and flexibility for general molding applications.
- FDA Food Safe.
- Outstanding material strength, including tear and heat resistance.
- Resin Selection and Post-Processing: Essential for 3D UV Resin Prints.

Resin selection and post-processing (critical for working with 3D UV resin prints)

Defiant 25 is a popular choice for those working with 3D printing UV resin. For optimal results, we recommend using our **Fast, Build, Blu, Easy and Sculpt** resins, as no coating is needed.

Using those resins with Defiant 25 silicone, we recommend the following steps:



Postprocessing (Critical for curing success)

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Step 1, Clean your print with 90%+ IPA or Ethanol: Remove uncured resin by hand or using an ultrasonic bath (5 minutes). A hair-based brush is helpful for thicker resins. Consider using two baths: one dirty and one clean. The goal is to remove all uncured resins.

Step 2, Dry your print completely: A hairdryer works well for this step.

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Step 3, Submerge your print in water: Find a clean bucket, fill it with water, and fully submerge your print.

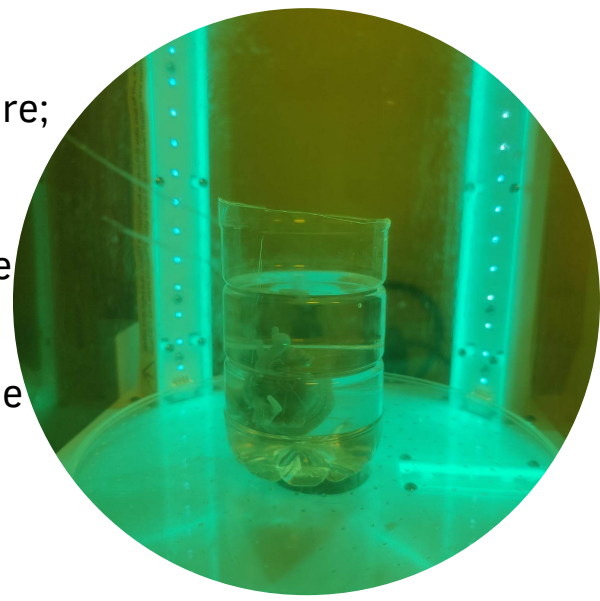
Step 4, Cure your submerged print. This is a critical step for ensuring Defiant works with the resin print.

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For most models without deep features:
Cure your print for 30 minutes while it's submerged in water. Do not use sunlight to cure; use a UV curing light fixture instead.

For models with deep recesses or areas where water might be trapped inside:

You can repeat the above step by replacing the water and then submerging the part again to cure for an additional 30 minutes.



Models with deep features and many openings may require more time to prepare the print with this water curing method.

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Step 5, Dry your print once more: Use a low heat oven set to 45C for 10 minutes.

Step 5, Your print is now ready for use with Defiant 25 silicone!

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Note: We cannot guarantee performance when using Defiant 25 with other resins, including 3rd party resins. They may work with Defiant but we do not have test data for it.



How to use Defiant 25:

The use of Defiant 25 silicone itself is the same as most 1:1 2 parts of platinum silicone.

Make sure to follow the **Post-Processing and Resin selection guidelines above**.

The steps are:

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Step 1: Prepare 2 clean containers for pouring. Glass container is preferred since it is known not to inhibit platinum silicone from curing.

Step 2: Mix Part A while it is in the bottle. This is important to sure part A consistency as some of the part A may have settled during transportation and storage. This is done by opening the bottle and putting a mixing stick inside to turn and mix.

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Step 3: Mix Part B while it is in the bottle, the same as in step 2.

Step 4: Weight the empty container on a scale. And use the tare function to set the scale to 0.

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Step 5: Pour the desired amount by weight of part A into the container. Let's say you need 500g of silicone, then pour 250g of part A into the container.

Step 6: Then pour the desired amount by weight of part B into the container. Let's say you need 500g of silicone, then pour 250g of part B into the container. The scale should show 500g now.

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Step 7: Mix parts A and B thoroughly, scraping the wall and the bottom of the container.

Step 8: Defiant A does release bubble rather quickly, but to ensure the best results, it is still a good idea to degas.

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09 Step 9: Pour or brush to make a mold.

RECOMMENDATION

Pot life is about 15 minutes

Fully cures in 4 - 6 hours

Ambient temperature at 25C

Technical Data:

Appearance:	Translucent	Density (g/cm ³):	1.12
Hardness (Shore A):	25	Tensile strength (Mpa):	6
Tear strength (K N/m):	20	Elongation (%):	850

SOME HELPFUL DEMO VIDEOS:

A good demo video would be:

<https://www.youtube.com/watch?v=hP0k1DcjFp0&t=244s>

(this video did not degas but you may need to)

This is a good video, too but it did not use measurement:

https://www.youtube.com/watch?v=zsuqB_dkqD0

PRODUCT NOTE:

Defiant was developed with help from many prop-making professionals with the goal of reducing the complexity of post-processing while increasing the rate of successful silicone curing as high as possible. After going through at least 30kg of silicones for testing, we have found the right combination. We dedicate Defiant silicone to many propmakers in our community who have helped us to grow



What makes platinum silicone poisoning a tough nut to crack is that the issue is not caused only by just 3D printing resin but also due to how the silicone is made. This means to get the best results, one would want to find the right combination of silicone and resins. Defiant 25 is designed to be much more tolerant than common platinum silicone, but some resins are just better in terms of working with silicone and require a lot less post-processing.