



User Guide for Sculpt Ultra only (For other Sculpt resin, go here:)

[Regular Sculpt user guide](#)

[For other resin user guides, please visit https://siraya.tech/support-section](https://siraya.tech/support-section)

Sculpt Ultra builds on top of Sculpt and further increase high resistance to 250C, increased hardness and chemical resistance. It represents the next generation of the engineering resin

Due to higher polymer content for its outstanding mechanical properties, the ideal printing condition for Sculpt is over 25C.

If user can maintain a resin temperature of 30C, the printing time could be further reduced

It is recommended to shake Sculpt bottle vigorously before pouring

* Important, before printing Sculpt

Before opening the bottle for the first time

Warm up the bottle

Turn over for 10 minutes

Then Shake vigorously for 1 minute

Before printing

Shake bottle vigorously for 20 seconds

Use plastic scraper to mix up the resin already in the vat

If there are settles that are hard to mix, you can use slow steady movement with the scraper at 45 degree angle. You may need to to it repeatedly to make the settled resin come up from the film.

The settlement will not damage the film. But it is important to stir it up to help printing evenly

***Sculpt Ultra has a matte surface which makes it easier to stick to injected material for mold application. Please read mold release note below on release tips.**

Please download profiles base for Elegoo, Anycubic, Phrozen, Peopoly, EPAX, Creality

https://drive.google.com/drive/folders/1eCz4_dc0fT-jfBLp4L9mKYebY90lfHfHO?usp=sharing

Exposure: Sculpt - Ultra White

Recommended		Resin Temperature 25-35C			Room temperature 20-28C			Note
Printer	Layer Height	Exposure (s)	# of Initial Layers	Exposure for Init Layers	Exposure (s)	# of Initial Layers	Exposure for Init Layers	
Photon	50um	12 (s)	4	70 S	12 (s)	4	70 S	
Mono X	50um	2.25	5	30s	2.25	5	30s	
Mars 2	50um	2.25	5	30s	2.25	5	30s	
Elegoo Mars	50um	10 (s)	4	65 s	10 (s)	4	65 s	

Before Printing

It is a good practice to mix resin and expose the bottom of the vat to air before printing. This replenish oxygen in the vat and helps reduce peel force.

Sculpt Ultra especially benefit from mixing because it has pigments and may settle over time

Before printing

Shake bottle vigorously for 20 seconds

Use plastic scraper to mix up the resin already in the vat

If there are settles that are hard to mix, you can use slow steady movement with the scraper at 45 degree angle. You may need to to it repeatedly to make the settled resin come up from the film.

The settlement will not damage the film. But it is important to stir it up to help printing evenly.

This practice would also ensure print consistency if user can get the initial resin temperature above 25C

Cleaning:

90%+ Alcohol will clean it well

A hair based brush would help

User can check by touching the dried surface of the part to see if it is still sticky. If the dried surface is still sticky, wash some more and dry again.

Sanding is easy with Sculpt. Use 1000 grit sand paper with a bit of mineral oil or water. Mineral oil adds lusters

Post Curing:

Sculpt reached its optimal strength when the printed part is post-cured with UV after cleaned. Use 395-405nm UV light and cure for about 10 minutes.									
Make sure resin is completely cleaned off and there is not alcohol left (it needs to be dry) on the print before curing.									
Curing by submerging object in water will significantly increase curing efficiency									
Mold Release									
What makes Sculpt Ultra mold different than metal mold or even mold made with Sculpt is that it is composite and has a rougher surface.									
This rougher surface leads to a stronger grip on the injected material. Mold releases and coating can fill in those tiny surface valleys so it has less grip to the parts.									
<u>Some coating that has worked for Sculpt Ultra users</u>									
https://www.amazon.com/SLIDE-HI-TEMP-release-lubricant-Nitride/dp/B004RFXJ3C									
https://www.amazon.com/Rust-Oleum-248904-Paint-Spray-12-Ounce/dp/B003CT4AKM									
https://specialtyresin.com/product/release-pro-1628									
<u>User has said that Rustoleum Clear Coat Engine Enamel worked well as release coating</u>									
Mechanical Properties									
Shore Hardness (D)	99D								
Tensile Stress at Break (MPa)	31								
IZOD Impact (Notched, J/m)	-								
HDT at 0.455 MPa (°C)	250								
Elongation at Break (%)	1								
Young's Modulus (MPa)	8000								
Viscosity @ 25°C (77°F)	500								
Shrinkage	3.5% per volume								
MSDS	https://drive.google.com/open?id=1LLgV7orTDDU5vOMhUIQkvX2dLjG8wAJu								
TDS	https://drive.google.com/file/d/1SCVQSc_OiiVm0A-yUY7fzXCJYJTfGZmW/view?usp=drive_link								