

G217 Clear Tough Resin Instruction

1. The Product Description

G217 is a clear (slightly bluish) tough resin. The prints do not turn yellow for a long time. It has transparency and mechanical properties similar to PMMA.

2. Material Properties Data

	METHOD	DATA
Viscosity (25°C)	ASTM:D4212-10	396mpa.s
Shore Hardness	ASTM:D2240-05	90D
Tensile Strength	ASTM: D638-14	65.3MPa
Flexural Strength	ASTM: D790-10	77.3MPa
Elongation at Break	ASTM: D638-14	10.40%
Notched IZOD	ASMT:D256-10	30.78J/m
Viscosity (25°C)	ASTM:D648-18	68°C

3. Printing

Before printing: There is no need to shake when adding resin liquid to avoid creating a lot of air bubbles. After the resin is poured into the resin tank, wait for the bubbles to disappear (you can also use hot air to accelerate the bubbles to dissipate) before printing

Supports settings: Use medium supports, and the supports density should not be too dense under the premise of ensuring successful printing, so as to prevent the resin liquid from accumulating on the dense supports and cured by UV light

Printing Settings: Use the standard resin settings of the printer brand you successfully printed as the "Standard Settings" (25-30°C), otherwise, use the default standard resin settings of the printer (or slicer) as the "Standard Settings". Then follow the following method to set the settings of RESIONE resin according to the "Standard Settings".

	Standard Settings	G217 Settings
Layer Height(mm)	50	50
Bottom Exposure Time(s)	A	1.2*A
Exposure Time(s)	B	1.2*B

Light-off Delay (s)	D	D+1
Bottom Lift Distance(mm)	E	E+1
Lifting Distance(mm)	F	F+1
Bottom Lift Speed (mm/min)	G	G
Lifting Speed (mm/min)	H	H
Retract Speed (mm/min)	I	I

Note:

a. When the room temperature during printing is **18°C-24°C**, change the settings as follows:

Bottom exposure time: (G217 settings) +15%

Normal exposure time: (G217 settings) +15%

Light-off Delay time: (G217 settings) +1s

It is recommended to heat the resin if the printing is still not successful.(The heating temperature is 60-80°C, heating time is 10mins). And it is not recommended for printing at room temperature lower than 18°C

b. The lifting of some printers can be divided into two stages. All the above settings for lifting only for to the first stage. The lifting speed of the first stage is generally very slow, no need to change

*The calculation of the above printing parameters is based on the experimental results of the RESIONE laboratory and is for reference only

4. Cleaning and Post-curing

Cleaning: You can use ultrasonic or 3D printing special cleaning machine with the ethanol(concentration $\geq 95\%$), or IPA to clean for less than 2min. Please use compressed air to dry the prints after cleaning it.

Post-curing: If you use a post-curing box with a power of 40W, our recommended post-curing time is about 10mins (Adjust the post-curing time according to the power of the post-curing box, the greater the power, the shorter the time).



Attentions:

a. Too long post-curing time will make the resin prints easy to warping, hard and brittle.

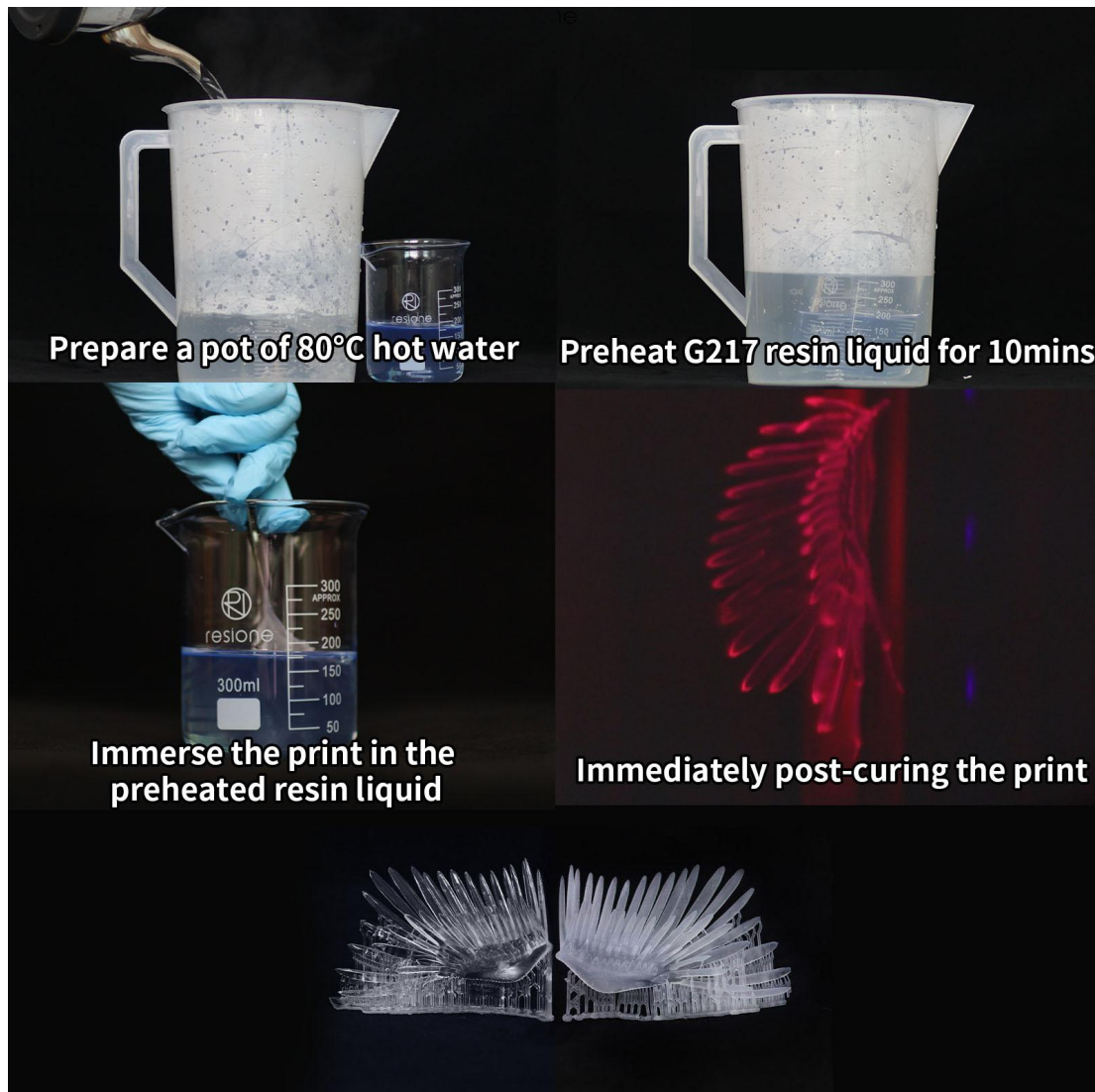
b. The resin prints will be fragile after post-curing. It is not recommended to apply force to the prints immediately. Just need to wait for a while until the internal stress of the prints is completely released.

c. If the post-curing time is too long, the resin prints will turn yellow and irreversible. The slight yellowing caused by normal post-curing can automatically fade away after a period of time. Putting the prints in continuous boiling water can make it quickly fade away.

5. Prints Polishing

a. For prints with large surfaces, sandpaper can be used for polishing. Sand with low to high grit sandpaper, and finally spray with varnish. This process is time-consuming, but the polishing effect and accuracy can be guaranteed

b. For prints with more details or hollow structures, dip coating or spraying can be used to evenly coat the surface of the prints with a layer of clear resin to cover the surface layers and pixel patterns of the prints to make the prints transparent (operation as shown below)



6. Storage of Prints

a. Resin prints, like traditional plastics, become hard and brittle when the ambient temperature is low. The prints can maintain normal mechanical properties at 25-35°C.

b. If you need to keep the resin prints with good toughness for a long time, it is recommended to store them in an airtight bag or apply a layer of waterproof paint.

c. The prints should not be placed in a humid environment for a long time, otherwise they will absorb water and soften. Use an airtight bag or waterproof paint to protect your prints effectively.

For more questions, please contact support@godsaid3d.com