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GRATKIT

Technical Datasheet

GratKit Resin – Ultra Transparent Resin



Identification

Name	GratKit Ultra Transparent Resin
Usage	SLA/DLP/LCD 3D Printing
Manufacturer	GratKit

Basic print settings

Type Name	Monochrome LCD Printer
Layer Height[mm]	0.05
Bottom Layer Count	5-8
Exposure Time[s]	8-10
Bottom Layer Exposure Time[s]	30-40
Rest Time After Retract[s]	3-5
Lifting Distance[mm]	8
Curing Station Requirement	$\geq 100,000 \mu\text{m}/\text{cm}^2 [100 \text{mw}/\text{cm}^2]$, ~3mins (Lower than this power require more time to cure it)
Environment Temperature[°C][1]	20-40

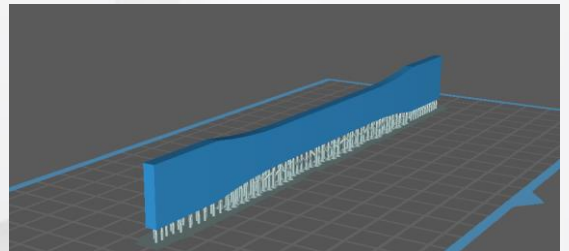
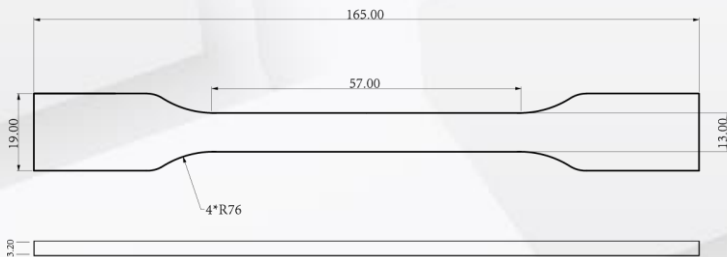
1. Environment temperature too low may cause the bottom layer fail to stick the platform. Preheat with warm water(50~80°C) will decrease this risk.

Specification

Physical Properties	Typical Value	Method
Density[g/cm ³][1]	1.05-1.25	Liquid Density Meter
Viscosity[MP.s][1]	500-700	NDJ-8S Viscometer
Shore Hardness[D]	83-88	ISO 164
Tensile Strength[MPa][2]	18.41±0.3	ASTM D638
Tensile Modulus[GPa][2]	0.3±0.02	ASTM D638
Elongation[%][2]	60.6±7.2	ASTM D638
Flexural Modulus[GPa][2]	0.2±0.03	ASTM D790
Flexural Strength[MPa][2]	3.8±0.4	ASTM D790
Heat Deflection Temperature[66psi][°C][2]	60	ASTM D648
Heat Deflection Temperature[264psi][°C][2]	56	ASTM D648
Visible Light Transmittance[%]	≥80	LS101

- (1) 25°C ;
 (2) Cured: 200mw/cm², 150s front+150s back.

Testing Geometries



Testing prints setting: 0.05mm/layer, default setting, bottom layer exposure 30s, layer exposure 3s, print by Elegoo Mars 3.

Safety Information

This resin is not meant for contact with food, drinks, or medical use on or in a human body. Always read the material safety data sheet thoroughly.

Resins are classified as dangerous chemicals and it is necessary to dispose of them properly in designated containers. Resin bottles (empty or full) must never be disposed of or poured into the general waste.

Disclaimer:

The results presented in this data sheet are just for your information and comparison. Values are significantly dependent on print settings, operator experiences, and surrounding conditions. Everyone has to consider suitability and possible consequences of printed parts usage. GratKit can not carry any responsibility for injuries or any loss caused by using GratKit material. Please check SDS of GratKit resin before you use it.

Post-processing

Remove the print from the platform.

If you found the prints stick to the platform and it is hard to remove them from the platform, we recommend you to preheat them with the hair dryer. Then you can easily remove it from the platform.

Be careful: Please don't preheat too long time, it may cause your part heat deflection.

Wash&Curing

Wash it with Isopropanol Alcohol(> 90%) or Ethanol(>75%). You can use the brush or the ultrasonic cleaner to get a better wash effect. Then let it dry with the fan[cold wind].

After the wash and dry process, it looks not that transparent. This is normal because the surface of the print is not smooth enough.

- 1) Lightly coat with more ultra transparent resin(Or clear uv resin hard type)
- 2) Cure it with uv cure station[$\geq 100\text{mw/cm}^2$] with 3mins. If your cure station power is lower than this, you need to increase the cure time. For example, the elegoo mercury X cure station require 8~12mins time to cure it.
- 3) After the cure. If you founded the surface still exist the uncured resin, please use the IPA to clean it and let it dry.

For expert player

You can remove the texture between the layers by sanding, which will give us a better effect when we apply the transparent resin in the next step. Because it will make the surface more uniform, and it is not easy to have the problem of uneven thickness.

You should prepare **2000mesh sandpaper and 3000 mesh sandpaper.**

- 1) Remove it from the platform;
- 2) Wash it and dry it;
- 3) Polish the print with 2000 mesh sandpaper then clean;
- 4) Check the surface is ok then continue to the next step;
- 5) Polish the print with 3000 mesh sandpaper then clean;
- 6) A. Lightly coat with more high transparent resin(Or clear uv resin hard type) to your print
B. Coat high transparent resin(Or clear uv resin hard type) by electric airbrush
- 7) Put it into the curing station then cure it.
- 8) After the cure. If you founded the surface still exist the uncured resin, please use the IPA to clean it and let it dry.

These steps can increase the effect of transparency.

Contact us

If you have any suggestions or questions, you can feel free to contact us:

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