



# Tough Resin

**Photoreactive Resin for Dazz 3D L120/L120Pro Printer**

**Technical Data Sheet**

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LCD tough human model photosensitive resin R1 is a solvent-free, high viscosity, high precision photocurable 3D printing resin. Suitable for laser and LED light source. It can be molded in a few seconds under the irradiation of 385nm and 405nm light source. The photosensitive resin mixture formula is optimized and can effectively suppress the beam penetration and avoid deep curing. The minimum layer thickness of single exposure can be controlled at 0.025. Mm. It could achieve high molding precision; low shrinkage rate, fast curing speed with low odor and low irritancy. With low exposure, the resin can be quickly cured with smooth and delicate appearance. The resin is with high strength and toughness.

## 1.Applications

It can be used to make models in the fields of architecture, dolls, automobiles, medical, consumer electronics, human model etc. It has been used in functional parts and prototype fields. This resin can be used in Dazz L120/L120PRO 3D printer and the same type of LCD 3D printer.

## 2.Technical Data

### 1)Physical Properties of Liquid Resin

Version	R1
Appearance	Brown, liquid
Specific gravity(25 °C)	1.03-1.11
Viscosity (25°C , cps,NDJ-8S)	800-1000cps
Critical Exposure (mj/ cm <sup>2</sup> )	5
Cured Thickness Rang (mm)	0.02-0.10
Recommend Thickness (mm)	0.05-0.1
Solidify Dp thickness (mm)	0.12

### 2)Properties of Cured Resin

Item	Method	Numerical Value (Secondary Cure)
Shore Hardness	ASTM D 2240	76
Tensile Strength (MPa)	ASTM D 638	28-37
Elongation at break(%)	ASTM D 638	40-50
Glass transition temperature (°C)	ASTM D 648	65

### 3)Advice of Secondary Cure

After the printing, the parts are removed. Since the molding is only preliminary curing and is not fully cured, deformation may occur under the influence of temperature and humidity. It is recommended to perform second curing immediately after printing to prevent deformation. Proper second curing is necessary. Heated second curing is better. The curing time is as follows, for reference only, customers can determine the curing time according to the thickness of the object:

UV Power	Correspond Distance	Intensity (100mW/cm <sup>2</sup> )	Cure Time(min)
2000W High-voltage Mercury Lamp	15-20CM	100	5-10

300W High-voltage Mercury Lamp	10CM	6	10-20
125W High-voltage Mercury Lamp	10CM	3	20-30
40W LED Tube	10	<1	30-60

### 3. User Guide

1. Pour the photosensitive resin (shake evenly before use to avoid chromatic aberration) into a clean resin tank. Air bubbles will be generated during the pouring process. Stand the resin for 10 minutes. The printing can be started after the bubbles disappear.
2. Adjust the accuracy and speed of the printer according to the model you want to print. After confirming the printing method, press the software to print.
3. The product is sensitive to sunlight and visible light. When the printer is not in use, the remaining photosensitive resin should be poured out from the resin tank and stored in the dark, but it cannot be poured into the unused resin to avoid pollution.
4. The speed of printing depends on the type of 3D printer and the intensity of the laser/ LED light.
5. If the resin come into contact with skin or eyes, rinse immediately with water or soap.

### 4. Post-Processing Procedure and Note

- 1 The print model should be cleaned with absolute ethanol and can be cleaned with a low-frequency ultrasonic cleaner. If high-frequency and high-power ultrasonic cleaning is used for the model, it may cause certain damage to the surface of the model;
2. Thoroughly blow the model dry with a hair dryer or the like;
3. It is recommended to remove the support for model with supports first, and then post-cure treatment. If you remove the supports after it's been post-cured , it will easily cause damage to the contact surface of the support point;
4. To achieve high toughness and high strength, the post-processing time should be longer than others. The model needs to be turned over during curing. Lightening through the model with low power LED light for 15 minutes and then turn it over for 15 minutes lightening;
5. The resin is more suitable for models with thick wall (over 1mm) and solid models.

### 5. Safety Precautions

- 1) Eye Contact:** Immediately flush with plenty of clean water (under eye lids) for at least 20 minutes. Hold eyelids apart to ensure flushing. Washing within one minute of contact is essential to achieve maximum effectiveness. Seek medical attention immediately.
- 2) Skin Contact:** Remove contaminated clothing and rinse contact area thoroughly with soap and water.

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3)Dazz 3D resin is not approved for use with food, drink, or medical application on the human body.

4)For additional information please see the Material Safety Data Sheet.

**5.Packing Specification:** 500g/bottle

### **5. Storage**

Store the product in a cool, dry place. The remaining photosensitive resin should not be returned to the original bottle. The bottle cap should be tightened after opening. This product can be stored for 12 months at 18-28 °C, and can not be stored frozen.

