

# Hard-Tough Resin

Technical Data Sheet

Tough; Higher toughness and impact resistance than normal ABS like resin Can print rugged and durable parts Excellent mechanical properties. Printed object can be drilled , which is very suitable for mechanical prototypes.

Material Status	Mass Production
Characteristics	<ul style="list-style-type: none"> <li>• High toughness</li> <li>• High impact resistance</li> <li>• Strong and durable</li> </ul>
Applications	<ul style="list-style-type: none"> <li>• Automobile</li> <li>• Mechanical</li> </ul>
Appearance	<ul style="list-style-type: none"> <li>• Multiple Colors</li> </ul>
Form	<ul style="list-style-type: none"> <li>• Resins</li> </ul>
Processing method	<ul style="list-style-type: none"> <li>• (surface exposure molding) LCD</li> </ul>

	Testing method	Typical value
<b>Physical Properties</b>		
Density	GB/T 4472	1.08-1.12 g/cm <sup>3</sup>
Viscosity	GB/T 22235	200-300 mPa•s
Hardness	ASTM D2240	75-81 Shore D
<b>Mechanical Properties</b>		
Tensile Strength	ASTM D638	30-60 MPa
Elongation at Break	ASTM D638	35-52 %
Flexural Strength	ASTM D790	30-75 MPa
IZOD Impact Strength	ASTM D638	40-110 J/m
<b>Thermal Properties</b>		
Heat distortion Temperature	GB/T 1634	N/A °C

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Recommended printing parameters

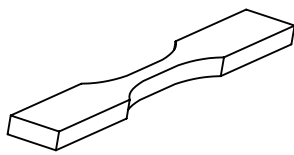
Settings	Machine Type		
	Low Light Intensity	Medium Light Intensity	High Light Intensity (Monochrome LCDScreen)
Representative Machine	AnyCubic Photon	eSUN LCD 3.0 Nova Bene 4 Creality LD-002R	Anycubic MONO X ELEGOO Saturn Phrozen Sonic Mini
Exposure Time/s	8-10	5-6	Not recommended
Bottom Layer Count		3-5	
Bottom Exposure Time	40-60	30-40	Not recommended
Lifting Distance/mm	5.5&6-inch screen: 5-6or Higher		8.9&13.3-inch screen: 8-12or Higher
Lift Speed/mm•min-1	90-150	90-120	Not recommended
Retract Speed/mm•min-1		150-200	

1. The above parameters are for reference only. The performance of the cured material will be affected by factors such as equipment, environment, parameter settings, post-processing methods, detection methods, etc., which will cause big differences. Please contact us if necessary;2. Shake the resin well before use; please recycle the resin in time after printing; avoid prolonged soaking of the molded parts in the cleaning agent;3. It is not recommended to add other ingredients or mix them to the resin to avoid molding failure or other problems;4. The resin should be stored in a cool, dark place, and sealed with an opaque container;5. The photopolymer resin is made of chemicals, which has a certain odor and skin irritation. Pay attention to protection during transportation and use. If the resin accidentally touches your skin or eyes, please rinse with plenty of water, and the skin can be cleaned with detergent, decontamination powder, etc.; if the allergic reaction is severe or even enters the mouth or nasal cavity, please seek medical attention immediately;6. The model should be printed at a room temperature of 25-35 degrees. IF it is winter, it is recommended to turn on the air conditioner for printing.

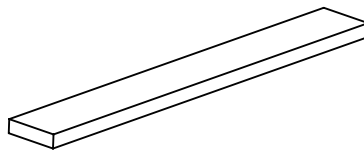
Matters needing attention

1.Shake well before printing2.Hard tough resin need to be fully cured to achieve the best mechanical strength, it is recommended to cure for 25-30 minutes, the surface cure until it is not sticky hand .

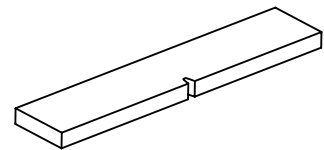
Mechanical Properties



Tensile testing specimen ASTM D638



Flexural testing specimen ASTM D790



Izod Impact Strength ASTM D638

The physical properties, mechanical properties, and thermal properties of the resin are obtained based on the printing spline test.

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