Raise3D Standard Black V1

Easy-to-use resin for prototyping design and various scenarios

The standard black photopolymer resin is a high-performance, detail-oriented,versatile,and cost-effective 3D printing material specifically developed to meet the demands of high-precision shaping and superior surface quality.Its excellent mechanical properties, stable chemical characteristics, and user-friendliness make it an ideal choice for the DLP 3D printers.
Models printed with this resin exhibit a deep, uniform black color with outstanding mechanical strength and durability. Whether for industrial design, educational research, or artistic creation, this resin empowers users to quickly bring their ideas and designs to life.

Features & Benefits:

- High precision
- Smooth surface
- Detail-oriented
- Easy to print
- Excellent mechanical properties

Applications:

- Display and assembly prototypes
- Models with fine features and intricate details
- Props for film, television and artistic creations
- Jigs and fixtures
- Low-volume production

Physical Properties

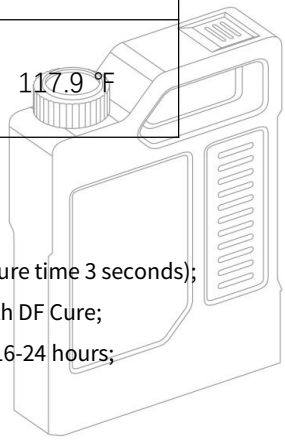
Property	Testing Method	Typical Value	
		Metric	Imperial
Appearance	/	Liquid, Black	
Liquid Density	ASTM D792	1.05g/cm^3	
Solid Density	ASTM D792	1.25g/cm^3	
Viscosity at 25 °C	ASTM D7867	330 mPa.s@25°C	330 mPa.s@77°F
Shore D Hardness	ASTM D2240	80D(Green)	85D(Post-cure)

Mechanical Properties*

Property	Testing Method	Green		Post-Cured	
		Metric	Imperial	Metric	Imperial
Young's modulus	ASTM D638	2098 MPa	304.3 ksi	2658.97MPa	385.7 ksi
Tensile Strength	ASTM D638	20.46 MPa	2967.5 psi	26.51MPa	3844.9psi
Elongation at Break	ASTM D638	18.29 %	18.29%	11.63%	11.63 %
Flexural Modulus	ASTM D790	1767.56MPa	256.4 ksi	2518.42MPa	365.3 ksi
Flexural Strength	ASTM D790	49.03 MPa	7111.2 psi	74.98 MPa	10.9 ksi
Notched Izod	ASTM D256	29.53J/m	6.6 ft-lbf/in	43.24 J/m	9.7 ft-lbf/in

Thermal Properties*

Property	Testing Method	Green		Post-Cured	
		Metric	Imperial	Metric	Imperial
Heat Deflection Temp @0.45 MPa/66 psi	ASTM D648	49.1℃	120.4 ℉	66.9℃	152.4 ℉
Heat Deflection Temp @1.82 MPa/264 psi	ASTM D648	46.1℃	115 ℉	47.7℃	117.9 ℉



***Note:**

1. All test samples are printed on Raise3D DF2 printer (405nm wavelength, 2.3mW/cm^2,50 μm layer thickness, exposure time 3 seconds);
2. All post-cured test samples are cured at room temperature for 15 minutes on the front and back of the sample with DF Cure;
3. All test samples are placed under laboratory environmental conditions of 20-25 °C / 40-60% relative humidity for 16-24 hours;
4. Test performance varies with part geometry, print location orientation, print settings, and temperature.

Disclaimer

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End-use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.

Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of Raise3D materials for the intended application. Raise3D makes no warranty of any kind, unless announced separately, to the fitness for any particular use or application. Raise3D shall not be made liable for any damage, injury or loss induced from the use of Raise3D materials in any particular application.