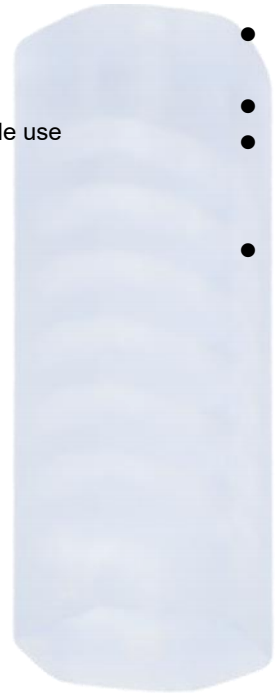
High Clear V1 Resin Technical Data Sheet

Highly transparent and easy-to-use resin

High Clear resin is an easy-to-print and transparent resin that can be used to manufacture highly transparent components. After printing, the model presents a semi-transparent state with slightly blue. After appropriate post-processing such as sanding, polishing, and varnishing it can achieve higher transparency and is suitable for shell components, prototype design, optical parts, fluid tubes, and other application scenarios.

Benefits:

- High success rate
- High precision
- Clear presentation of details
- Different degrees of transparency for flexible use



Applications：

- Transparent prototype production, such as optical device housing, display models, etc.
- Liquid flow analysis, internal flow channels, etc.
- Precision components manufacturing, transparent protective covers, small mechanical components, and complex assembly parts.
- Prototype development of consumer goods, the fields of consumer electronics or household items, etc.

Physical Properties

Property	Testing Method	Typical Value	
		Metric	Imperial
Appearance	/	Liquid, Clear	
Liquid Density	ASTM D792	1.07g/cm3	
Solid Density	ASTM D792	1.16g/cm3	
Liquid Viscosity	ASTM D7867	349 cps@25°C	349 cps@77°F

Mechanical Properties*

Property	Testing Method	Green		Post-Cured	
		Metric	Imperial	Metric	Imperial
Young's Modulus	ASTM D638	1410 MPa	204.50 ksi	2092 MPa	303.42 ksi
Tensile Strength	ASTM D638	28 MPa	4.06 ksi	44 MPa	6.38 ksi
Elongation at Break	ASTM D638	31.0 %	31.0 %	14.5 %	14.5 %
Flexural Modulus	ASTM D790	733 MPa	106.31 ksi	1798 MPa	260.78 ksi
Flexural Strength	ASTM D790	34 MPa	4.93 ksi	72 MPa	10.44 ksi
Notched Izod	ASTM D256	48 J/m	0.90 ft-lbf/in	49 J/m	0.92 ft-lbf/in

***Note:**
All test specimens were printed with Raise3D DF2 printer (100 μm thickness, 5.5s).
All post-cured test specimens were cured with DF Cure for 5 minutes per side at room temperature.
All specimens were conditioned in ambient lab conditions at 20-25° C / 40-60% RH for 16 to 24 hours.
Test performance differs depending on part geometry, print placement orientation, print settings and temperature.

Thermal Properties*

Property	Testing Method	Post-Cured	
		Metric	Imperial
Heat Deflection Temp. @0.45 MPa/66 psi	ASTM D648	51.6 °C	124.88 °F
Heat Deflection Temp. @1.82 MPa/264 psi	ASTM D648	42.1 °C	107.78 °F

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All specimens were conditioned in ambient lab conditions at 20-25 °C / 40-60% RH for 16 to 24 hours.
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Testing Geometries

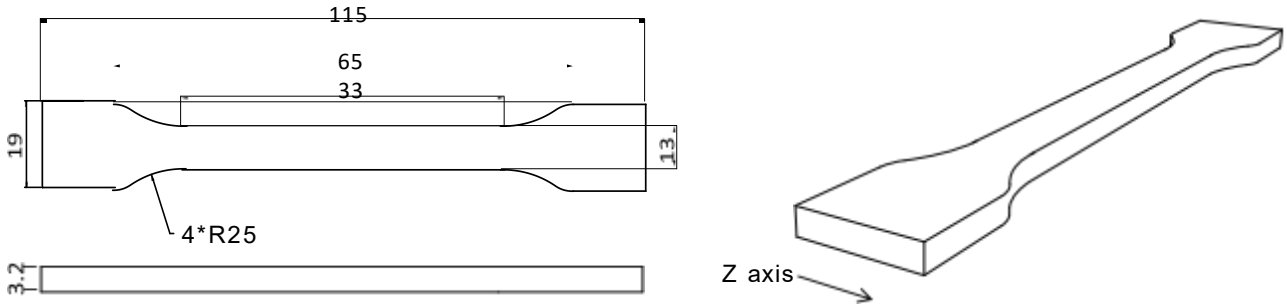

Fig 1. Tensile testing specimen

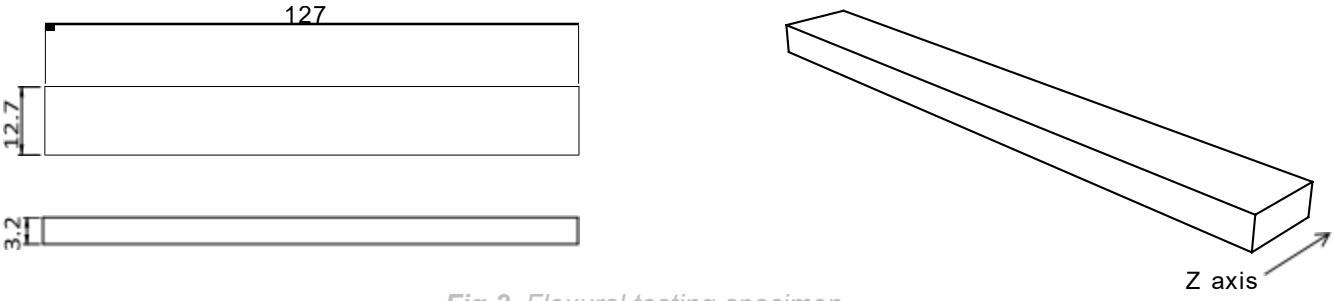

Fig 2. Flexural testing specimen

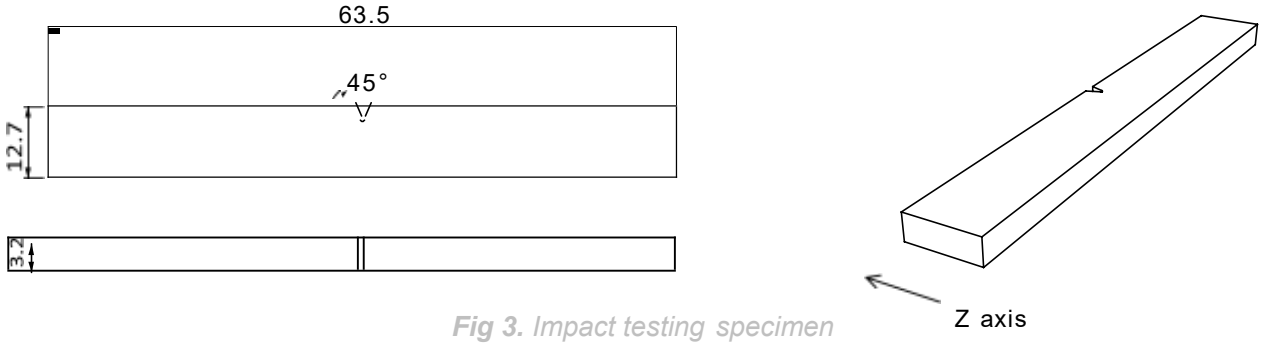

Fig 3. Impact testing specimen

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.

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