# Raise3D Draft Grey V1  Resin Technical Data Sheet

## Fast, rigid and easy-to-use resin

Draft Grey resin is a photosensitive resin product that can achieve rapid printing and easy post-processing, providing an ideal choice for users who need to quickly print the prototype model. It can meet the needs of markets such as industry and education, and can be used to print initial models, rapid product design iterations, high throughout parts, 3D Print demonstration parts, medical teaching, anatomical models, teaching tool models, art sculpture and other art display parts, etc.

## Benefits:

- Fast printing speed
- High printing success rate
- Low viscosity
- Smooth surface
- Easy to clean

## Applications：

- Rapid prototypes validation
- High throughout parts
- Industrial design parts
- Art sculpture display pieces, etc

# Physical Properties

| Property | Testing Method | Typical Value | |
|---|---|---|---|
| | | Metric | Imperial |
| Appearance | / | Liquid, Grey | |
| Liquid Density | ASTM D792 | 1.05g/cm$^3$ | |
| Solid Density | ASTM D792 | 1.24g/cm$^3$ | |
| Viscosity at 25 ℃ | ASTM D7867 | 95 cps@25°C | 95 cps@77°F |
| Shore D Hardness | ASTM D2240 | 86D | |

# Mechanical Properties*

| Property | Testing Method | Green | | Post-Cured | |
|---|---|---|---|---|---|
| | | Metric | Imperial | Metric | Imperial |
| Young's Modulus | ASTM D638 | 0.95 GPa | 137.8 ksi | 2.9 GPa | 420.6 ksi |
| Tensile Strength | ASTM D638 | 27.7 MPa | 4017.5 psi | 56.5 MPa | 8194.6 psi |
| Elongation at Break | ASTM D638 | 16.7 % | 16.7 % | 8.31 % | 8.31 % |
| Flexural Modulus | ASTM D790 | 1.67 GPa | 242.2 ksi | 3.3 GPa | 478.6 ksi |
| Flexural Strength | ASTM D790 | 61.2 MPa | 8876.3 psi | 98.1 MPa | 14.2 ksi |
| Notched Izod | ASTM D256 | 18.0 J/m | 4.0 ft-lbf/in | 18.4 J/m | 4.1 ft-lbf/in |

**\*Note:**

1. All test samples are printed on Raise3D DF2 printer (405nm wavelength, 2.3mW/cm²,200 μm layer thickness, exposure time 5 seconds);

2. All post-cured test samples are cured at room temperature for 10 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 ℃ / 40-60% relative humidity for 16-24 hours;

4. Test performance varies with part geometry, print location orientation, print settings, and temperature.

# Thermal Properties*

| Property | Testing Method | Green | | Post-Cured | |
|---|---|---|---|---|---|
| | | Metric | Imperial | Metric | Imperial |
| Heat Deflection Temp @0.45 MPa/66 psi | ASTM D648 | 49℃ | 120.2℉ | 96℃ | 204.8℉ |
| Heat Deflection Temp @1.82 MPa/264 psi | ASTM D648 | 43℃ | 109.4℉ | 69℃ | 156.2℉ |

**\*Note:**

1. All test samples are printed on Raise3D DF2 printer (405nm wavelength, 2.3mW/cm²,200 μm layer thickness, exposure time 5 seconds);

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3. All test samples are placed under laboratory environmental conditions of 20-25 ℃ / 40-60% relative humidity for 16-24 hours;

4. Test performance varies with part geometry, print location orientation, print settings, and temperature.
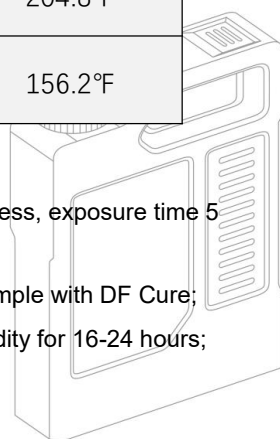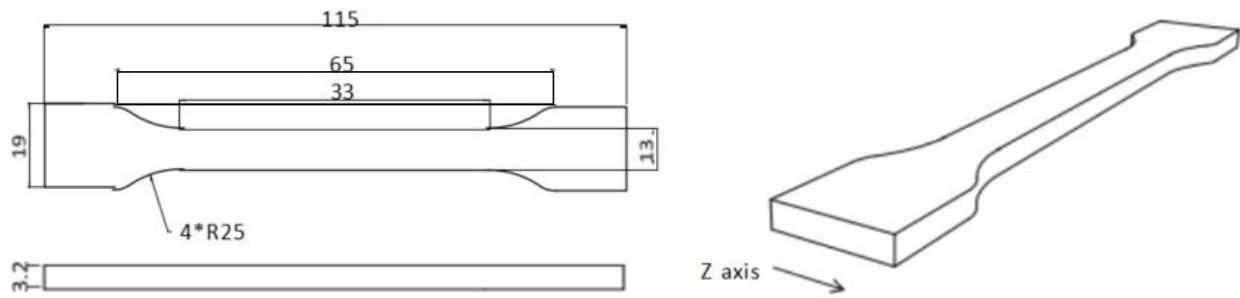
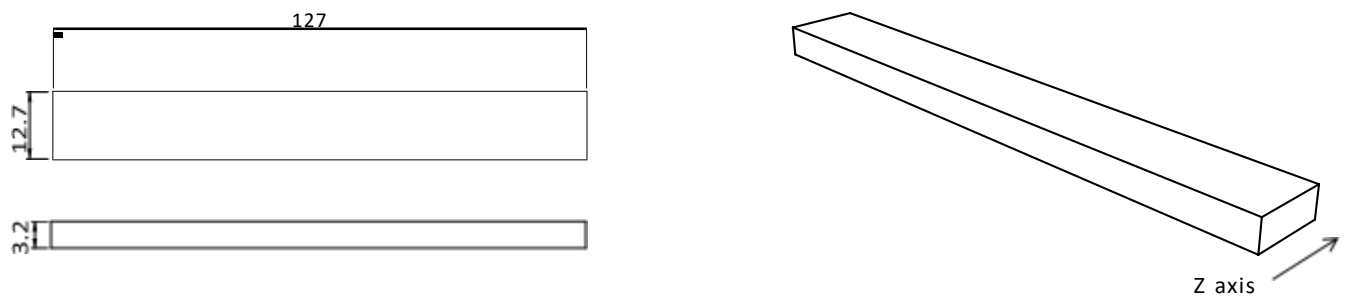# Testing Geometries



*Fig 1*. Tensile testing specimen



*Fig 2.* Flexural testing specimen



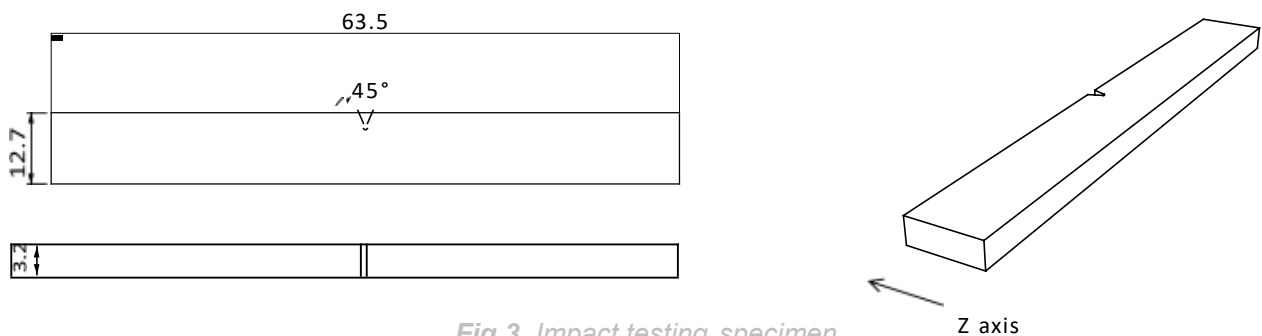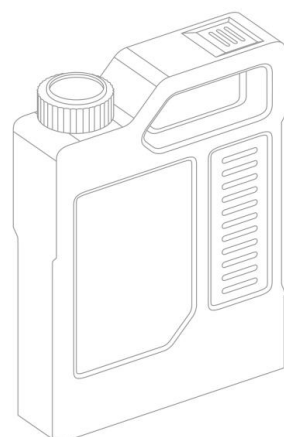*Fig 3.* Impact testing specimen

# 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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