



## Ultracur3D® RG 50

Rigid | Water-Washable | Clear

### Extended TDS

Complete Technical Documentation  
and Testing Summary

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# Technical Data Sheet

**Water-washable rigid resin for printing parts with the highest accuracy.**

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| General Properties               | Method                             | Typical Values         |
|----------------------------------|------------------------------------|------------------------|
| Appearance                       | -                                  | Clear                  |
| Viscosity, 25°C                  | Cone/Plate Rheometer <sup>1)</sup> | 84 mPas                |
| Viscosity, 30°C                  | Cone/Plate Rheometer <sup>1)</sup> | 65 mPas                |
| Density (Printed Part)           | ASTM D792                          | 1.2 g/cm <sup>3</sup>  |
| Density (Liquid Resin)           | ASTM D4052-18a                     | 1.11 g/cm <sup>3</sup> |
| Tensile Properties <sup>2)</sup> | Method                             | Typical Values         |
| E Modulus                        | ASTM D638                          | 2300 MPa               |
| Ultimate Tensile Strength        | ASTM D638                          | 63 MPa                 |
| Elongation at Break              | ASTM D638                          | 4%                     |
| Flexural Properties              | Method                             | Typical Values         |
| Flexural Modulus                 | ASTM D790                          | 2100 MPa               |
| Flexural Strength                | ASTM D790                          | 87 MPa                 |
| Impact Properties                | Method                             | Typical Values         |
| Notched Izod (Machined), -30°C   | ASTM D256                          | 11 J/m                 |
| Notched Charpy (Machined), 23°C  | ISO 179-1                          | 1.1 kJ/m <sup>2</sup>  |
| Thermal Properties               | Method                             | Typical Values         |
| HDT at 0.45 MPa                  | ASTM D648                          | 66°C                   |
| HDT at 1.82 MPa                  | ASTM D648                          | 55°C                   |

| Other                                       | Method     | Typical Values |
|---------------------------------------------|------------|----------------|
| Hardness Shore D                            | ASTM D2240 | 85             |
| Water Absorption,<br>Short-Term (24 hours)  | ASTM D570  | 1.12%          |
| Water Absorption,<br>Long-Term (>300 hours) | ASTM D570  | >5%            |

*Mechanical properties overview*

- 1) Determined with TA-Instrument DHR rheometer, cone/plate, diameter 60 mm, shear rate 100 s<sup>-1</sup>
- 2) Tensile type ASTM D638 type IV, Pulling speed 50 mm/min
- 3) If not noted otherwise, all specimens are 3D printed. Samples were tested at room temperature, 23°C. ASTM sample size (L x W x H): ASTM D790 80 x 4 x 10 mm, ASTM D256 63 x 3.2 x 12 mm, ASTM D648 127 x 3.2 x 13 mm

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