

Ultracur3D[®] RG 50

Rigid | Water-Washable | Clear

Extended TDS

Complete Technical Documentation
and Testing Summary



Version: 1.0

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Technical Data Sheet

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

General Properties	Norm	Typical Values
Appearance	-	Clear
Viscosity, 25°C	Cone/Plate Rheometer ¹⁾	84 mPas
Viscosity, 30°C	Cone/Plate Rheometer ¹⁾	65 mPas
Density (Printed Part)	ASTM D792	1.2 g/cm ³
Density (Liquid Resin)	ASTM D4052-18a	1.11 g/cm ³

Tensile Properties ²⁾	Norm	Typical Values
E Modulus	ASTM D638	2300 MPa
Ultimate Tensile Strength	ASTM D638	63 MPa
Elongation at Break	ASTM D638	4%

Flexural Properties	Norm	Typical Values
Flexural Modulus	ASTM D790	2100 MPa
Flexural Strength	ASTM D790	87 MPa

Impact Properties	Norm	Typical Values
Notched Izod (Machined), -30°C	ASTM D256	11 J/m
Notched Charpy (Machined), 23°C	ISO 179-1	1.1 kJ/m ²

Thermal Properties	Norm	Typical Values
HDT at 0.45 MPa	ASTM D648	66°C
HDT at 1.82 MPa	ASTM D648	55°C

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Other	Norm	Typical Values
Hardness Shore D	ASTM D2240	85
Water Absorption, Short-Term (24 hours)	ASTM D570	1.12%
Water Absorption, 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⁻¹
- 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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