

Technical Data Sheet

Ultracur3D® ST 80 G

Tough | Economic | Grey

General Properties	Norm	Typical Values
Appearance	-	Grey
Viscosity, 30 °C	Cone/Plate Rheometer ¹	420 mPas
Viscosity, 50 °C	Cone/Plate Rheometer ¹	120 mPas
Density (printed part)	ASTM D792	1.2 g/cm ³
Density (liquid resin)	ASTM D4052-18a	1.1 g/cm ³

Tensile Properties	Norm (5 mm/min)	Typical Values
E Modulus	ASTM D638	1750 MPa
Ultimate Tensile Strength	ASTM D638	38 MPa
Elongation at Break	ASTM D638	22 %

Flexural Properties	Norm	Typical Values
Flexural Modulus	ASTM D790	1450 MPa
Flexural Strength	ASTM D790	65 MPa

Impact Properties	Norm	Typical Values
Notched Izod (Machined), 23 °C	ASTM D256	26 J/m
Unnotched Izod, 23 °C	ASTM D256	620 J/m
Charpy notched, 23 °C	ISO 179-1	2.3 kJ/m ²

Thermal Properties	Norm	Typical Values
HDT at 0.45 MPa	ASTM D648	51 °C
HDT at 1.82 MPa	ASTM D648	47 °C

Hardness	Norm	Typical Values
Shore D	ASTM D2240	77

1) Determined with TA-Instrument DHR rheometer, cone/plate, diameter 60 mm, shear rate 100 s⁻¹

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. The safety data given in this publication is for information purposes only and does not constitute a legally binding MSDS. The relevant MSDS can be obtained upon request from your supplier or you may contact BASF 3D Printing Solutions GmbH directly at sales@basf-3dps.com. Version 1.1

Technical Data Sheet

Ultracur3D® ST 80 B

Tough | Economic | Black

General Properties	Norm	Typical Values
Appearance	-	Black
Viscosity, 30 °C	Cone/Plate Rheometer ¹	440 mPas
Viscosity, 50 °C	Cone/Plate Rheometer ¹	120 mPas
Density (printed part)	ASTM D792	1.2 g/cm ³
Density (liquid resin)	ASTM D4052-18a	1.1 g/cm ³

Tensile Properties	Norm (5 mm/min)	Typical Values
E Modulus	ASTM D638	1650 MPa
Ultimate Tensile Strength	ASTM D638	35 MPa
Elongation at Break	ASTM D638	25 %

Flexural Properties	Norm	Typical Values
Flexural Modulus	ASTM D790	1550 MPa
Flexural Strength	ASTM D790	66 MPa

Impact Properties	Norm	Typical Values
Notched Izod (Machined), 23 °C	ASTM D256	22 J/m
Unnotched Izod, 23 °C	ASTM D256	727 J/m
Charpy notched, 23 °C	ISO 179-1	2.3 kJ/m ²

Thermal Properties	Norm	Typical Values
HDT at 0.45 MPa	ASTM D648	52 °C
HDT at 1.82 MPa	ASTM D648	44 °C

Hardness	Norm	Typical Values
Shore D	ASTM D2240	77

1) Determined with TA-Instrument DHR rheometer, cone/plate, diameter 60 mm, shear rate 100 s⁻¹

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Technical Data Sheet

Ultracur3D[®] ST 80

Tough | Economic | Clear

General Properties	Norm	Typical Values
Appearance	-	Clear
Viscosity, 30 °C	Cone/Plate Rheometer ¹	400 mPas
Viscosity, 50 °C	Cone/Plate Rheometer ¹	120 mPas
Density (printed part)	ASTM D792	1.12 g/cm ³
Density (liquid resin)	ASTM D4052-18a	1.08 g/cm ³

Tensile Properties	Norm (5 mm/min)	Typical Values
E Modulus	ASTM D638	1500 MPa
Ultimate Tensile Strength	ASTM D638	35 MPa
Elongation at Break	ASTM D638	20 %

Flexural Properties	Norm	Typical Values
Flexural Modulus	ASTM D790	1700 MPa
Flexural Strength	ASTM D790	60 MPa

Impact Properties	Norm	Typical Values
Notched Izod (Machined), -30 °C	ASTM D256	14 J/m
Notched Izod (Machined), 23 °C	ASTM D256	24 J/m
Unnotched Izod, 23 °C	ASTM D256	720 J/m
Charpy notched, 23 °C	ISO 179-1	1.4 kJ/m ²

Thermal Properties	Norm	Typical Values
HDT at 0.45 MPa	ASTM D648	46 °C
HDT at 1.82 MPa	ASTM D648	42 °C

Hardness	Norm	Typical Values
Shore D	ASTM D2240	80

Other	Norm	Typical Values
Biocompatibility	ISO 10993	Information available on request
Water Absorption, Short Term (24 hours)	ASTM D570	0.50 %

1) Determined with TA-Instrument DHR rheometer, cone/plate, diameter 60 mm, shear rate 100 s⁻¹

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Technical Data Sheet

Ultracur3D® ST 80 W

Tough | Economic | White

General Properties	Norm	Typical Values
Appearance	-	White
Viscosity, 30 °C	Cone/Plate Rheometer ¹	410 mPas
Viscosity, 50 °C	Cone/Plate Rheometer ¹	120 mPas
Density (printed part)	ASTM D792	1.2 g/cm ³
Density (liquid resin)	ASTM D4052-18a	1.1 g/cm ³

Tensile Properties	Norm (5 mm/min)	Typical Values
E Modulus	ASTM D638	1800 MPa
Ultimate Tensile Strength	ASTM D638	37 MPa
Elongation at Break	ASTM D638	20 %

Flexural Properties	Norm	Typical Values
Flexural Modulus	ASTM D790	1270 MPa
Flexural Strength	ASTM D790	60 MPa

Impact Properties	Norm	Typical Values
Notched Izod (Machined), 23 °C	ASTM D256	29 J/m
Unnotched Izod, 23 °C	ASTM D256	860 J/m
Charpy notched, 23 °C	ISO 179-1	2 kJ/m ²

Thermal Properties	Norm	Typical Values
HDT at 0.45 MPa	ASTM D648	49 °C
HDT at 1.82 MPa	ASTM D648	44 °C

Hardness	Norm	Typical Values
Shore D	ASTM D2240	74

1) Determined with TA-Instrument DHR rheometer, cone/plate, diameter 60 mm, shear rate 100 s⁻¹

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