

Technical datasheet

varioShore 85A

colorFabb

Date of issue: 11-08-2026
Version: v1.0

Description

varioShore TPU 85A is a lightweight foaming TPU filament designed for soft, flexible and cushioned 3D printed parts. Softer and more compressible than standard TPU, it is ideal for comfort-focused applications such as insoles, grips, padding, wearables and ergonomic components.

Typical Properties

Mechanical Properties – 3D Printed

	Method	Value foamed @ 250 °C, flow: 60%	Unit
Stress @ 100% elongation	Tensile, ISO 37-1A	4,2	MPa
Stress @ 300% elongation	Tenilse, ISO 37-1A	5,1	MPa
Tensile Strength	Tensile, ISO 37-1A	6,2	MPa
Elongation at break	Tensile, ISO 37-1A	585	%
Flexural Modulus	Flexural, ISO 178	NA	MPa
Flexural Strength	Flexural, ISO 178	NA	MPa
Impact Strength	Charpy Notch, ISO 179	NA	kJ/m ²

Mechanical Properties – Injection Molded

	Method	Value (unfoamed)	Unit
Youngs Modulus	Tensile, ISO 527-1A	53,7	MPa
Tensile Strength	Tensile, ISO 527-1A	NA	MPa
Elongation at break	Tensile, ISO 527-1A	NA	%
Flexural Modulus	Flexural, ISO 178	45,0	MPa
Flexural Strength	Flexural, ISO 178	NA	MPa
Impact Strength	Charpy Notch, ISO 179	NA	kJ/m ²
Density	ISO 1183	1,14	g/cm ³
Shore hardness	ISO 7619-1	33 D / 83 A*	

Thermal Properties*

	Method	Value	Unit
Glass Transition Temp.	DSC, ISO 11357	NA	°C
Melting Temp.	DSC, ISO 11357	NA	°C
Decomposition Temp.	TGA, ISO 11358	NA	°C
Heat Deflection Temp.	HDT-B, ISO 75	NA	°C
Melt Flow Index	MFI, (210°C/2.16 kg), ISO 1133-A	NA	g/10min
Melt Flow Index	MFI, (190°C/1.16 kg), ISO 1133-A	NA	g/10 min

*These results are obtained from the information provided by the supplier of the raw material

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	Value	Unit
Diameter	1.75	mm
Max. roundness deviation	± 0.05	mm
Net. Filament weight	900 / 2000	g

Guideline for print settings

	Value foamed @ 250 °C, flow: 60 %	Unit
Nozzle Temp.	250	°C
Bed Temp.	60	°C
Bed / surface modification	NA	-
Active cooling fan	100	%
Print Speed	50	mm/s

Notes

The reported properties are an average of a batch of 3D specimens.

The specimens have been printed in XY plane, using 0.2 mm layer height, 100% infill, 0.4 mm nozzle, 250 °C nozzle temperature and 60 °C bed temperature.

Disclaimer

The product- and technical information provided in this datasheet is correct to the best of our knowledge. The information given is provided as a guidance for good use, handling and processing, and is not to be considered as a quality specification. The information only relates to the specific product and the material properties.