

## BASIC INFORMATION

**PRODUCT NAME:** FILAMENT 3D ROSA TPU HardTech+ 83D 1.75mm

**PRODUCT DESCRIPTION:** ROSA TPU HardTech+ 83D filament is a thermoplastic polyurethane in filament form, designed for 3D printing using FFF/FDM technology. The filament is delivered wound on a spool, vacuum-sealed in a moisture-proof bag with a desiccant, and packed in a cardboard box. The product is intended for use with FDM 3D printers. It should be used in a well-ventilated area to avoid exposure to emissions during printing. It is important to avoid direct contact with hot printer components, as this may cause burns. The filament should be stored in a dry place, inside a sealed container, and kept out of reach of children. It is recommended to use the filament within the advised printing temperature range for optimal results. Filament waste should be disposed of in accordance with local regulations. The product is designed with user safety in mind and complies with all applicable consumer safety standards.

**STORAGE:** Store in dry area. Store in a closed container.

## PRODUCT PARAMETERS

PARAMETER	VALUE
Filament diameter [mm]	1.75
Diameter tolerance [mm]	+/-0,05
Oval tolerance [mm]	+/-0,02

## RECOMMENDED PRINTING PARAMETERS

PARAMETER	VALUE
3D printing temperature [C]	230-250
Heated bed [C]	70-100
Cooling fan [%]	0-30
Closed chamber	recommended
Drying conditions [C/h]	70/4

\* Recommended to pre-dry the filament before each print, Avoid overheating/degradation of the plastic manifested by bubbles and/or foaming of the material structure

## PHYSICAL PARAMETERS OF THE MATERIAL

PARAMETER	VALUE	UNIT	TEST METHOD
<b>Gęstość/Density</b>	1,22	g/cm <sup>3</sup>	ISO 1183
<b>Moduł sprężystości/Tensile Modulus</b>	2000	MPa	ISO 527
<b>Wytrzymałość na rozciąganie/Tensile strength</b>	66	MPa	DIN 53504
<b>Wydłużenie przy zerwaniu/Elongation at break</b>	170	%	DIN 53504
<b>Wytrzymałość na rozdarcie/Tear strength</b>	309	kN/m	ISO 34
<b>Ściśliwość/Compression</b>	78	%	ISO 815 (23 C, 72h)
<b>Ściśliwość/Compression</b>	93	%	ISO 815 (70 C, 24h)
<b>Udarność metodą Charpygo (z korbem)/ Charpy impact strength (notched)</b>	8,3	kJ/m <sup>2</sup>	ISO 179/1 (-30 C)
<b>Udarność metodą Charpygo (z korbem)/ Charpy impact strength (notched)</b>	8,7	kJ/m <sup>2</sup>	ISO 179/1 (23 C)
<b>Twardość/Hardness</b>	83D	-	ISO 7619
<b>HDT B</b>	91	C	ISO 72-2/B/0,45 MPa
<b>HDT A</b>	72	C	ISO 72-2/A/1,8 MPa

The values above have been measured using standard test specimens made of non-colored material at room temperature. The figures should be considered as indicative values only. Actual properties of ROSA TPU HardTech+ 83D parts can be affected by the printing parameters, design of the model, ambient conditions, application of the printout etc. It is essential that users test our products to determine whether they are suitable for their intended use. ROSA PLAST Sp. z o.o. accepts no liability for any health detriment or material losses or any other losses related to the use of the material. Additional documents, certificates and detailed technical information can be provided on special request.

