

TPU HARDNESS+

INNOVATEFIL® TPU HARDNESS+ is a polyurethane thermoplastic of great hardness. It maintains all the properties of the TPU allowing to make completely rigid parts. It has high thermal resistance, wear, UV rays, oils, ozone, etc. It does not present contractions allowing to print pieces of any size.



Thermal resistance



Impact resistance



Machinable



Chemical resistance

	VALUES		UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES				
Chemical name	Thermoplastic polyurethane			
Density	1,22		g/cm ³	ISO 1183
MECHANICAL PROPERTIES¹				
	XY PLANE	XZ PLANE		
Tensile strength	50,9	-	MPa	ISO 527
Traction module	-	-	MPa	ISO 527
Flexion strength	77,6	18,9	MPa	ISO 178
Flexion module	1812,7	1591,6	MPa	ISO 178
Elongation at maximum effort	2,6	-	%	ISO 527
Stretch traction at break	2,8	-	%	ISO 527
Elongation of flexion at break	15,5	0,1	%	ISO 178
Charpy Impact Force (non-notched)	29,3	-	kJ/m ²	ISO 179
Hardness	-	-	Shore D	ISO 7619-1
THERMAL PROPERTIES				
Glass transition temperature (Tg)	68		°C	ISO 11357
VICAT B (50 N 50°C/h)	66		°C	ISO 306
HDT B (0,45 MPa)	63		°C	ISO 75
PRINTING PROPERTIES				
Printing temperature	220 - 235		°C	
Bed temperature	70 - 80		°C	
Print speed	30 - 50		mm/s	
Layer fan	0 - 40		%	
Material flow	100		%	
Layer height	≥ 0,2		mm	
Nozzle recommendations	≥ 0,4		mm	

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOR	PACKAGING
M	750 g	900 g	1,75 mm/2,85 mm	Natural and black	Innovatefil box

NOTICE: The information provided in the data sheets is intended for reference only. It should not be used as design or quality control values. Actual values may differ significantly depending on printing conditions. The final performance of printed components not only depends on materials, design and printing conditions are also important.