



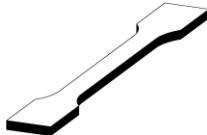
# PET TECHNICAL DATASHEET

Minerva3D  
info@minerva3d.com

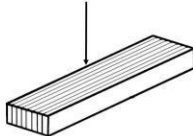
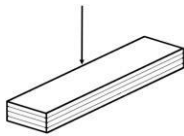
# PET Technical Datasheet <sup>1</sup>

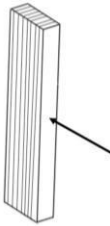
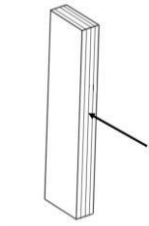
IDENTIFICATION	
Raw Material	PET Copolymer
Use	3D printing applications
Manufacturer	FiberForce Italy srl – Vicolo Dotti 4, 31100 Treviso (ITALY)

PHYSICAL PROPERTIES	VALUE	STANDARD
Density	1,28 g/cc	ASTM D792

MECHANICAL PROPERTIES			
TENSILE TEST – STANDARD ISO 527			
Test specimens printed on Ultimaker 2+ with the following setup: <ul style="list-style-type: none"> <li>- Nozzle type: Standard Brass 0.4</li> <li>- Nozzle Temperature: 230 °C</li> <li>- Heat bed Temp: 85 °C</li> <li>- Print speed: 30 mm/s</li> <li>- Infill orientation: 45 °C</li> <li>- Cooling fan: OFF</li> </ul>	<b>xy</b> 		
Infill	15%	50%	100%
Tensile strength (Mpa)	18,1	21,7	27,8
Elastic Modulus (Mpa)	862	1015	1452
Elongation at break (%)	4,68	5,21	4,68
Energy at break (J)	2,37	3,45	3,84

<sup>1</sup> All the presented data comes from the manufacturer  
 PET Technical datasheet

FLEXURAL TEST – STANDARD ISO 178				
Test specimens printed on Ultimaker 2+ with the following setup: <ul style="list-style-type: none"> <li>- Nozzle type: Standard Brass 0.4</li> <li>- Nozzle Temperature: 230 °C</li> <li>- Heat bed Temp: 85 °C</li> <li>- Print speed: 30 mm/s</li> <li>- Infill orientation: 45 °C</li> <li>- Cooling fan: OFF</li> </ul>	<b>zy-parallel</b>		<b>xy-normal</b>	
				
Infill	50%	100%	50%	100%
Flexural strength (Mpa)	58,0	63,9	50,3	57,8
Flexural Modulus (Mpa)	1298	1334	1239	1743
Deformation (%)	4,84	5,53	5,49	5,74

IMPACT TEST IZOD – STANDARD ISO 180				
Test specimens printed on Ultimaker 2+ with the following setup: <ul style="list-style-type: none"> <li>- Nozzle type: Standard Brass 0.4</li> <li>- Nozzle Temperature: 230 °C</li> <li>- Heat bed Temp: 85 °C</li> <li>- Print speed: 30 mm/s</li> <li>- Infill orientation: 45 °C</li> <li>- Cooling fan: OFF</li> </ul>	<b>zy-normal</b>		<b>xy-parallel</b>	
				
Infill	50%	100%	50%	100%
Impact strength (KJ/m <sup>2</sup> )	23,14	39,83	27,01	37,13
Impact Energy (J)	0,93	1,59	1,08	1,49

THERMAL PROPERTIES	VALUE	STANDARD
Glass Transition Temp.	62 °C	ASTM D3418
Heat Deflection Temp.	72 °C	ASTM D648

FILAMENT SPECIFICATIONS AND PRINT SETTINGS	
Diameter 1.75mm	1.75 ± 0.05 mm
Diameter 2.85mm	2.85 ± 0.05 mm
Roundness deviation	max 2%
Suggested Print Temperature	230 – 245 °C
Suggested Print Speed	20 – 40 mm/s
Suggested Bed Temperature	85 °C
Cooling fan	OFF – 50%