

## PETG Filament

PETG Filament (Polyethylene Terephthalate Glycol-modified) is the common thermoplastics of the polyester family and is used in fibers for clothing, bottles for liquids and foods. PETG is a modified PET, PETG is a clear amorphous thermoplastics with a lower melting point than PET.

The 3D4MAKERS PETG Filament has unique properties because it does not come into contact with water during the production process and is directly packaged in a vacuum packaging. These properties make the 3D4MAKERS PETG Filament particularly suitable for usage in FDM and FFF 3D printers. The material has an excellent adhesion between layers which results in great improvement of the impact resistance, strength, durability and the printing process.

PHYSICAL	CONDITIONS	TEST METHOD	TYPICAL VALUE
Density		ASTM D792	1.29 g/cm <sup>3</sup>
Bulk Density			0.73 g/cm <sup>3</sup>
Intrinsic Viscosity		ISO 1628-5	0.80 dl/g
Water Absorption		ASTM D570	0.12 %
Color	b*	ASTM D6290	≤ 1
	L*	ASTM D6290	≥ 64
<b>MECHANICAL</b>			
Tensile modulus		ISO 527-2	3000 MPa
Tensile Yield stress		ISO 527-2	53 MPa
Elongation at Yield		ISO 527-2	4 %
Tensile Strength		ISO 527-2	53 MPa
Elongation at Strength		ISO 527-2	4 %
Stress at Break		ISO 527-2	19 MPa
Nominal elongation at Break		ISO 527-2	31 %
Flexural Modulus		ISO 178	2040 MPa
Flexural Stress		ISO 178	171 MPa
Deflection at Flexural Strength		ISO 178	8.6 mm
<b>IMPACT</b>			
Notched Izod Impact Strength	23°C, 50 % RH	ISO 180	4.5 kJ/m <sup>2</sup>
Unnotched Izod Impact Strength	23 °C, 50 % RH	ISO 180	No Break
<b>HARDNESS</b>			
Shore Hardness		ASTM D2240	70
<b>THERMAL</b>			
Heat Deflection Temperature			
	0,45 MPa	ISO 75-2	68 °C

	1.8 MPa	ISO 75-2	62 °C
Vicat Softening Temperature		ISO 306	78 °C
Glass Transition Temperature		ASTM D3418	80 °C

PRINT RECOMMENDATIONS	
Nozzle Temperature	210 – 235 °C
Bed Temperature	50 - 80 °C
Print Speed	35 - 70 mm/s
Bed Adhesion	PEI Sheet, Buildtak, Adhesion spray

**To get the best results while printing we advise you to keep the 3D printer in a room where there is hardly any draft and/or temperature fluctuations. Keep the 3D printer out of the sun. This cannot be a room where people sleep. When the 3D printer is not being used it is important to keep the 3D4MAKERS PETG Filament in a bag and stored in a cool, dry and dark place until it is used again.**

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