

PETG Technical Data Sheet (TDS)

Polyethylene Terephthalate Glycol-modified (PETG) is a tough and durable materials and it is easy to use. The strength of it allow to be a suitable material for food packaging, the chemical non-reactive characteristic allow it to be the most valuable material in medical field, normally used for orthopedic and prosthetic device.

IEMAI 3D high performance PETG filament is based on FFF/FDM technology, with a commonly used diameter of 1.75 mm, 210-235°C printing temperature, 50-80 °C bed temperature, having excellent interlayer adhesion which greatly improve the strength and shock resistance of the prototype.

PETG is a very waterproof material which make it become an excellent choice for outdoor activity. It also has excellent chemical resistance, which can be well-used in both acidic and alkaline environment, PETG also have strong impact resistance, which make it be the substitute material for PMMA and PC.

Physical	Condition	Test Method	Typical Value
Density		ASTM D792	1.24 g/cm ³ at 21 °C
Bulk Density			0.73 g/cm ³
Intrinsic Viscosity		ISO 1628-5	0.80 dl/g
Water Absorption		ASTM D570	0.12%
Colour	b*	ASTM D6290	≤ 1
	L*	ASTM D6290	≥64

Mechanical	Condition	Test Method	Typical Value
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 Stress		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

Impact	Condition	Test Method	Typical Value
Notched Izod Impact Strength	23°C, 50 % RH	ISO 180	4.5kJ/m ²
Unnotched Izod Impact Strength	23°C, 50 % RH	ISO 180	No Break

Hardness	Condition	Test Method	Typical Value
Shore Hardness		ASTM D2240	70

Thermal	Condition	Test Method	Typical Value
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 Recommendation	
Nozzle Temperature	210 -235 °C
Bed Temperature	50 -80 °C
Print Speed	30-70 mm/s
Chamber Temperature	50-70 °C
Cooling Fan	0-100%