

TECHNICAL DATA SHEET

Tough-PETG

BRIEF INTRODUCTION

Tough-PETG is a toughness modified PETG developed specifically for FDM, which provides excellent printing performance by improving material fluidity. Meanwhile, it has better mechanical strength and heat resistance than PLA.

CHARACTERISTIC

High impact resistance

The notched impact strength of Tough-PETG is improved to more than 2 times of that of ordinary PETG by using the toughness improvement technique, and the bonding strength of zy-axis is not affected.

Easy to print Tough-PETG has excellent material flow, good molding effect, can achieve perfect printing effect in most printers.

IDENTFICATION OF THE MATERIAL	
Trade name	Tough-PETG
Application	3D PRINTING
GUIDELINE FOR PRINT SETTINGS Nozzle temperature	220-250 ℃
Bed temperature	70~80 ℃
Bed material	PEI or PVP solid glue
Active cooling fan	≤50%
Recommend nozzle size	0.2mm-1.0mm
Raft distance	0.2-0.25mm
Print speed	30-90mm/s
Retraction Distance	2-5mm
Retraction Speed	1800-3600mm/min

Settings are based on a 0.4mm nozzle.Nozzle temp.250°C,Bed temp.:80°C, Printing speed:60mm/s,filling rate:100%,filling angle:+/-45°

MATERIAL PROPERTIES	Typical value	Test Method
Melt index	13.2g/10min	220℃ 2.16kg
Glass-transition temperature	78 °C	ISO11357
Density	1.24g/cm ³	ISO 1183 ISO 75,Method A/ISO 75 Method
Thermal deformation temperature	73℃(1.8Mpa)/78℃(0.45Mpa)	B
Tensile strength(X-Y)	40.3+/-0.6 MPa	
Elongation at Yield(X-Y)	4.0+/-0.2%	
Young's modulus(X-Y) Tensile breaking strength(X-Y)	1780+/-80MPa 20.2+/-0.8Mpa	ISO527
Elongation at break (X-Y)	10.1+/-0.6%	
Tensile strength(Z)	39.8+/-0.4 MPa	
Elongation at Yield(Z)	3.8+/-0.5%	
Young's modulus(Z)	1820+/-110MPa	
Tensile breaking strength(Z)	19.2+/-0.8Mpa	190527
Elongation at break (Z)	5.0+/-0.5%	100021



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Bending strength (X-Y)	62.8+/- 0.4Mpa	ISO178
Bending modulus (X-Y)	1919+/-54Mpa	ISO178
Notch impact strength (X-Y)	13.9+/-2.3KJ/m ²	ISO179

Other Suggestions:

The bottom plate of Tough-PETG and PC material is very firmly bonded. When printing the bottom of a larger surface, the spacing between the first layer and the bottom plate of the model can be appropriately enlarged.

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