

PETG

(Polyethylene terephthalate
copolyester)

3D RAPID PARTS, LLC

Tensile Properties ASTM D638 - Type V		
Property	Imperial	Metric
Toughness*	3.5 ft·lb/in ²	7.3 KJ/m ²
Tensile Modulus	304,579 psi	2.1 GPa
Ultimate Tensile Strength	6640 psi	45.8 MPa
Tensile Strength at Yield	7690 psi	53 MPa
Elongation at Yield	14%	14%
Elongation at Break	18%	18%

3D Printing Properties		
Property	Imperial	Metric
Expected Max Linear Print Speed	2.36 in/s	60 mm/s
Hardness, ASTM D2240	85D	85D
Solid Density, ASTM D792	4.66 x 10 ⁻² lb/in ³	1.29 g/cc

Impact Properties		
Property	Imperial	Metric
Notched Izod (machined), 23 C, ASTM D256	1.5 f·lb/in	80 J/m
Gardner Impact, 23 C, ASTM D3029	26.7 ft·lb	36 J

Thermal Properties		
Property	Imperial	Metric
Glass Transition by DSC, ASTM E1356	180 F	82 C
Glass Transition by DMA, ASTM D792	176 F	80 C
Heat Deflection Temperature, ASTM D648	163 F	73 C
Coefficient of Thermal Expansion, ASTM E832	38 x 10 ⁻⁶ in/in·°F	68 x 10 ⁻⁶ m/m·K
Heat Capacity, ASTM E1269	0.29 Btu/lb·°F	1200 J/kg·K
Thermal Conductivity, ASTM C518	2.0 Btu·in/hr/ft ² /°F	0.29 W/m·K

Available Colors

black, white, grey, red, and blue

Suggested Uses

PETG is a great material for high impact mechanical parts that may be subjected to moderate heat loads. This material is more wear and impact resistant than ABS while still being very cost effective for production printing applications.

*Toughness is not defined in ASTM D638 though can be calculated by taking the integral of the stress-strain curve collected by tensile data.