

Tensile Properties		
ASTM D638 - Type V		
Property	Imperial	Metric
Toughness*	7.7 ft·lb/in ²	16.2 KJ/m ²
Tensile Modulus	293000 psi	2.3 GPa
Ultimate Tensile Strength	7080 psi	26.4 MPa
Tensile Strength at Yield	8840 psi	35.9 MPa
Elongation at Yield	2%	2%
Elongation at Break	4%	4%
3D Printing Properties		
Property	Imperial	Metric
Expected Max Linear Print Speed	3.54 in/s	90 mm/s
Hardness, ASTM D2240	95D	95D
Solid Density, ASTM D792	4.48 x 10 ⁻² lb/in ³	1.24 g/cc
Impact Properties		
Property	Imperial	Metric
Notched Izod (machined), 23 C, ASTM D256	0.3 f·lb/in	16 J/m
Gardner Impact, 23 C, ASTM D5420	10.3 ft·lb	14 J
Thermal Properties		
Property	Imperial	Metric
Glass Transition by DSC, ASTM E1356	134 F	57 C
Glass Transition by DMA, ASTM D792	145 F	63 C
Heat Deflection Temperature, ASTM D648	121 F	49 C
Coefficient of Thermal Expansion, ASTM E832	23 x 10 ⁻⁶ in/inR	41 x 10 ⁻⁶ m/m·K
Heat Capacity, ASTM E1269	0.43 Btu/lb/°F	1,800 J/kg·K
Thermal Conductivity, ASTM C518	0.9 Btu·in/hr/ft ² /°F	0.13 W/m·K
Available Colors		
Black, Blue, Green, Grey, Natural, Orange, Red, White, Yellow		
Suggested Uses		
PLA is one of the most cost-effective FDM printing materials and easiest to process. PLA is best used for complex modeling applications that do not require impact strength or tolerance to heat loads.		

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