



# PLA



Fused Deposition Modelling  
(FDM)  
Material Datasheet



Ideal for early-stage prototypes and mock-ups. It offers good dimensional accuracy, making it suitable for quick validation. Available in multiple colours & carbon-filled.

Measurement	Normal PLA	Carbon-Filled
Tensile Strength (Z)	31 ± 3 MPa	26 ± 2 MPa
Tensile Strength (X-Y)	35 ± 4 MPa	38 ± 4 MPa
Breaking Elongation Rate (X-Y)	12.2 ± 1.8 %	8.4 ± 3.2 %
Breaking Elongation Rate (Z)	7.5 ± 1.3 %	3.6 ± 0.7 %
Young's Modulus (X-Y)	2580 ± 220 MPa	2790 ± 120 MPa
Young's Modulus (Z)	2060 ± 170 MPa	2160 ± 90 MPa
Bending Modulus (X-Y)	2750 ± 160 MPa	3950 ± 190 MPa
Bending Modulus (Z)	2370 ± 150 MPa	2260 ± 180 MPa
Impact Strength (X-Y)	26.6 ± 2.8 kJ/m <sup>2</sup> ; 7.9 ± 1.2 kJ/m <sup>2</sup> (notched)	23.2 ± 3.7 kJ/m <sup>2</sup> ; 7.6 ± 2.6 kJ/m <sup>2</sup> (notched)
Impact Strength (Z)	13.8 ± 0.9 kJ/m <sup>2</sup>	7.8 ± 0.7 kJ/m <sup>2</sup>
Heat Resistance (HDT, 0.45 MPa)	57 °C	55 °C

Actual values may vary depending on build conditions. Our technical team can advise.