

PA Technical Data Sheet (TDS)

PA filament is based on a copolymer of Nylon 6 and Nylon 6/6. The filament has excellent strength, toughness, and heat resistance of up to 160°C.

Physical Properties	Methods	Value
Density	ISO 1183, GB/T1033	1.12 g/cm^3 at 21 °C
Melt Index	260°C, 1.2Kg	12g/10 min
Light Transmission	N/A	N/A
Flame Retardancy V2	UL94	V2

Chemical Resistant Data	
Effect of weak acids	Not Resistant
Effect of strong acids	Not Resistant
Effect of weak alkalis	Slight Resistant
Effect of strong alkalis	Not Resistant
Effect of organic solvent	Not Resistant
Effect of oils and grease	Resistant
Effect of Sunlight	No data available

Mechanical Properties	Methods	Value
Glass transition	DSC, 10°C/min	67°C
Melting Temperature	DSC, 10°C/min	190°C
Crystallization Temperature	DSC, 10°C/min	128°C
Decomposition Temperature	TGA, 20°C/min	370°C
Vicat softening Temperature	ISO 306 GB/T 1633	180°C
Heat deflection Temperature	ISO 75 108 MPa	69°C
Heat deflection Temperature	ISO 75 0.45MPa	110°C
Thermal conductivity	N/A	N/A
Heat shrinkage rate	N/A	N/A

Dry State

Property	Testing Method	Typical Value
Young's modulus (X-Y)	ISO 527, GB/T 1040	2223±199 MPA
Young's modulus (Z)		2564± 97 MPA
Tensile Strength (X-Y)	ISO 527, GB/T 1040	66.2± 0.9 MPA
Tensile Strength (Z)		43.3± 9.1 MPA
Elongation at break (X-Y)	ISO 527, GB/T 1040	9.9 ± 1.5 %
Elongation at break (Z)		1.8 ± 0.4 %
Bending modulus (X-Y)	ISO 178, GB/T 9341	1667±118 MPA
Bending modulus (Z)		N/A
Bending Strength (X-Y)	ISO 178, GB/T 9341	97 ± 1.1 MPA
Bending Strength (Z)		N/A
Charpy impact strength (X-Y)	ISO 178, GB/T 9341	9.6±1.4kJ/m ²
Charpy impact strength (Z)		N/A
Lower Temperature impact strength (X-Y)	ISO179-1/1eA:2010, -30° C	4.5 ±1.5 kJ/m ²

Moisture Condition

Property	Testing Method	Typical Value
Young's modulus (X-Y)	ISO 527, GB/T 1040	1053 ± 235 MPA
Young's modulus (Z)		702 ± 16 MPA
Tensile Strength (X-Y)	ISO 527, GB/T 1040	36.4±0.9 MPA
Tensile Strength (Z)		31.4± 1.5 MPA
Elongation at break (X-Y)	ISO 527, GB/T 1040	216.5±12.1 %
Elongation at break (Z)		4.6±0.2 %
Bending modulus (X-Y)	ISO 178, GB/T 9341	862.8±133.3 MPA
Bending modulus (Z)		N/A
Bending Strength (X-Y)	ISO 178, GB/T 9341	41.6±11.6 MPA
Bending Strength (Z)		N/A
Charpy impact strength (X-Y)	ISO 178, GB/T 9341	17.2±1.4kJ/m ²
Charpy impact strength (Z)		N/A

Print Recommendation	
Nozzle Temperature	220 -260 °C
Bed Temperature	90 -110 °C
Print Speed	30-70 mm/s
Chamber Temperature	50-70 °C
Cooling Fan	0-50%