Phoenix™ Nylon

Property Data

Property	Test Method	Value	Comment
Melt Flow Index/ g/10 mins	ASTM D1238	5 – 15	Dependent on color. Tested at <400 ppm moisture
Density/ gcm^{-3}	ASTM D792	1.14	Resin Manufacturer data
Heat Deflection Temperature/ °C *	ASTM D648 at 66 psi	102	
Tensile Strength at Yield/ psi *	ASTM D638, Type IV	5260	
Tensile Elongation/ % *	ASTM D638, Type IV	34	
Flexural Modulus/ kpsi *	ASTM D790	366	
Flexural Peak Stress / kpsi *	ASTM D790	13.3	
Notched Izod Impact/ Jm^{-1} *	ASTM D256	142	

* 3D printed test specimens using Ultimaker 2+; 100 % infill; y-axis orientation; dried prior to printing; tested in an independent lab

Recommended Printer Conditions

Nozzle temperature*	240-260°C
Heated bed temperature	70 °C
Speed**	30-150 mm/s
Infill	As needed, up to 100 %
Bed material	Adheres to a variety of standard bed materials, including: Glass, garolite, PEI, glue sticks (PVA based)
Drying temperature/time***	165 °F (75 °C) for 8 hours

*Nozzle temperature recommendations based on achieving better print definition. The recommendations given above leave about ±15°C depending on specific printers and other print settings.

**Higher print speeds might require higher nozzle temperatures

***Nylon materials inherently take up moisture from the surrounding atmosphere due to the nature of their chemistry. If moisture is present during extrusion, degradation can occur, resulting in a weaker part. A tell-tale sign of your nylon being too wet is popping noises and visible air bubbles escaping the extrudate. We recommend drying all nylons prior to printing.

These processing conditions are general guidelines only. Each printer will likely have a unique set of printing parameters.