

Technical data sheet Nylon

3DPE.ir

Description

Nylon (polyamide) is an extensively used material for its unique mechanical and chemical properties.

Thanks to characteristics like durability, flexibility and resistance to corrosion, Nylon is ideal for multiple applications in the 3D printing field, like end-use parts or custom jigs and fixtures. Nylon manufactured at United States of America by Matterhackers, Inc.

Properties

- Excellent impact strength
- Low friction coefficient
- High abrasion resistance
- Good chemical resistance against organic chemicals and alkalis
- Long-lasting
- Withstand operating temperatures up to 50°C
- Compatible with PVA supports
- For a better print quality use an enclosure.

Recomendations

Make sure Nylon is dry before printing. Place it in an oven or in an dehydrator at 70°C for 6 to 8 hours. After drying, store it in an airtight container with desiccant.

Do not use layer cooling fans and avoid drafty or cool rooms for best results.

Nylon emits low levels of gasses and particles when printed. We recommend printing it in a well-ventilated area.

Filament specifications

Diameter	Ø 2.85 mm
Max roundness deviation	-
Net filament weight	750 g
Density (ASTM D792)	1.14 g/cm ³

Mechanical properties

	Typical value	Test method
Flexural peak stress*	6403 psi	ASTM D790
Flexural modulus*	152 kpsi	ASTM D790
Tensile strength at break*	6072 psi	ASTM D638,Type IV
Tensile strength at yield*	7582 psi	ASTM D638,Type IV
Tensile elongation*	27 %	ASTM D638,Type IV
Tensile modulus*	200 kpsi	ASTM D638,Type IV
Notched izod impact*	360 J/m	ASTM D256

(*) 3D printed test specimens, 100% solid, y-axis orientation

Thermal properties

	Typical value	Test method
Melt Flow Index	5 - 15 g/10 mins	ASTM D1238
Heat Deflection Temperature*	110 °C	ASTM D648 at 66 psi

Printing settings

Extruder temperature	240 °C - 260 °C
Bed temperature	65 °C
Speed	30-60 mm/s
Retraction speed	40 mm/s
Retraction distance	4 mm
Cooling fan	No
Minimum layer height	0.2 mm
Platform adhesion type	Brim