# PA

Technical Data Sheet

Development based on nylon 6/66 copolymer; Self-lubricating wear resistance makes it suitable for printing gears; High toughness and impact resistance, with an elongation at break of up to 175%, which can print strong and durable parts with high fracture resistance; Low shrinkage, not easy to warp and crack when printing.

| Material Status | Mass Production |
|---|---|
| Characteristics | • High toughness<br>• High impact resistance<br>• Self-lubricating wear-resisting<br>• Excellent printability |
| Applications | • Machinery<br>• Automobile<br>• Electrical and electronic<br>• Aerospace<br>• Consumption goods |
| Form | • Filament |
| Processing method | • 3D Print, FDM Print |

| | Testing method | Typical value | |
|---|---|---|---|
| **Physical Properties** | | | |
| Density | GB/T 1033 | 1.12 | g/cm³ |
| Melt Flow Index | GB/T 3682 | 12.3 | (230℃/2.16kg) |
| **Mechanical Properties** | | | |
| Tensile Strength | GB/T 1040 | 52.45 | MPa |
| Elongation at Break | GB/T 1040 | 175.32 | % |
| Flexural Strength | GB/T 9341 | 58 | MPa |
| Flexural Modulus | GB/T 9341 | 1370 | MPa |
| IZOD Impact Strength | GB/T 1843 | 18.4 | kJ/㎡ |
| **Thermal Properties** | | | |
| Heat distortion Temperature | GB/T 1634 | 50 | (℃,0.45MPa) |
| Continuous Service Temperature | IEC 60216 | N/A | |
| Maximum (short term) Use Temperature | | N/A | |
| **Electrical Properties** | | | |
| Insulation Resistance | DIN IEC 60167 | N/A | |
| Surface Resistance | DIN IEC 60093 | N/A | |

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## Recommended printing parameters

| | |
|---|---|
| Extruder Temperature | 250 - 290℃ |
| Build Platform Temperature | 70-90℃ |
| Fan Speed | 0% |
| Printing Speed | 40 - 100mm/s |

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2. Printing conditions may vary with different nozzle diameters

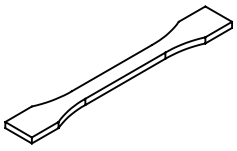
## Drying Recommendations

N/A

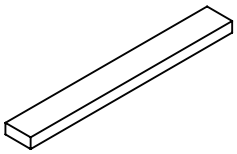
## Notes

Drying (70℃/> 12 h) before printing to achieve the best printing effect, it is recommended to use with eBOX when printing.

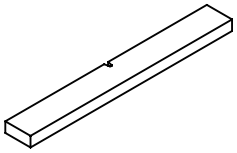
## Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The physical properties, mechanical properties, thermal properties, and electrical properties of the filament are obtained based on the injection molding spline test.

Print test condition :

| | |
|---|---|
| Extruder Temperature | 240-290℃ |
| Build Platform Temperature | 80℃ |
| Outline/Perimeter Shells | 4 |
| Top/Bottom Layers | 4 |
| Infill Percentage | 20% |
| Fan speed | 0% |
| Printing speed | 40mm/s |

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2.

## Notice

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