



Ultrafuse® PA

First BASF Filament Development Based on Ultramid®

Ultrafuse® PA is the translation of BASF's Ultramid® to the 3D printing space. It is based on a copolyamide 6/66 grade of intermediate viscosity. With Ultrafuse® PA, it is possible to print semi-flexible thin parts; however, it is very rigid at higher thicknesses. It has a lower melting temperature than PA6 and PA66, meaning it can be printed at a lower temperature and also has better impact resistance versus PA6 and PA66, opening up a whole new application field for end-users.

Benefits at a Glance

- Good fatigue resistance
- High mechanical strength
- Low melting point makes it printable for many FFF printers
- Good wear resistance/lubricity
- Good impact resistance at low temperatures

Example Applications

- Most engineering sectors
- Suitable for a wide range of different components and machine elements, such as high-grade electrical insulation material

Material Properties (dried specimens)

Tensile Strength (MPa)	16.4 (ZX), 61.4 (XY)
Flexural Modulus (MPa)	2149 (ZX), 2246 (XZ), 2051 (XY)
Elongation at Break	0.8 % (ZX), 9.6 % (XY)
Impact Strength Izod notched (kJ/m ²)	1.7 (ZX), 3.9 (XZ), 5.8 (XY)
Impact Strength Izod unnotched (kJ/m ²)	3.2 (ZX), 45.6 (XZ), 28.0 (XY)
HDT @ 0.45 MPa	135 °C

Printing Guidelines

Nozzle Temperature	220 – 250 °C
Bed Temperature	90 – 120 °C
Nozzle Diameter	≥ 0.4 mm
Bed Modification	Glass + PVA Glue Stick / Kapton tape / PA adhesive
Print Speed	30 – 60 mm / s

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