

MATERIAL PA11

Datasheet for polyamide parts produced by Selective Laser Sintering



PA11 is a bio-based whitish polyamide material. Compared to PA12 it offers a higher elongation at break, elasticity and impact resistance. Typical applications are therefore environments where high deformations occur. In addition, the material does not splinter when fractured.

Laser-sintered parts made from material PA11 possess excellent material properties:

- high elongation and impact resistance
- bio compatible according to EN ISO 10993-1 and USP/level VI/121 °C
- approved for food contact in compliance with EU regulation No 10/2011.

Typical applications of the material are fully functional plastic parts of highest quality. Due to the excellent mechanical properties the material is often used to substitute typical injection moulding plastics. The biocompatibility in combination with the high elasticity and impact strength allows its use for prosthetic and orthotic devices.

Material PA11 which is processed in our ISO9001 can be polished, coloured and coated. PA11 will be processed in our ISO13485 certified production environment in the near future to meet new MDR requirements for prosthetic and orthotic devices.

Part properties	Value	Unit
Part colour	White	-
Part density	1.00	g/cm ³
Minimum wall thickness	1.0	mm
Layer thickness	0.10 - 0.12	mm
Max. product size	335 x 335 x 603	mm
Tensile modulus XY / Z	1700 / 1800	MPa
Tensile strength XY / Z	45 / 42	MPa
Strain at break XY / Z	28 / 24	%
Charpy Impact strength (notched)	5.1 / 3.9	kJ/m ²
Izod Impact strength (notched)	6.5 / 4.8	kJ/m ²
Melting temperature	200	°C

Please note that all mentioned mechanical properties are optimum values according to manufacturer. Due to the layer by layer production process and the specific design of each individual product values may differ. *If specific properties and/or dimensions are critical, always contact us so we can inform you how to obtain required specifications!*

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