

Foglio dati sul materiale

PA 2200 Balance 1.0
PA12

Generality

This whitish fine powder PA 2200 on the basis of polyamide 12 serves with its very well-balanced property profile a wide variety of applications. Laser-sintered parts made from PA 2200 possess excellent material properties:

- high strength and stiffness
- good chemical resistance
- excellent long-term constant behaviour
- high selectivity and detail resolution
- various finishing possibilities (e.g. metallisation, stove enamelling, vibratory grinding, tub colouring, bonding, powder coating, flocking)
- bio compatible according to EN ISO 10993-1 and USP/level VI/121 °C
- approved for food contact in compliance with the EU Plastics Directive 2002/72/EC (exception: high alcoholic foodstuff)

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 allows its use e.g. for prostheses, the high abrasion resistance allows e.g. the realisation of movable part connections.

120 µm layer thickness

The advantage of the Balance parameter set is equilibrium. The layer thickness of 120 µm offers a perfect balance between production costs, mechanical properties, surface quality and accuracy. It is therefore suitable for parts with varying geometries, dimensions and requirements.

Mechanical properties

Izod Impact notched (23°C)	ISO 180/1A	4.4 kJ/m ²
Shore D hardness (15s)	ISO 868	75

3D Data

Tensile Modulus X Direction	ISO 527-1/-2	1650 MPa
Tensile Modulus Y Direction	ISO 527-1/-2	1650 MPa
Tensile Modulus Z Direction	ISO 527-1/-2	1650 MPa
Tensile Strength X Direction	ISO 527-1/-2	48 MPa
Tensile Strength Y Direction	ISO 527-1/-2	48 MPa
Tensile Strength Z Direction	ISO 527-1/-2	42 MPa
Strain at break X Direction	ISO 527-1/-2	18 %
Strain at break Y Direction	ISO 527-1/-2	18 %
Strain at break Z Direction	ISO 527-1/-2	4 %
Charpy impact strength (+23°C, X Direction)	ISO 179/1eU	53 kJ/m ²
Charpy notched impact strength (+23°C, X Direction)	ISO 179/1eA	4.8 kJ/m ²
Flexural Modulus (23°C, X Direction)	ISO 178	1500 MPa

Thermal properties

Melting temperature (20°C/min)	ISO 11357-1/-3	176 °C
Vicat softening temperature (50°C/h 50N)	ISO 306	163 °C
Burning behavior Test passed, HB	UL 94	0.5 mm
Burning behavior Test passed, HB	UL 94	1.6 mm
Burning behavior Test passed, HB	UL 94	3.2 mm

Other properties

Density (lasersintered)	EOS Method	930 kg/m ³
Powder colour (ac. to safety data sheet)		White