

EOS PA 2200 Top Speed 1.0

Polyamide 12

EOS GmbH

Message:

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.

180 µm layer thickness:

TopSpeed is a very economical parameter set for parts with medium to high requirements of quality and mechanical load and high cost pressure. Particularly large and relatively thick-walled parts can usually profit from this layer thickness, mostly without any noticeable impairment from the fast build-up rates.

General Information			
Features	Biocompatible		
	Food Contact Acceptable		
	Good Abrasion Resistance		
	Good Chemical Resistance		
	High Stiffness		
	High Strength		
Uses	Medical/Healthcare Applications		
	Prosthetics		
	Prototyping		
	Thick-walled Parts		
Agency Ratings	EU 2002/72/EC		
	ISO 10993		
	USP Class VI		
Appearance	White		
Forms	Powder		
Processing Method	3D Printing, Laser Sintering/Melting		
Physical	Nominal Value	Unit	Test Method
Density	0.930	g/cm ³	Internal Method
Thickness - Layer	180.0	µm	
Hardness	Nominal Value	Unit	Test Method

Shore Hardness (Shore D, 15 sec)	75		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	1500	MPa	ISO 527-2
Tensile Stress			
-- ²	38.0	MPa	ISO 527-2
-- ³	45.0	MPa	ISO 527-2
Tensile Strain			
Break ⁴	18	%	ISO 527-2
Break ⁵	3.0	%	ISO 527-2
Flexural Modulus ⁶ (23°C)	1500	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷ (23°C)	4.8	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ⁸ (23°C)	53	kJ/m ²	ISO 179/1eU
Notched Izod Impact Strength (23°C)	4.4	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	163	°C	ISO 306/B50
Melting Temperature	176	°C	ISO 11357
NOTE			
1.	X Direction		
2.	Z Direction		
3.	Y Direction		
4.	X Direction		
5.	Z Direction		
6.	X Direction		
7.	X Direction		
8.	X Direction		

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