EOS PA 2201

Polyamide 12

EOS GmbH

Message:

PA 2201, a whitish, a bit more translucent polyamide 12 powder, is in compliance with FDA, 21 CFR, §177.1500 9(b) except for alcoholic foodstuff. Apart from that PA 2201 and PA 2200 have identical material properties. Laser-sintered parts made from PA 2201 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)
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.

General Information			
Features	Biocompatible		
	Food Contact Acceptable		
	Good Abrasion Resistance		
	Good Chemical Resistance		
	Good Surface Finish		
	High Stiffness		
	High Strength		
Uses	Engineering Parts		
	Prosthetics		
	Prototyping		
Agency Ratings	FDA 21 CFR 177.1500		
Appearance	Natural Color		
	White		
Forms	Powder		
Processing Method	3D Printing, Laser Sintering/Melting		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	0.930	g/cm³	Internal Method
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D, 15 sec)	75		ISO 868
Ball Indentation Hardness	78.0	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [1]	1700	MPa	ISO 527-2
Tensile Stress [2]	48.0	MPa	ISO 527-2
Tensile Strain [3] (Break)	15	%	ISO 527-2

Flexural Modulus [4] (23°C)	1500	MPa	ISO 178
Flexural Stress [5]	58.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength [6] (23°C)	4.8	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength [7] (23°C)	53	kJ/m²	ISO 179/1eU
Notched Izod Impact Strength (23°C)	4.4	kJ/m²	ISO 180/1A
Unnotched Izod Impact Strength (23°C)	33	kJ/m²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature			
--	181	°C	ISO 306/A50
--	163	°C	ISO 306/B50
Melting Temperature [8]	176	°C	ISO 11357
NOTE			
1.	X Direction		
2.	Y Direction		
3.	X Direction		
4.	X Direction		
5.	X Direction		
6.	X Direction		
7.	X Direction		
8.	20°C/min		

Recommended distributors for this material

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