EOS PA 1101

Polyamide 11

EOS GmbH

Message:

PA 1101 is a whitish polyamide 11 powder, which is optimised for the use as a laser sintering material. PA 1101 is made out of renewable raw materials (castor oil). The material is characterised by elasticity and high impact resistance.
Properties
high elongation at break
elasticity
high impact resistance
excellent resistance to chemicals, especially hydrocarbons, aldehydes, ketones, mineral bases and salts, alcohols, fuels, detergents, oils and fats
Acceptance criteria
cytotoxicity according to DIN EN ISO 10993-5
Typical applications
mechanically loaded functional prototypes and series parts with long-term moving elements (e.g. hinges)
in the automotive industry, it is mainly used for interior components for crash relevant parts (PA 1101 components do not splinter)
especially suited for small to medium sized parts, thin walls and lattice structures

General Information			
Features	Alcohol Resistant Fuel Resistant Good Chemical Resistance Grease Resistant High Elasticity High Elongation High Impact Resistance Oil Resistant Renewable Resource Content Solvent Resistant		
Uses	Automotive Applications Automotive Interior Parts Engineering Parts Prototyping Sporting Goods Thin-walled Parts		
Agency Ratings	ISO 10993 Part 5		
Appearance	Natural Color White		
Forms	Powder		
Processing Method	3D Printing, Laser Sintering/Melting		
Physical	**Nominal Value**	**Unit**	**Test Method**

Density	0.990	g/cm³	Internal Method
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D, 15 sec)	75		ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [1]	1600	MPa	ISO 527-2
Tensile Stress [2]	48.0	MPa	ISO 527-2
Tensile Strain			
Break [3]	45	%	ISO 527-2
Break [4]	30	%	ISO 527-2
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
23°C [5]	6.5	kJ/m²	ISO 179/1eA
23°C [6]	7.8	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength [7] (23°C)	No Break		ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed [8]	180	°C	ISO 75-2/B
0.45 MPa, Unannealed [9]	181	°C	ISO 75-2/B
1.8 MPa, Unannealed [10]	47.0	°C	ISO 75-2/A
1.8 MPa, Unannealed [11]	46.0	°C	ISO 75-2/A
Melting Temperature [12]	201	°C	ISO 11357

NOTE	
1.	X Direction
2.	Z Direction
3.	X Direction
4.	Z Direction
5.	Z Direction
6.	Y Direction
7.	Y Direction
8.	X Direction
9.	Z Direction
10.	Z Direction
11.	Y Direction
12.	20°C/min

Recommended distributors for this material

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