

Technical Data Sheet

ADSINT® PA11 black

AdSint® PA11 black is a bio-based material made from castor oil. The end product offers a high elongation at break, elasticity and high impact resistance. Typical applications are in environments with high mechanical stress (e.g. hinges) and special surroundings (e.g. chemical, detergents, oil). Due to its high ductility, it does not splinter in crash situations. **AdSint® PA11 black** has been tested on most common SLS printers. Parameters for printing will be provided. It is also available in nature and white. The refresh rate is between 35% - 50%, depending on the application.

General properties

Measurement	Method & Conditions	Metric Value
Mean Diameter	ISO 13320	40 µm
Particle Size Distribution	ISO 13320	
Fine Particles < 15 µm		10 max. %
Coarse Particles > 76 µm		10 max. %
Bulk Packed Density 23°C	ISO 1068-1975	0,66±0, 05g/cm ³
Part Density 23°C	ISO 61	1.05±0, 05g/cm ³
Part Water absorption at 23°C, 50% RH at equilibrium	ISO 62/1	0.9 to 1.1%

Thermal properties

Measurement	Method & Conditions	Metric Value
Melting point T ^m (Powder)	ISO 11357-3	201± 2°C
Melting point T ^m (Sintered Part)	ISO 11357-3	190± 2°C
Glass transition Temperature T ^g (Sintered Part)	ISO 11357-3	41± 2°C
Heat Deflection Temperature (HDT @0.45MPa)	ISO 75f	150± 2°C
Heat Deflection Temperature (HDT @1.8MPa)	ISO 75f	55± 2°C

Mechanical properties

Measurement	Method & Conditions	Metric Value
Tensile strength at break	ISO 527-2:93-1B	47 ± 2 MPa
Tensile modulus	ISO 527-2:93-1B	1680 ± 150 MPa
Elongation at break	ISO 527-2:93-1B	37 ± 3 %
Flexural modulus	ISO 178 (23°C)	1400 ± 150 MPa
Charpy – Impact strength (unnotched)	ISO 179 1eU (23°C)	130 ± 30 kJ/m ²
Hardness (Shore D – instantaneous)	ISO 868 (20°C)	76±1

Handling – storage

Store the product in original packaging away from moisture and heat. Under these conditions, the material will maintain its technical properties for 3 years. Once the material passes the 3 year limit, it will be necessary to perform testing of the specified data to restart the shelf life period.

Delivery Form

The material will be delivered in 2kg bottles or 20kg drums (2x10kg powder bags).

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