

# Technical Data Sheet

## ADSINT® PA11



**AdSint® PA11** natural, a bio-based material (castor oil), is an interesting alternative to PA12. 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. It is certified for medical and food applications. **AdSint® PA11** has been tested on most common SLS printers. Parameters for printing will be provided. It is also available in black. 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		
Fine Particles < 15 µm	ISO 13320	10 max. %
Coarse Particles > 76 µm		10 max. %
Bulk Packed Density 23°C	ISO 1068-1975	0,53± 0,05g/cm <sup>3</sup>
Part Density 23°C	ISO 61	1.00± 0,05g/cm <sup>3</sup>
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 <sup>m</sup>	ISO 11357-3	201°C
Melting point T <sup>m</sup> (Sintered Part)	ISO 11357-3	190± 2°C
Glass transition temperature T <sup>g</sup> (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	44± 2°C

### Mechanical properties

Measurement	Method & Conditions	Metric Value
Tensile strength at break	ISO 527-2:93-1B	50 ± 2 MPa
Tensile modulus	ISO 527-2:93-1B	1670 ± 50 MPa
Elongation at break	ISO 527-2:93-1B	46 ± 5 %
Flexural modulus	ISO 178 (23°C)	1400 ± 100 MPa
Charpy – Impact strength (unnotched)	ISO 179 1eU (23°C)	150 ± 15 kJ/m <sup>2</sup>
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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