

# Technical Data Sheet

## Adsint PA11

### Components

Polyamide 11 powder for Laser Sintering

### Product Description

Adsint PA11, a bio-based material (castor oil), is an interesting alternative to PA12. Parts produced with this material show a high elongation at break, elasticity and high impact resistance. Typical applications are in environments where high deformations (e.g. hinges) and/or exposure to special surroundings (e.g. chemical, detergents, oil) may occur. Due to its high ductility, it does not splinter in crash situations. Adsint PA11 can be used for medical and food applications and is processable on most common SLS printers. Parameters for printing will be provided.

### Delivery form and warehousing

Adsint PA11 powder should be stored at 15 - 25°C in its originally sealed package in a clean and dry environment.

### Product safety

Mandatory and recommended industrial hygiene procedures and the relevant industrial safety precautions must be followed whenever this product is being handled and processed. Product is sensitive to humid environment conditions. For additional information please consult the corresponding material safety data sheets.

### For your information

Adsint PA11 comes in solid white color. Electrical properties (e.g. volume resistivity, surface resistivity), chemical properties (e.g. resistance against particular substances) and tolerance for solvents are available upon request. Generally, these properties correspond to publicly available data on polyamides.

### Notice

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

The safety data given in this publication is for information purposes only and does not constitute a legally binding Material Safety Data Sheet (MSDS). The relevant MSDS can be obtained upon request from your supplier or you may contact BASF directly at [3d-printing@basf-3dps.com](mailto:3d-printing@basf-3dps.com).

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General Properties	Test method	Typical values
Bulk Density / kg/m <sup>3</sup>	DIN EN ISO 60	520
Printed Part Density / kg/m <sup>3</sup>	DIN EN ISO 1183-1	1020
Mean particle size d50 / μm	Laser Diffraction	40-50
Melting Temperature / °C	ISO 11357	203
Crystallization Temperature / °C	(10 K/min)	158
Melt Volume Flow Rate / cm <sup>3</sup> /10min	ISO 1133 (220 °C, 2.16 kg)	28

Mechanical Properties	Test method	Typical values x-direction		Typical values z-direction	
		dry <sup>1</sup>	cond. <sup>2</sup>	dry <sup>1</sup>	cond. <sup>2</sup>
Tensile Strength / MPa	ISO 527-2 (23 °C)	52	45	54	46
Tensile Modulus / MPa		1750	1100	1800	1250
Tensile Elongation at break / %		28	45	24	31
Tensile Strength / MPa	ISO 527-2 (80 °C)	31	28	29	26
Tensile Modulus / MPa		370	300	420	360
Tensile Elongation at break / %		> 150	> 150	51	54
Flexural Modulus / MPa	DIN EN ISO 178	1750	1250	1800	1300
Charpy Impact Strength (notched) / kJ/m <sup>2</sup>	ISO 179-1	5.1	8.3	3.9	4.5
Charpy Impact Strength (unnotched) / kJ/m <sup>2</sup>		184	198	85	85
Izod Impact Strength (notched) / kJ/m <sup>2</sup>	ISO 180	6.5	7.7	4.8	5.2
Izod Impact Strength (unnotched) / kJ/m <sup>2</sup>		no break	no break	54	86

Thermal Properties	Test method	Typical values <sup>1</sup>
HDT/A (1.8 MPa) / °C	ISO 75-2	76
HDT/B (0.45 MPa) / °C		176
Vicat/A (10 N) / °C	ISO 306	191
Vicat/B (50 N) / °C		177

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1) measured after drying 14 days at 80 °C / vacuum. Water content is about 0.05 % acc. to DIN EN ISO 15512.

2) measured after conditioning 14 days at 70 °C / 62 % r.h. Water content is about 0.9 % acc. to DIN EN ISO 15512.

All values measured with virgin material.