Technical Data Sheet

Ultrasint® PP nat 01

General information

Components

Polypropylene-based powder for Laser Sintering

Product Description

Ultrasint® PP nat 01 is especially developed for the SLS process as an alternative to polyamide.

In contrast to commonly used polyamides, It 01 offers an excellent plasticity, high elongation, low moisture absorption and high durability. The fields of application vary widely from automotive, electrical and sports goods to health care and orthopedic products. It works perfectly for hinges and clips. It allows post processing like thermoforming or sealing. Ultrasint® PP nat 01 is resistant to most acids and bases and has a slightly translucent appearance. Due to its attractive commercial value, it is an interesting material to expand 3D printing applications and volumes. It has been successfully tested on most common SLS printers. Parameters for printing will be provided.

Typical applications are:

- Pipes and ducts for and other media
- Water reservoirs and manifolds
- Economic and functional prototypes
- Multi-purpose industrial goods
- Durable jigs & fixtures

Delivery form & warehousing

Ultrasint® PP nat 01 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

Ultrasint® PP nat 01 comes in a white translucid color. 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 Forward AM directly at sales@basf-3dps.com.

General Properties	Test Method	Typical Values
Bulk Density / kg/m³	DIN EN ISO 60	330
Printed Part Density / kg/m³	ISO 61	890
Mean particle size d50 / µm	Laser Diffraction	60-70
Melting Temperature / °C	ISO 11357 (10 K/min)	140
Crystallization Temperature / °C	ISO 11357 (10 K/min)	100
Melt Volume Flow Rate / cm³/10min	ISO 1133 (220 °C, 2.16 kg)	14

Thermal Properties	Test Method	Typical Values
HDT/A (1.8 MPa) / °C	ISO 75-2	62
HDT/B (0.45 MPa) / °C	ISO 75-2	102
Vicat/A (10 N) / °C	ISO 306	131
Vicat/B (50 N) / °C	ISO 306	90

Mechanical Properties	Test Method	Typical Values X-direction	Typical Values Z-direction
Tensile Strength / MPa	ISO 527-2	28	28
Tensile Modulus / MPa	ISO 527-2	1400	1400
Tensile Elongation at break / %	ISO 527-2	30	10
Flexural Modulus / MPa	DIN EN ISO 178	1250	1500
Charpy Impact Strength (notched) / kJ/m²	ISO 179-1	3.3	3.2
Charpy Impact Strength (unnotched) / kJ/m²	ISO 179-1	29	20
Izod Impact Strength (notched) / kJ/m²	ISO 180	3.5	3.0
Izod Impact Strength (unnotched) / kJ/m²	ISO 180	24	16