Jabil PA 4000 NATURAL
Technical Data Sheet

Product Description

A very durable nylon powder, PA 4000 has well-balanced material characteristics that are ideal for a wide variety of applications. The detail resolution, excellence surface finish, and 34% elongation at break point ensures this bright white material meets the needs of your product requirements. The chemical resistance and various finishing possibilities make PA 4000 ideal for open-sourced laser sintering 3D printers.

Similar to a PA 12, PA 4000 should be selected for applications that require functional testing, low to mid-volume production runs or prototyping. Even though this material should be processed in an inert environment, PA 4000 does not need to be dried which adds to the convenience of use. Some common applications include (but are not limited to): functional prototypes, complex geometries, low temperature duct work, caster housings (in additional to other housings and enclosures), and parts with snap-fit features.

Advantages

Excellent elongation and impact strength are key benefits of PA 4000. Powder flowability and wet out is exceptional, producing dense parts with an excellent surface finish. PA 4000 has a potential for high recyclability and displays color stability.

Storage and Use

PA 4000 does not need to be dried but should be processed in an inert environment. Recommend storing material in a closed container in a dry environment.

Properties

Mechanical Properties[1]			
	Test Condition	**Typical Value**	**Method**
Tensile Modulus (MPa)	XY coupons, Conditioned	1790	ASTM D638, Type I
Tensile Yield Strength (MPa)		21	
Tensile Elongation at Break (%)		34	
Ultimate Tensile Strength (MPa)		46	
Flexural Modulus (MPa)	XY coupons, Conditioned	1020	ASTM D790
Flexural Strength (MPa)		38	
Izod Impact, notched (J/m)	XY coupons, Conditioned	48	ASTM D256
Izod impact, un-notched (J/m)		1010	

1. Testing conducted on printed specimens conditioned at 23°C / 50% RH for 40 hours.

Other Physical Properties			
	Test Condition	**Typical Value**	**Method**
Bulk Density (g/cm^3)	Ambient	0.5	ASTM D1895
Part Density (g/cm^3)	Ambient	1.02	ASTM D792
Moisture Absorption (weight %)	24 hours	0.26	ASTM D570
Particle Size Distribution (µm)	D10	43	Laser Diffraction
	D50	59	
	D90	83	

Recommended Processing Conditions	
Part Bed Temperature (°C)	168