

TECHNICAL DATA SHEET

KEXCELLED PAHT K7LM

Product code:	Revision Number:	Revision date:	TDS No.:
PAHT K7LM	03	09/08/2021	KT04.20.4103

Characteristic:

High strength | high heat resistance | no buckling deformation | lower shrinkage

IDENTIFICATION OF THE MATERIAL

Trade name	PAHT K7LM
Chemical name	polyamide 12
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	240~280°C
Bed temperature	80~100°C
Bed modification	Tape or glue
Active cooling fan	OFF
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	40-80mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES

		Test Method
Melt temperature	~220°C	ISO 11357
Melt flow rate (MFR)¹	/	ISO 1133
Heat deflection temperature(HDT)²	109°C	ISO 75
Vicat softening temperature(VST)³	~206°C	ISO 306
density	1.12g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 270 °C; m= 2.16kg.

2. test conditions:0.45MPa;150°C/h.

3. test conditions:10N; 120°C/h.

MECHANICAL PROPERTIES|TENSILE TEST
Test Method ISO 527

All test specimens were printed using an Mankati E180 under the following conditions:

Printing temperature: 275°C

Heated bed temperature: 100°C

Print speed: 50mm/s

Shell thickness: 1.2mm

Infill under 45°



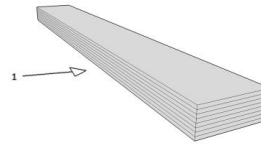
Printed horizontal X,Y-axis

Infill	100%
Tensile strength (Mpa)	70~72
Elongation at break (%)	15~18
Emodulus (Mpa)	5100~5300

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

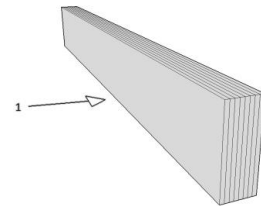


Infill	100%
Impact strength (KJ/m ²)	30~40
Notch impact strength ¹ (KJ/m ²)	4~6

MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction



Infill	100%
Maximum force (Mpa)	100~120
Flexural modulus (Mpa)	3000~3800

1. notch type: type A

*The mechanical properties of nylon and its HDT have a great relationship with its water absorption rate. This table shows its performance in its dry state.

FILAMENT SPECIFICATION		Test Method
Diameter 1.75mm	1.75±0.03mm	EX1125
Diameter 2.85mm	2.85±0.03mm	EX1125
Diameter 3.00mm	3.00±0.03mm	EX1125
Max roundness deviation (1.75)	0.03mm	EX1125
Max roundness deviation (2.85)	0.03mm	EX1125
Max roundness deviation (3.00)	0.03mm	EX1125
Net weight on reel	1kg	EX1125