TECHNICAL DATA SHEET

KEXCELLED PLA K5Silk

Product code:	Revision Number：	Revision date:	TDS No.:
PLA K5Silk	04	12/01/2022	KT04.20.1005

BRIEF INTRODUCTION

Filament suitable for all commercially available leading brands FDM/FFF Printers.

Characteristic:

high gloss finish and silk-like surface| higher impact strength than normal PLA|non-irritating odor.

IDENTFICATION OF THE MATERIAL	
Trade name	PLA K5Silk
Chemical name	Polylactic Acid
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	210~230℃
Bed temperature	30~60℃
Bed modification	Tape or glue below 60℃
Active cooling fan	ON，50%~100%
Shell thickness	≥0.8mm
Print speed	40-80mm/s

Settings are based on a 0.4mm nozzle.

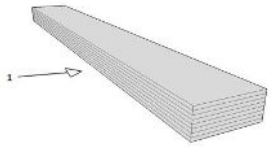
MATERIAL PROPERTIES		Test Method
Melt temperature	~160℃	ISO 11357
Glass transition temperature	~60℃	ISO 11357
Melt flow rate (MFR) [1]	5~10g/10min	ISO 1133
Heat deflection temperature(HDT) [2]	53℃	ISO 75
Vicat softening temperature(VST) [3]	60℃	ISO 306
Density	1.24g/cm^3	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

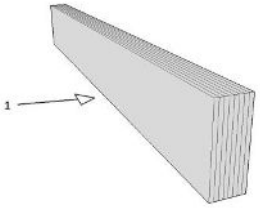
1.test conditions: T= 190℃; m= 2.16kg.

2. test conditions:0.45MPa;120℃/h.

3. test conditions:10N; 120℃/h.

MECHANICAL PROPERTIES|TENSILE TEST	Test Method ISO 527
All test specimens were printed using an FlashForge Guider 2s under the following conditions： Printing temperature: 220℃ Heated bed temperature：60℃ Print speed：50mm/s Shell thickness：1.2mm Infill under 45°	
	Printed horizontal X,Y-axis
Infill	100%
Tensile strength（Mpa）	31~33
Elongation at break（%）	>30
Emodulus（Mpa）	3900~4100

MECHANICAL PROPERTIES|IMPACT TEST	Test Method ISO 179
The same conditions as tensile test. 1→impact direction	
Infill	100%
Impact strength（KJ/m^2）	17~22
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）	55~65
Flexural modulus（Mpa）	2000~2200

1. notch type: type A

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