TECHNICAL DATA SHEET

KEXCELLED THE K5™ PLA M

Product code:	Revision Number:	Revision date:	TDS No.:
THE K5™ PLA M	04	08/02/2025	KT003

Characteristic:

Environmentally friendly|good interlayer bond|no buckling deformation|good matte effect.

IDENTFICATION OF THE MATERIAL	
Trade name	THE K5™ PLA M
Chemical name	Polylactic Acid
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	200~240℃
Bed temperature	35~55℃
Bed modification	PEI frosted board
Active cooling fan	ON,50%~100%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	≤400mm/s

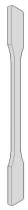
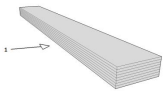
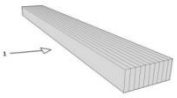
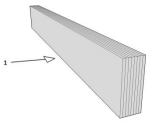
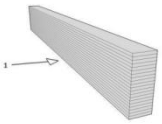
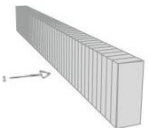
Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt temperature	~160℃	ISO 11357
Glass transition temperature	~60℃	ISO 11357
Melt flow rate (MFR) [1]	2~5g/10min	ISO 1133
Heat deflection temperature(HDT) [2]	60℃	ISO 75
Vicat softening temperature(VST) [3]	71℃	ISO 306
density	1.41~1.43g/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 a BambuLab X1C under the following conditions： Printing temperature: 220℃ Heated bed temperature：55℃ Print speed：275mm/s Shell thickness：1.2mm Infill under 45°			
	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis[1,2]
Infill	100%	100%	100%
Tensile strength（Mpa）	22~25	31~35	8~10
Elongation at break（%）	5~8	5~11	1~2
Emodulus（Mpa）	1200~1500	1900~2100	1000~1500
MECHANICAL PROPERTIES|IMPACT TEST			**Test Method ISO 179**
The same conditions as tensile test. 1→impact direction			
Infill	100%	100%	100%
Impact strength（KJ/m^2）	15~20	22~28	2~3
Notch impact strength[3]（KJ/m^2）	5~8	6~15	1~2
MECHANICAL PROPERTIES |FLEXURAL TEST			**Test Method ISO 178**
The same conditions as tensile test. 1→bending direction			
Infill	100%	100%	100%
Maximum force（Mpa）	41~46	55~58	13~16
Flexural modulus（Mpa）	1600~2000	2000~2600	1300~1500

1. Z,X-axis test data are for reference only
2. the stress range of the Z,X-axis modulus：5~10MPa
3. notch type: type A

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