

TECHNICAL DATA SHEET

KEXCELLED THE K6™ PLA FG

Product code:	Revision Number:	Revision date:	TDS No.:
THE K6™ PLA FG	01	27/12/2024	KT099

Characteristic:

Environmentally friendly | magnetically detectable | food contact grade.

IDENTIFICATION OF THE MATERIAL

Trade name	THE K6™ PLA FG
Chemical name	Polylactic Acid
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	200~230°C
Bed temperature	35~55°C
Bed modification	PEI frosted board
Active cooling fan	ON,50%~100%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	≤300mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES

		Test Method
Melt temperature	~160°C	ISO 11357
Glass transition temperature	~60°C	ISO 11357
Melt flow rate (MFR)¹	3~7g/10min	ISO 1133
Heat deflection temperature(HDT)²	61°C	ISO 75
Vicat softening temperature(VST)³	67°C	ISO 306
density	1.30~1.35g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

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

2. test conditions:0.45MPa;120°C/h.

3. test conditions:10N; 120°C/h.

MECHANICAL PROPERTIES|TENSILE TEST
Test Method ISO 527

All test specimens were printed using a BambuLab X1C under the following conditions:

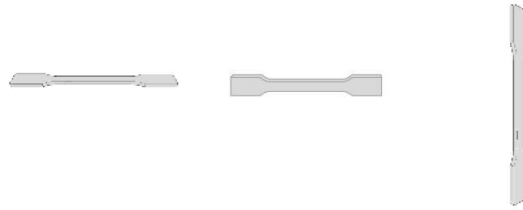
Printing temperature: 220°C

Heated bed temperature: 55°C

Print speed: 270mm/s

Shell thickness: 1.2mm

Infill under 45°

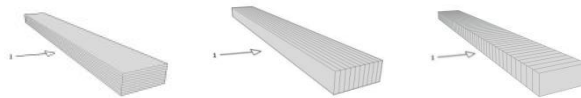


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis ^{1,2}
Infill	100%	100%	100%
Tensile strength (Mpa)	29~34	35~40	7~11
Elongation at break (%)	5~10	9~14	1~3
E modulus (Mpa)	1700~2000	2200~2400	1600~1800

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

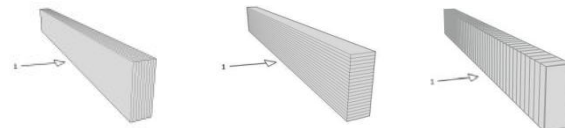


	100%	100%	100%
Infill	100%	100%	100%
Impact strength (KJ/m ²)	16~24	20~30	1~3
Notch impact strength ³ (KJ/m ²)	8~12	16~24	1~2

MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction



	100%	100%	100%
Infill	100%	100%	100%
Maximum force (Mpa)	54~60	66~71	14~20
Flexural modulus (Mpa)	2200~2400	2600~2700	1300~1500

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

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