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.

IDENTFICATION 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℃
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	≤300mm/s

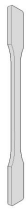
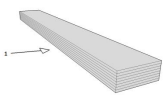
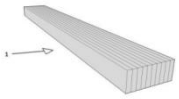
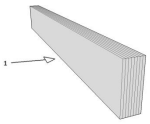
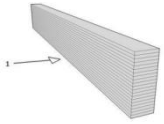
Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt temperature	~160℃	ISO 11357
Glass transition temperature	~60℃	ISO 11357
Melt flow rate (MFR) [1]	3~7g/10min	ISO 1133
Heat deflection temperature(HDT)[2]	61℃	ISO 75
Vicat softening temperature(VST)[3]	67℃	ISO 306
density	1.30~1.35g/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：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
Emodulus（Mpa）	1700~2000	2200~2400	1600~1800
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）	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			
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