

TECHNICAL DATA SHEET

KEXCELLED THE K6™ PLA FR

Product code:	Revision Number:	Revision date:	TDS No.:
THE K6™ PLA FR	05	20/02/2025	KT011

Characteristic:

Environmentally friendly|good interlayer bond|no buckling deformation.

IDENTIFICATION OF THE MATERIAL

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

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	200~240°C
Bed temperature	35~55°C
Bed modification	Tape or glue
Active cooling fan	ON,50%~100%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	≤250mm/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	12~17g/10min	ISO 1133
Heat deflection temperature(HDT)²	60°C	ISO 75
Vicat softening temperature(VST)³	70°C	ISO 306
density	1.30~1.32g/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:

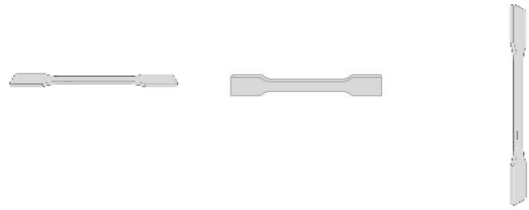
Printing temperature: 220°C

Heated bed temperature: 55°C

Print speed: 262.5mm/s

Shell thickness: 1.2mm

Infill under 45°

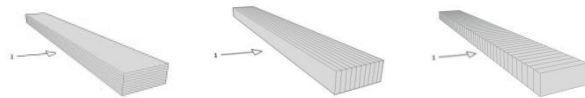


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis ^{1,2}
Infill	100%	100%	100%
Tensile strength (Mpa)	31~35	34~38	17~21
Elongation at break (%)	9~14	5~10	1~5
E modulus (Mpa)	2500~2700	2800~2900	2300~2500

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

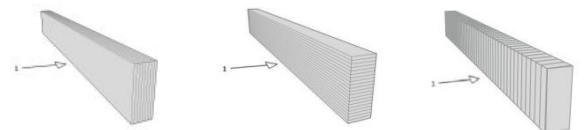


	100%	100%	100%
Infill	100%	100%	100%
Impact strength (KJ/m ²)	18~23	17~30	3~8
Notch impact strength ³ (KJ/m ²)	4~7	4~7	1~3

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)	39~64	63~69	27~30
Flexural modulus (Mpa)	2700~2900	3000~3200	2200~2400

1. Z,X-axis test data are for reference only
2. the stress range of the Z,X-axis modulus: 10~20MPa
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