

TECHNICAL DATA SHEET

KEXCELLED THE K10™ PPS CF10

Product code:	Revision Number:	Revision date:	TDS No.:
THE K10™ PPS CF10	01	27/02/2025	KT054

Characteristic:

High strength | high heat resistance | lower shrinkage

IDENTIFICATION OF THE MATERIAL

Trade name	THE K10™ PPS CF10
Chemical name	Carbon fiber reinforced Poly(thio-1,4-phenylene)
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	285~320℃
Bed temperature	100~120℃
Bed modification	Tape or glue
Active cooling fan	0%~50%
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 flow rate (MFR) ¹	10~20g/10min	ISO 1133
Heat deflection temperature(HDT) ²	238℃	ISO 75
Vicat softening temperature(VST) ³	269℃	ISO 306
density	1.31~1.33g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T=300℃; 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:

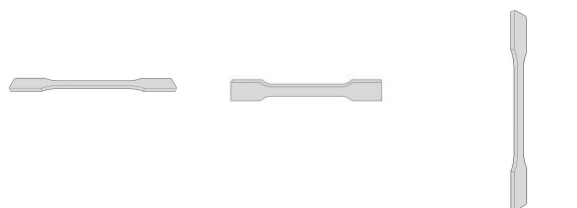
Printing temperature: 290℃

Heated bed temperature: 100℃

Print speed: 81.25mm/s

Shell thickness: 1.2mm

Infill under Concentric circles

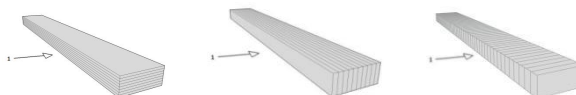


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis ^{1,2}
Infill	100%	100%	100%
Tensile strength (Mpa)	86~92	91~98	13~16
Elongation at break (%)	3~5	3~5	1~3
E modulus (Mpa)	8200~8400	10000~11000	2400~2500

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

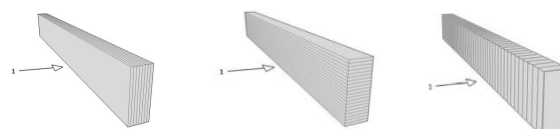


Infill	100%	100%	100%
Impact strength (KJ/m ²)	17~21	23~26	1~4
Notch impact strength ³ (KJ/m ²)	7~9	14~20	1~3

MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction



Infill	100%	100%	100%
Maximum force (Mpa)	130~134	165~169	31~35
Flexural modulus (Mpa)	5400~5900	9300~9600	2200~2400

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