

## TECHNICAL DATA SHEET

### KEXCELLED THE K8™ PA CF

<b>Product code:</b>	<b>Revision Number:</b>	<b>Revision date:</b>	<b>TDS No.:</b>
THE K8™ PA CF	03	20/02/2025	KT066

#### Characteristic:

Good strength balance| maintain high strength in wet state|print for a long time without plugging.

#### IDENTIFICATION OF THE MATERIAL

<b>Trade name</b>	THE K8™ PA CF
<b>Chemical name</b>	Carbon fiber reinforced polyamide 12
<b>Use</b>	3D Printing
<b>Origin</b>	KEXCELLED

#### GUIDELINE FOR PRINT SETTINGS

<b>Nozzle temperature</b>	270~310℃
<b>Bed temperature</b>	90~110℃
<b>Bed modification</b>	Tape or glue
<b>Active cooling fan</b>	0%~50%
<b>Layer height</b>	0.2mm
<b>Shell thickness</b>	≥0.8mm
<b>Print speed</b>	≤350mm/s

Settings are based on a 0.4mm nozzle.

#### MATERIAL PROPERTIES

		Test Method
<b>Melt flow rate (MFR)<sup>1</sup></b>	30~40g/10min	ISO 1133
<b>Heat deflection temperature(HDT)<sup>2</sup></b>	186℃	ISO 75
<b>Vicat softening temperature(VST)<sup>3</sup></b>	203℃	ISO 306
<b>density</b>	1.16~1.18g/cm <sup>3</sup>	ISO 1183
<b>Odor</b>	Odorless	/
<b>Solubility</b>	Insoluble in water	/

1. test conditions: T= 270℃; 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:

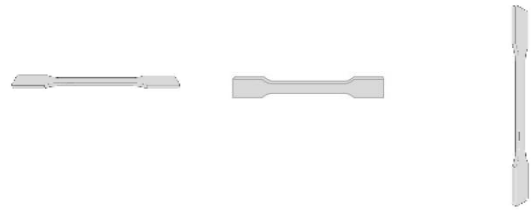
Printing temperature: 290°C

Heated bed temperature: 100°C

Print speed: 100mm/s

Shell thickness: 1.2mm

Infill under Concentric circles

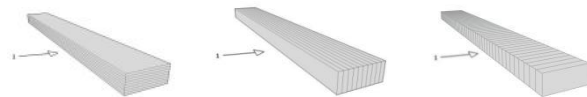


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis <sup>1,2</sup>
Infill	100%	100%	100%
Tensile strength (Mpa)	84~94	103~110	18~24
Elongation at break (%)	6~9	6~10	2~6
E modulus (Mpa)	5700~6200	7400~7800	1500~1800

**MECHANICAL PROPERTIES|IMPACT TEST** **Test Method ISO 179**

The same conditions as tensile test.

1→impact direction

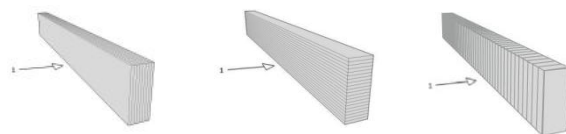


	100%	100%	100%
Infill	100%	100%	100%
Impact strength (KJ/m <sup>2</sup> )	50~59	48~68	2~6
Notch impact strength <sup>3</sup> (KJ/m <sup>2</sup> )	14~18	15~26	1~3

**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)	130~136	175~186	28~45
Flexural modulus (Mpa)	4400~4600	7200~7400	1500~1700

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

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