

## TECHNICAL DATA SHEET

### KEXCELLED THE K9™ PC FR

<b>Product code:</b>	<b>Revision Number:</b>	<b>Revision date:</b>	<b>TDS No.:</b>
THE K9™ PC FR	01	26/02/2025	KT083

#### Characteristic:

High liquidity | Low warping | high flame retardancy

#### IDENTIFICATION OF THE MATERIAL

<b>Trade name</b>	THE K9™ PC FR
<b>Chemical name</b>	Polycarbonate
<b>Use</b>	3D Printing
<b>Origin</b>	KEXCELLED

#### GUIDELINE FOR PRINT SETTINGS

<b>Nozzle temperature</b>	260~300°C
<b>Bed temperature</b>	100~120°C
<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>	≤500mm/s

Settings are based on a 0.4mm nozzle.

#### MATERIAL PROPERTIES

		Test Method
<b>Melt temperature</b>	~230°C	ISO 11357
<b>Melt flow rate (MFR)<sup>1</sup></b>	15~20g/10min	ISO 1133
<b>Heat deflection temperature(HDT)<sup>2</sup></b>	111°C	ISO 75
<b>Vicat softening temperature(VST)<sup>3</sup></b>	122°C	ISO 306
<b>density</b>	1.18~1.2g/cm <sup>3</sup>	ISO 1183
<b>Odor</b>	Odorless	/
<b>Solubility</b>	Insoluble in water	/

1. test conditions: T= 270°C; m= 1.2kg.

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:

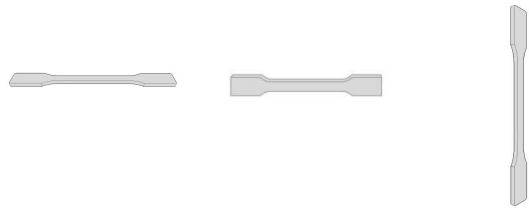
Printing temperature: 280°C

Heated bed temperature: 110°C

Print speed: 225mm/s

Shell thickness: 1.2mm

Infill under 45°

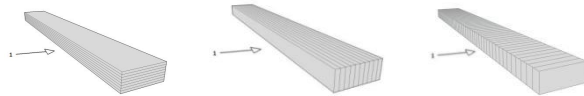


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis <sup>1,2</sup>
Infill	100%	100%	100%
Tensile strength (Mpa)	55~60	60~65	25~34
Elongation at break (%)	8~13	10~14	2~6
E modulus (Mpa)	2200~2300	2200~2400	1700~1900

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

The same conditions as tensile test.

1→impact direction

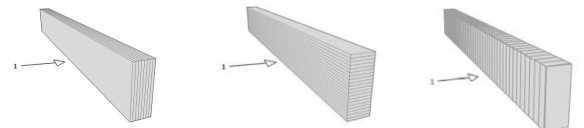


	100%	100%	100%
Infill	100%	100%	100%
Impact strength (KJ/m <sup>2</sup> )	40~60	60~90	4~8
Notch impact strength <sup>3</sup> (KJ/m <sup>2</sup> )	7~10	3~6	1~4

**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)	96~102	103~109	45~65
Flexural modulus (Mpa)	2500~2700	2600~2700	1900~2100

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
Max roundness deviation (1.75)	0.03mm	EX1125
Net weight on reel	1kg	EX1125