

## TECHNICAL DATA SHEET

### KEXCELLED THE K3™ ASA

<b>Product code:</b>	<b>Revision Number:</b>	<b>Revision date:</b>	<b>TDS No.:</b>
THE K3™ ASA	01	26/11/2024	KT097

#### Characteristic:

Easy to print | environment resistant | high cost performance.

#### IDENTIFICATION OF THE MATERIAL

<b>Trade name</b>	THE K3™ ASA
<b>Chemical name</b>	Acrylonitrile-Styrene-Acrylate Copolymer
<b>Use</b>	3D Printing
<b>Origin</b>	KEXCELLED

#### GUIDELINE FOR PRINT SETTINGS

<b>Nozzle temperature</b>	240~270°C
<b>Bed temperature</b>	80~100°C
<b>Bed modification</b>	Tape or glue below 90°C
<b>Active cooling fan</b>	0%~50%
<b>Layer height</b>	0.2mm
<b>Shell thickness</b>	≥0.8mm
<b>Print speed</b>	≤300mm/s

Settings are based on a 0.4mm nozzle.

#### MATERIAL PROPERTIES

		Test Method
<b>Melt temperature</b>	~190°C	ISO 11357
<b>Melt flow rate (MFR)<sup>1</sup></b>	25~35g/10min	ISO 1133
<b>Heat deflection temperature(HDT)<sup>2</sup></b>	98°C	ISO 75
<b>Vicat softening temperature(VST)<sup>3</sup></b>	112°C	ISO 306
<b>density</b>	1.06g/cm <sup>3</sup>	ISO 1183
<b>Odor</b>	Odorless	/
<b>Solubility</b>	Insoluble in water	/

1. test conditions: T= 220°C; m= 10kg.

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:

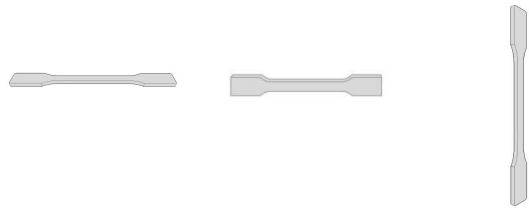
Printing temperature: 270°C

Heated bed temperature: 90°C

Print speed: 270mm/s

Shell thickness: 1.2mm

Infill under 45°

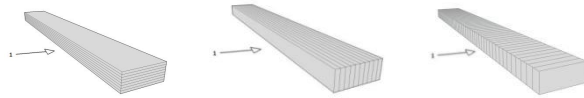


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis <sup>1,2</sup>
Infill	100%	100%	100%
Tensile strength (Mpa)	35~37	39~41	19~23
Elongation at break (%)	6~11	7~9	3~4
E modulus (Mpa)	1800~2000	2000~2100	1400~1600

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

The same conditions as tensile test.

1→impact direction

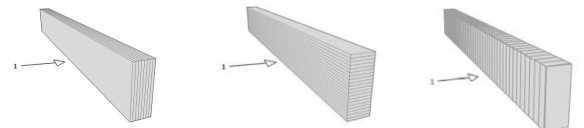


	100%	100%	100%
Infill	100%	100%	100%
Impact strength (KJ/m <sup>2</sup> )	32~39	33~37	5~7
Notch impact strength <sup>3</sup> (KJ/m <sup>2</sup> )	9~14	12~19	1~2

**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)	58~60	67~69	20~36
Flexural modulus (Mpa)	1900~2100	2200~2300	1700~1900

1. Z,X-axis test data are for reference only

2. the stress range of the Z,X-axis modulus: 10~18.5MPa

3. notch type: type A

<b>FILAMENT SPECIFICATION</b>		<b>Test Method</b>
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