TECHNICAL DATA SHEET

KEXCELLED THE K3™ ASA

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

Characteristic:

Easy to print| environment resistant|high cost performance.

IDENTFICATION OF THE MATERIAL	
Trade name	THE K3™ ASA
Chemical name	Acrylonitrile-Styrene-Acrylate Copolymer
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	240~270℃
Bed temperature	80~100℃
Bed modification	Tape or glue below 90℃
Active cooling fan	0%~50%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	≤300mm/s

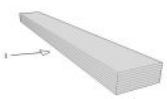
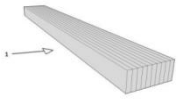
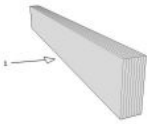
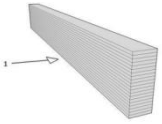
Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt temperature	~190℃	ISO 11357
Melt flow rate (MFR) [1]	25~35g/10min	ISO 1133
Heat deflection temperature(HDT) [2]	98℃	ISO 75
Vicat softening temperature(VST) [3]	112℃	ISO 306
density	1.06g/cm^3	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1.test conditions: T= 220℃; m= 10kg.

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: 270℃ Heated bed temperature：90℃ 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[1,2]
Infill	100%	100%	100%
Tensile strength（Mpa）	35~37	39~41	19~23
Elongation at break（%）	6~11	7~9	3~4
Emodulus（Mpa）	1800~2000	2000~2100	1400~1600
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）	32~39	33~37	5~7
Notch impact strength[3]（KJ/m^2）	9~14	12~19	1~2
MECHANICAL PROPERTIES |FLEXURAL TEST			**Test Method ISO 178**
The same conditions as tensile test. 1→bending direction			
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

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