

TECHNICAL DATA SHEET

KEXCELLED THE K6™ ABS FR

Product code:	Revision Number:	Revision date:	TDS No.:
THE K6™ ABS FR	01	13/12/2024	KT090

Characteristic:

Printing easily|environmental protection flame retardant|high flame retardancy

IDENTIFICATION OF THE MATERIAL

Trade name	THE K6™ ABS FR
Chemical name	Acrylonitrile-butadiene-styrene terpolymer
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	240~260℃
Bed temperature	80~100℃
Bed modification	Tape or glue
Active cooling fan	OFF
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	40-225mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES

		Test Method
Melt flow rate (MFR)¹	34~48g/10min	ISO 1133
Heat deflection temperature(HDT)²	96℃	ISO 75
Vicat softening temperature(VST)³	101℃	ISO 306
density	1.16-1.2g/cm ³	ISO 1183
flame retardant rating⁴	V-0	UL 94-2023
Odor	Low odor	/
Solubility	Insoluble in water	/

1. test conditions: T= 220℃; m= 10kg.

2. test conditions:0.45MPa;120℃/h.

3. test conditions:10N; 120℃/h.

4. test conditions:1.5mm,Vertical burning.

MECHANICAL PROPERTIES|TENSILE TEST
Test Method ISO 527

All test specimens were printed using a BambuLab X1C under the following conditions:

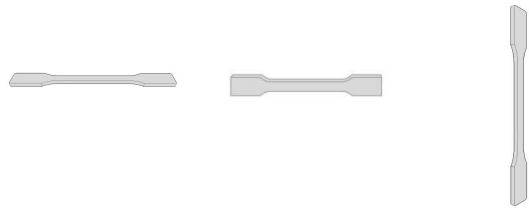
Printing temperature: 260°C

Heated bed temperature: 90°C

Print speed: ≤270mm/s

Shell thickness: 1.2mm

Infill under 45°

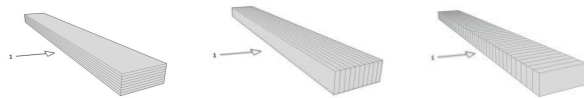


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis ^{1,2}
Infill	100%	100%	100%
Tensile strength (Mpa)	27~31	33~46	10~15
Elongation at break (%)	5~8	6~14	1~3
E modulus (Mpa)	1600~1700	1800~2000	1100~1200

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

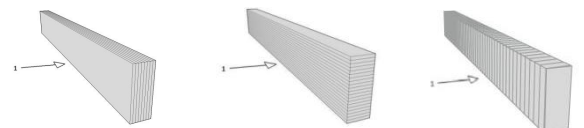


	100%	100%	100%
Infill	100%	100%	100%
Impact strength (KJ/m ²)	26~33	42~49	2~5
Notch impact strength ³ (KJ/m ²)	8~11	14~18	1~2

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)	53~55	62~64	18~23
Flexural modulus (Mpa)	1900~2000	2000~2200	1400~1600

1. Z,X-axis test data are for reference only
2. the stress range of the Z,X-axis modulus: 10~12MPa
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