TECHNICAL DATA SHEET

KEXCELLED THE K7™ PET CF10

Product code:	Revision Number：	Revision date:	TDS No.:
THE K7™ PET CF10	06	20/02/2025	KT037

Characteristic:

Environmentally friendly|good interlayer bond|no buckling deformation.

IDENTFICATION OF THE MATERIAL	
Trade name	THE K7™ PET CF10
Chemical name	Carbon fiber reinforced polyethylene terephthalate
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	250~290℃
Bed temperature	90~110℃
Bed modification	Tape or glue
Active cooling fan	0%~50%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	≤200mm/s

Settings are based on a 0.4mm nozzle.

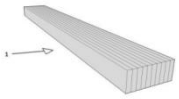
MATERIAL PROPERTIES		Test Method
Melt flow rate (MFR) [1]	60~70g/10min	ISO 1133
Heat deflection temperature(HDT) [2]	80℃	ISO 75
Vicat softening temperature(VST) [3]	102℃	ISO 306
density	1.32~1.34g/cm^3	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

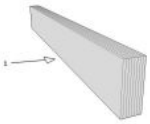
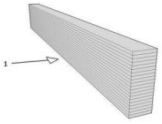
1.test conditions: T= 270℃; m= 1.2kg.

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：100℃ 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[1,2]
Infill	100%	100%	100%
Tensile strength（Mpa）	80~100	113~118	21~25
Elongation at break（%）	4~8	5~8	3~6
Emodulus（Mpa）	6400~6900	8400~8700	1600~1800

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）	14~20	17~22	3~9
Notch impact strength[3]（KJ/m^2）	4~6	5~8	1~3

MECHANICAL PROPERTIES |FLEXURAL TEST			Test Method ISO 178
The same conditions as tensile test. 1→bending direction			
Infill	100%	100%	100%
Maximum force（Mpa）	129~147	195~200	41~46
Flexural modulus（Mpa）	3500~4400	7000~7900	1300~1600

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

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