TECHNICAL DATA SHEET

KEXCELLED THE K11™ PEEK PRO

Product code:	Revision Number:	Revision date:	TDS No.:
THE K11™ PEEK PRO	01	25/01/2024	KT082

Characteristic:

Slow Crystallization|High Flowability|High Dimensional Stability|High Heat Resistance

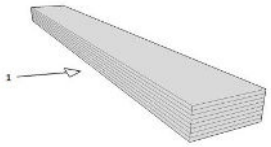
IDENTFICATION OF THE MATERIAL	
Trade name	THE K11™ PEEK PRO
Chemical name	PEEK
Use	3D Printing
Origin	KEXCELLED
GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	380~420℃
Bed temperature	100~150℃
Chamber temperature	80~120℃
Bed modification	High temperature glue
Active cooling fan	ON,80%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	30~60mm/s

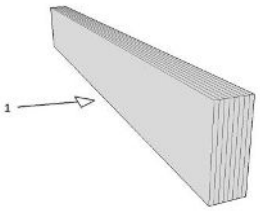
Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt temperature	~338℃	ISO 11357
Melt flow rate (MFR) [1]	20~25g/10min	ISO 1133
Heat deflection temperature(HDT) [2]	159℃(before annealing) 182℃(after annealing)[3]	ISO 75
Vicat softening temperature(VST) [4]	170℃(before annealing) ＞230℃(after annealing)	ISO 306
Density	1.28g/cm^3	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. Test conditions: T= 380℃; m= 5kg.
2. Test conditions:0.45MPa;120℃/h.
3. Test specimens were annealed at 200 ℃ for 5 hours.
4. Test conditions:10N; 120℃/h.

MECHANICAL PROPERTIES|TENSILE TEST		Test Method ISO 527
All test specimens were printed using an INTAMSYS FUNMAT Pro 410 under the following conditions： Printing temperature: 390℃ Heated bed temperature：130℃ Chamber temperature: 90℃ Print speed：50mm/s Shell thickness：1.2mm Infill under 45°	 Printed horizontal X,Y-axis	
Anneal	Before	After
Infill	100%	
Tensile strength（Mpa）	72~75	79~82
Elongation at break（%）	15~17	8~11
Emodulus（Mpa）	2600~2700	3000~3200

MECHANICAL PROPERTIES|IMPACT TEST		Test Method ISO 179
The same conditions as tensile test. 1→impact direction		
Anneal	Before	After
Infill	100%	
Impact strength（KJ/m^2）	80~83	47~50
Notch impact strength[1]（KJ/m^2）	9~12	10~12

MECHANICAL PROPERTIES |FLEXURAL TEST		Test Method ISO 178
The same conditions as tensile test. 1→bending direction		
Anneal	Before	After
Infill	100%	
Maximum force（Mpa）	105~109	135~138
Flexural modulus（Mpa）	2700~2800	3100~3300

1. 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