

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 strength | high dimensional stability | high heat resistance

IDENTIFICATION 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°C
Bed temperature	100~150°C
Chamber temperature	80~120°C
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	~340°C	ISO 11357
Melt flow rate (MFR)¹	20~25g/10min	ISO 1133
Heat deflection temperature(HDT)²	159°C(before annealing) 182°C(after annealing)	ISO 75
Vicat softening temperature(VST)³	170°C(before annealing) >230°C(after annealing)	ISO 306
density	1.28g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 380°C; m= 5kg.

2. test conditions:0.45MPa;120°C/h.

3. Test specimens were annealed at 200 °C for 5 hours.

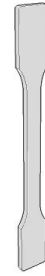
4. test conditions:10N; 120°C/h.

MECHANICAL PROPERTIES|TENSILE TEST
Test Method ISO 527

All test specimens were printed using an INTAMSYS FUNMAT 410 under the following conditions:

Printing temperature: 390°C
 Heated bed temperature: 130°C
 Chamber temperature: 90°C
 Print speed: 50mm/s
 Shell thickness: 1.2mm

Infill under 45°



Printed horizontally X,Y-axis

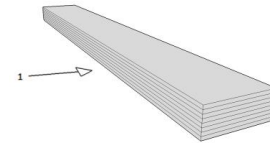
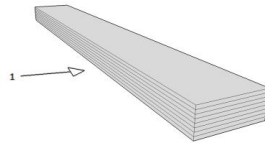
Printed vertically Z-axis

Anneal	Before	After	Before	After
Infill	100%		100%	
Tensile strength (Mpa)	72~75	79~82	32~35	33~36
Elongation at break (%)	15~17	8~11	2~5	2~5
Emodulus (Mpa)	2600~2700	3000~3200	2100~2400	2400~2700

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

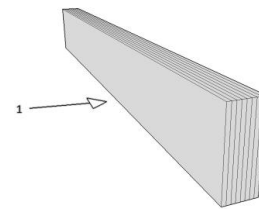
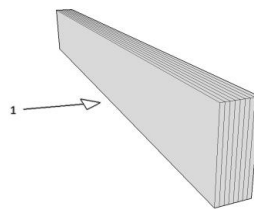


Anneal	Before	After	Before	After
Infill	100%		100%	
Impact strength (KJ/m ²)	80~83	47~50	7~10	4~7
Notch impact strength ¹ (KJ/m ²)	9~12	10~12	1~4	1~4

MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction



Anneal	Before	After	Before	After
Infill	100%		100%	
Flexural strength (Mpa)	89~92	135~138	51~54	61~66
Flexural modulus (Mpa)	2200~2300	3100~3300	1700~2000	2400~2700

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