

TECHNICAL DATA SHEET

KEXCELLED THE K12™ PEI 9085

Product code:	Revision Number:	Revision date:	TDS No.:
THE K12™ PEI 9085	03	20/01/2022	KT045

Characteristic:

Excellent heat resistance | high strength | chemical resistance | excellent toughness | flame resistance

IDENTIFICATION OF THE MATERIAL

Trade name	THE K12™ PEI 9085
Chemical name	Polyetherimide
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	340~370°C
Bed temperature	140~220°C
Chamber temperature	90~200°C
Bed modification	High temperature glue
Active cooling fan	OFF
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	~300°C	ISO 11357
Melt flow rate (MFR)¹	60~70 g/10min	ISO 1133
Heat deflection temperature(HDT)²	168°C	ISO 75
Vicat softening temperature(VST)³	181	ISO 306
density	1.28g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 365°C; m= 5kg.

2. test conditions:0.45MPa;120°C/h.

3. test conditions:10N; 120°C/h.

MECHANICAL PROPERTIES|TENSILE TEST **Test Method ISO 527**

All test specimens were printed using an FUNMAT PRO 610 HT under the following conditions:

- Printing temperature: 360°C
- Heated bed temperature: 140°C
- Chamber temperature: 90°C
- Print speed: 50mm/s
- Shell thickness: 0.8mm
- Infill under 45°



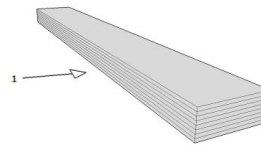
Printed horizontal X,Y-axis

Infill	100%
Tensile strength (Mpa)	70~75
Elongation at break (%)	6~8
E modulus (Mpa)	4000~4500

MECHANICAL PROPERTIES|IMPACT TEST **Test Method ISO 179**

The same conditions as tensile test.

1→impact direction

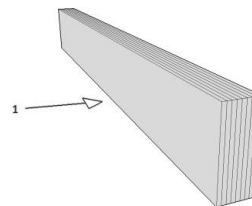


Infill	100%
Impact strength (KJ/m ²)	70~75
Notch impact strength ¹ (KJ/m ²)	10~15

MECHANICAL PROPERTIES |FLEXURAL TEST **Test Method ISO 178**

The same conditions as tensile test.

1→bending direction



Infill	100%
Maximum force (Mpa)	140~160
Flexural modulus (Mpa)	3800~4000

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