

TECHNICAL DATA SHEET

KEXCELLED PEI K10 Ultem1010

Product code:	Revision Number:	Revision date:	TDS No.:
PEI K10 Ultem1010	03	14/01/2022	KT044

Characteristic:

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

IDENTIFICATION OF THE MATERIAL

Trade name	PEI K10 Ultem1010
Chemical name	Polyetherimide
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	360~390°C
Bed temperature	150~240°C
Chamber temperature	90~220°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	~320°C	ISO 11357
Melt flow rate (MFR)¹	35~40 g/10min	ISO 1133
Heat deflection temperature(HDT)²	208°C	ISO 75
Vicat softening temperature(VST)³	210°C	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: 370°C

Heated bed temperature: 160°C

Chamber temperature: 90°C

Print speed: 50mm/s

Shell thickness: 0.8mm

Infill under 45°



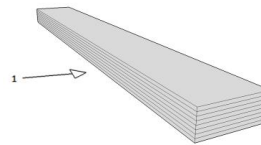
Printed horizontal X,Y-axis

Infill	100%
Tensile strength (Mpa)	85~90
Elongation at break (%)	4~6
Emodulus (Mpa)	4500~5000

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

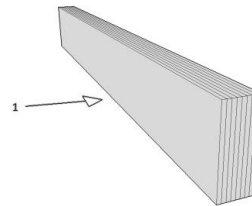


Infill	100%
Impact strength (KJ/m ²)	38~42
Notch impact strength ¹ (KJ/m ²)	4~6

MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction



Infill	100%
Maximum force (Mpa)	150~170
Flexural modulus (Mpa)	3800~4200

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