

TECHNICAL DATA SHEET

KEXCELLED THE K11™ PPSU

Product code:	Revision Number:	Revision date:	TDS No.:
THE K11™ PPSU	03	21/01/2022	KT046

Characteristic:

Excellent heat resistance|aging resistance|excellent toughness|flame resistance|food exposure level

IDENTIFICATION OF THE MATERIAL

Trade name	THE K11™ PPSU
Chemical name	Polyphenylsulphone
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	380~420°C
Bed temperature	150~240°C
Chamber temperature	90~230°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	~330°C	ISO 11357
Melt flow rate (MFR)¹	30~35g/10min	ISO 1133
Heat deflection temperature(HDT)²	208°C	ISO 75
Vicat softening temperature(VST)³	220°C	ISO 306
Density	1.29g/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 INTAMSYS FUNMAT HT under the following conditions:

Printing temperature: 400°C

Heated bed temperature: 160°C

Chamber temperature: 90°C

Print speed: 50mm/s

Shell thickness: 0.8mm

Infill under 45°



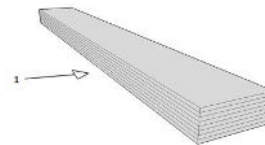
Printed horizontal X,Y-axis

Infill	100%
Tensile strength (Mpa)	50~60
Elongation at break (%)	10~12
E modulus (Mpa)	3200~3500

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

The same conditions as tensile test.

1→impact direction

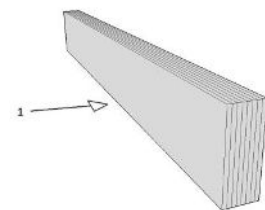


Infill	100%
Impact strength (KJ/m ²)	70~90
Notch impact strength ¹ (KJ/m ²)	15~20

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

The same conditions as tensile test.

1→bending direction



Infill	100%
Maximum force (Mpa)	80~85
Flexural modulus (Mpa)	1900~2100

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