

## TECHNICAL DATA SHEET

### KEXCELLED PEEK K10

<b>Product code:</b>	<b>Revision Number:</b>	<b>Revision date:</b>	<b>TDS No.:</b>
PEEK K10	01	20/02/2020	KT04.012.0167

#### Characteristic:

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

#### IDENTIFICATION OF THE MATERIAL

<b>Trade name</b>	PEEK K10
<b>Chemical name</b>	Polyetheretherketone
<b>Use</b>	3D Printing
<b>Origin</b>	KEXCELLED

#### GUIDELINE FOR PRINT SETTINGS

<b>Nozzle temperature</b>	425 ± 25°C
<b>Bed temperature</b>	100~160°C
<b>Chamber temperature</b>	80~140°C
<b>Bed modification</b>	NO
<b>Active cooling fan</b>	OFF
<b>Layer height</b>	0.2mm
<b>Shell thickness</b>	≥0.8mm
<b>Print speed</b>	20~50mm/s

Settings are based on a 0.4mm nozzle.

#### MATERIAL PROPERTIES

		Test Method
<b>Melt temperature</b>	~340°C	ISO 11357
<b>Melt flow rate (MFR) <sup>1</sup></b>	14~18 g/10min	ISO 1133
<b>Heat deflection temperature(HDT)<sup>2</sup></b>	150 °C (amorphous state) 170 °C (crystalline state)	ISO 75
<b>Vicat softening temperature(VST)<sup>3</sup></b>	/	ISO 306
<b>Density</b>	1.28 g/cm <sup>3</sup>	ISO 1183
<b>Odor</b>	Odorless	/
<b>Solubility</b>	Insoluble in water	/

1. test conditions: T= 380°C; m= 5 kg.

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: 420°C

Heated bed temperature: 100°C

Chamber temperature: 80°C

Print speed: 30 mm/s

Shell thickness: 0.8mm

Infill under 45°

Infill 100%

Tensile strength (Mpa) 70~80

Elongation at break (%) 4~6


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

The same conditions as tensile test.

1→impact direction

Infill 100%

Impact strength (KJ/m<sup>2</sup>) 60~70

Notch impact strength<sup>1</sup> (KJ/m<sup>2</sup>) 14~18


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

The same conditions as tensile test.

1→bending direction

Infill 100%

Maximum force (Mpa) 110~120

Flexural modulus (Mpa) 2400~2600



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