

TECHNICAL DATA SHEET

KEXCELLED PA12 K7CF

Product code:	Revision Number:	Revision date:	TDS No.:
PA12 K7CF	01	6/06/2019	KT04.012.0166

Characteristic:

High strength | high strength | high heat resistance | lower shrinkage

IDENTIFICATION OF THE MATERIAL

Trade name	PA12 K7CF
Chemical name	Carbon fiber reinforced nylon 12
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	260~280°C
Bed temperature	70~100°C
Bed modification	NO
Active cooling fan	OFF
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	40-80mm/s

Settings are based on a 0.4mm or 0.6mm nozzle.

MATERIAL PROPERTIES

		Test Method
Melt temperature	~220°C	ISO 11357
Melt flow rate (MFR) ¹	/	ISO 1133
Heat deflection temperature(HDT)²	>120°C	ISO 75
Vicat softening temperature(VST)³	/	ISO 306
density	1.23g/cm ³	ISO 1183
Odor	Low odor	/
Solubility	Insoluble in water	/

1. test conditions: T= 220°C; m= 10kg.

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 Raise3D Pro2 under the following conditions: Printing temperature: 275°C

Heated bed temperature: 90°C

Print speed: 45mm/s

Shell thickness: 0.8mm

Infill under 45°

Infill

100%

Tensile strength (Mpa)

80-90

Elongation at break (%)

2-4


MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

Infill

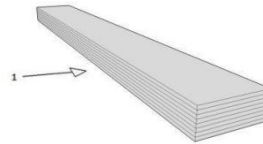
100%

Impact strength (KJ/m²)

20-25

Notch impact strength¹ (KJ/m²)

4-6


MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction

Infill

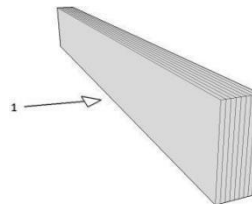
100%

Maximum force (Mpa)

120-130

Flexural modulus (Mpa)

6000-8000



1. notch type: type A

FILAMENT SPECIFICATION		Test Method
Diameter 1.75mm	1.75±0.03mm	EX1125
Diameter 2.85mm	2.85±0.03mm	EX1125
Diameter 3.00mm	3.00±0.03mm	EX1125
Max roundness deviation (1.75)	0.03mm	EX1125
Max roundness deviation (2.85)	0.03mm	EX1125
Max roundness deviation (3.00)	0.03mm	EX1125
Net weight on reel	1kg	EX1125