TECHNICAL DATA SHEET

KEXCELLED PA12 K7CF

Product code:	Revision Number：	Revision date:	TDS No.:
PA12 K7CF	02	2/04/2020	KT04.012.0166

Characteristic:

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

IDENTFICATION OF THE MATERIAL	
Trade name	PA12 K7CF
Chemical name	Carbon fiber reinforced polyamide 12
Use	3D Printing
Origin	KEXCELLED

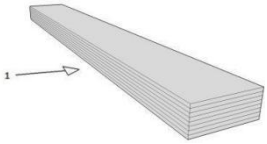
GUIDELINE FOR PRINT SETTINGS	
Nozzle temperature	270±10℃
Bed temperature	80~100℃
Bed modification	Tape or glue
Active cooling fan	OFF
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	40~80mm/s

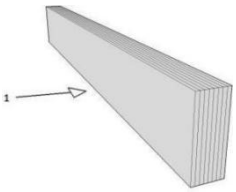
Settings are based on a 0.6mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt temperature	~220℃	ISO 11357
Melt flow rate (MFR) [1]	/	ISO 1133
Heat deflection temperature(HDT)[2]	>120 ℃	ISO 75
Vicat softening temperature(VST)[3]	~210℃	ISO 306
Density	1.23 g/cm^3	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 220℃; m= 10kg.
2. test conditions:0.45MPa;120℃/h.
3. test conditions:10N; 120℃/h.

MECHANICAL PROPERTIES|TENSILE TEST	Test Method ISO 527
All test specimens were printed using an Mankati E180，under the following conditions： Printing temperature: 275℃ Heated bed temperature：90℃ 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/m^2）	20~25
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）	120~130
Flexural modulus（Mpa）	6000~8000

1. notch type: type A

*The mechanical properties of nylon and Its HDT have a great relationship with its water absorption rate.This table shows its performance in its dry state.

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