

TECHNICAL DATA SHEET

KEXCELLED PLA K5Magic

Product code:	Revision Number:	Revision date:	TDS No.:
PLA K5Magic	02	14/03/2020	KT04.012.0162

Characteristic:

Surface effect | marble surface | good interlayer bond

IDENTIFICATION OF THE MATERIAL

Trade name	PLA K5Magic
Chemical name	Polylactic Acid
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	205±15°C
Bed temperature	30~60°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 nozzle.

MATERIAL PROPERTIES

		Test Method
Melt temperature	~160°C	ISO 11357
Melt flow rate (MFR) ¹	7~12 g/10min	ISO 1133
Heat deflection temperature(HDT)²	54 °C	ISO 75
Vicat softening temperature(VST)³	59 °C	ISO 306
Density*	1.23 g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 190°C; m= 2.16kg.

2. test conditions:0.45MPa;120°C/h.

3. test conditions:10N; 120°C/h.

*density of Magic Concrete:1.40-1.50 g/cm³

MECHANICAL PROPERTIES|TENSILE TEST
Test Method ISO 527

All test specimens were printed using an FlashForge Guider 2s, under the following conditions:

Printing temperature: 205°C

Heated bed temperature: 60°C

Print speed: 45mm/s

Shell thickness: 0.8mm

Infill under 45°

Infill 100%

Tensile strength (Mpa) 45~49

Elongation at break (%) 2~4


MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

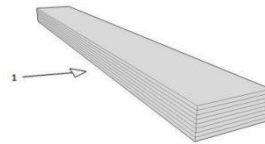
The same conditions as tensile test.

1→impact direction

Infill 100%

Impact strength (KJ/m²) 17~22

Notch impact strength¹ (KJ/m²) 4~6


MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

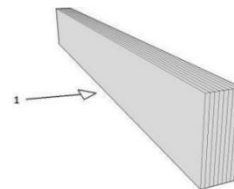
The same conditions as tensile test.

1→bending direction

Infill 100%

Maximum force (Mpa) 80~85

Flexural modulus (Mpa) 2600~2800



1. notch type: type A

FILAMENT SPECIFICATION		Test Method
Diameter 1.75mm	1.75±0.05mm	EX1125
Diameter 2.85mm	2.85±0.05mm	EX1125
Diameter 3.00mm	3.00±0.05mm	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