

TECHNICAL DATA SHEET

BRIEF INTRODUCTION

Filament suitable for all commercially available leading brands FDM/FFF Printers.

CHARACTERISTIC

environmentally friendly|excellent effect applied to 3D printing|good interlayer bond|no buckling deformation| excellent toughness.

IDENTIFICATION OF THE MATERIAL

Trade name	PETG K5
Chemical name	Poly (ethylene terephthalate-co-1,4-cyclohexylenedimethylene terephthalate)
Use	3D printing

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	230~250°C
Bed temperature	55~85°C
Bed modification	NO
Active cooling fan	ON, 100%
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	~200°C	ISO 11357
Glass transition temperature	~70°C	ISO 11357
Melt flow rate (MFR) ¹	8.3 g/10min	/
Heat deflection temperature(HDT)²	70.6°C	ISO 75
Vicat softening temperature(VST)³	78.5°C	ISO 306
density	1.27g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1.test conditions: T= 240°C; m=2.16 kg.

2. test conditions:0.45MPa;120°C/h.

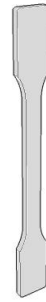
3. test conditions:10N; 120°C/h.

MECHANICAL PROPERTIES|TENSILE TEST

Test Method ISO 527

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

- Printing temperature: 240°C
- Heated bed temperature: 70°C
- Print speed: 45mm/s
- Shell thickness: 0.8mm
- Infill under 45°



Printed Vertical Z-axis

Printed horizontal X,Y-axis

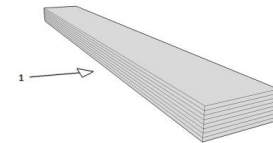
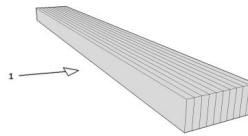
	50%	100%	50%	100%
Infill	50%	100%	50%	100%
Tensile strength (Mpa)	11.1	18.5	25.7	36.6
Force at break (Mpa)	11.1	18.5	25.7	36.6
Elongation at break (%)	3.6	4.0	10.0	10.9
Emodulus (Mpa)	316	568	405	488

MECHANICAL PROPERTIES|IMPACT TEST

Test Method ISO 179

The same conditions as tensile test.

1→impact direction



Charpy(en)

Charpy(ep)

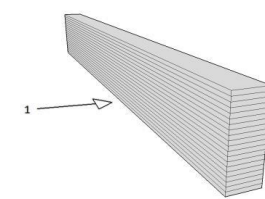
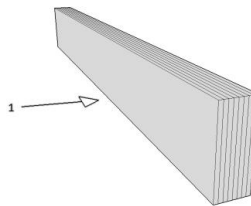
	50%	100%	50%	100%
Infill	50%	100%	50%	100%
Impact strength (KJ/m ²)	21.1	23.4	9.0	53.0
Notch impact strength ¹ (KJ/m ²)	3.0	2.1	3.1	5.2

MECHANICAL PROPERTIES |FLEXURAL TEST

Test Method ISO 178

The same conditions as tensile test.

1→bending direction



Normal

parallel

	50%	100%	50%	100%
Infill	50%	100%	50%	100%
Maximum force (Mpa)	50.1	62.2	61.6	65.0
Flexural modulus (Mpa)	1443	1669	1711	1747

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