

TECHNICAL DATA SHEET

KEXCELLED THE K8™ TPU 77D

Product code:	Revision Number:	Revision date:	TDS No.:
THE K8™ TPU 77D	05	08/02/2025	KT036

Characteristic:

UV stabilized | Oil and grease resistance | high elasticity | high hardness.

IDENTIFICATION OF THE MATERIAL

Trade name	THE K8™ TPU 77D
Chemical name	Thermoplastic polyurethanes
Use	3D Printing
Origin	KEXCELLED

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	210~240℃
Bed temperature	35~55℃
Bed modification	PEI frosted board
Active cooling fan	ON, 50%~100%
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	≤240mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt flow rate (MFR) ¹	10~20g/10min	ISO 1133
Heat deflection temperature(HDT) ²	/	ISO 75
Vicat softening temperature(VST) ³	/	ISO 306
density	1.22~1.24g/cm ³	ISO 1183
hardness	79D	GB/T 531.1
resilience	54%	GB/T 1681-2009
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 210℃; m= 2.16kg.

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 a BambuLab X1C under the following conditions:

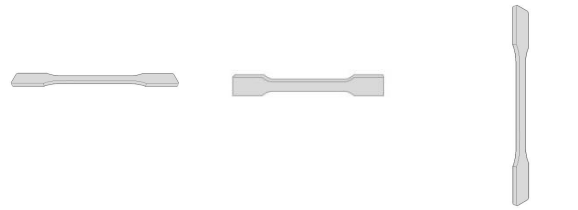
Printing temperature: 230°C

Heated bed temperature: 35°C

Print speed: 162.5mm/s

Shell thickness: 1.2mm

Infill under 45°

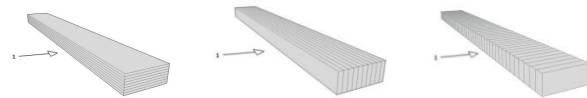


	Printed horizontal X,Y-axis	Printed horizontal X,Z-axis	Printed horizontal Z,X-axis ¹
Infill	100%	100%	100%
Tensile strength (Mpa)	30~35	33~37	20~25
Elongation at break (%)	370~400	-	5~10

MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

The same conditions as tensile test.

1→impact direction

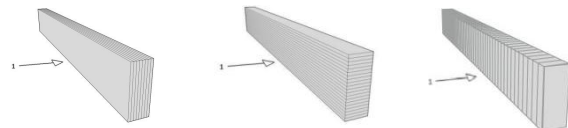


Infill	100%	100%	100%
Impact strength (KJ/m ²)	25-29	-	4~7
Notch impact strength ² (KJ/m ²)	4~8	2-6	2~5

MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

1→bending direction



Infill	100%	100%	100%
Maximum force (Mpa)	39~43	42~45	35~38
Flexural modulus (Mpa)	1100~1200	1000~1200	900~1000

MECHANICAL PROPERTIES|TEAR TEST
Test Method ASTM D 624

The same conditions as tensile test.



Infill	100%
Tear strength (N/mm)	230~240

1. Z,X-axis test data are for reference only
2. notch type: type A

FILAMENT SPECIFICATION		Test Method
Diameter 1.75mm	1.75±0.05mm	EX1125
Max roundness deviation (1.75)	0.05mm	EX1125
Net weight on reel	1kg	EX1125