

TECHNICAL DATA SHEET

PEI Ultem 9085

BRIEF INTRODUCTION

PEI Ultem9085 is a polyetherimide material with relatively low molding temperature and ultra-high flow. It has excellent heat resistance, high strength and toughness, excellent flame retardant, and extensive chemical resistance. It is a 3D printing material with aviation certification.

CHARACTERISTIC

Excellent heat resistance | high strength | chemical resistance | excellent toughness | flame resistance

IDENTIFICATION OF THE MATERIAL

Trade name	PEI Ultem9085
Chemical name	Polyetherimide
Application	3D Printing

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	355 ± 15 °C
Bed temperature	140~220 °C
Chamber temperature	90~200 °C
Bed modification	High temperature glue
Active cooling fan	OFF
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	30~60mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES

		Test Method
Melt temperature	~300 °C	ISO 11357
Melt flow rate (MFR) ¹	~65 g/10min	ISO 1133
Heat deflection temperature(HDT)²	168 °C	ISO 75
Vicat softening temperature(VST)³	/	ISO 306
Density	1.28 g/cm ³	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. test conditions: T= 365 °C; m= 5 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 FUNMAT PRO 610 HT, under the following conditions:

Printing temperature: 355°C

Heated bed temperature: 180°C

Chamber temperature: 150°C

Print speed: 30 mm/s

Shell thickness: 0.8mm

Infill under 45°

Infill 100%

Tensile strength (Mpa) ~70

Elongation at break (%) 6~8


MECHANICAL PROPERTIES|IMPACT TEST
Test Method ISO 179

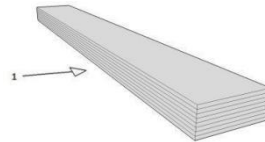
The same conditions as tensile test.

1→impact direction

Infill 100%

Impact strength (KJ/m²) 70~75

Notch impact strength¹ (KJ/m²) 10~15


MECHANICAL PROPERTIES |FLEXURAL TEST
Test Method ISO 178

The same conditions as tensile test.

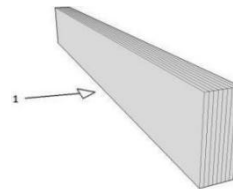
1→bending direction

Infill 100%

Maximum force (Mpa) 140~160

Flexural modulus (Mpa) 3800~4000

1. notch type: type A



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

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