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TECHNICAL DATA SHEET

PEEK CF

BRIEF INTRODUCTION

PEEK-CF is a carbon-fiber reinforced PEEK material, features high strength, rigidity, and high-temperature resistance property. Extremely light and strong, an ideal filament for printing parts to replace metal parts in many occasions. The printed parts has excellent inter-layer adhesion and surface quality. Widely used in the applications need light and high strength, wear resistance, corrosion resistance, flame retardant or temperature resistant.

CHARACTERISTIC

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

IDENTFICATION OF THE MATERIAL

Trade name	PEEK CF Carbon fiber
Chemical name	Polyetheretherketone
Application	3D PRINTING

GUIDELINE FOR PRINT SETTINGS

Nozzle temperature	425±25℃
Bed temperature	100~150℃
Chamber temperature	80-140℃
Bed modification	NO
Active cooling fan	OFF
Layer height	0.2mm
Shell thickness	≥0.8mm
Print speed	20~40mm/s

Settings are based on a 0.4mm nozzle.

MATERIAL PROPERTIES		Test Method
Melt temperature	~340 ℃	ISO 11357
Melt flow rate (MFR) [1]	10~15 g/10min	ISO 1133
Heat deflection temperature(HDT)[2]	~200℃	ISO 75
Vicat softening temperature(VST)[3]	/	ISO 306
Density	1.15 g/cm^3	ISO 1183
Odor	Odorless	/
Solubility	Insoluble in water	/

1. Test conditions: T= 380℃; m= 5kg.
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 INTAMSYS FUNMAT HT，

under the following conditions：

Printing temperature: 420℃

Heated bed temperature：120℃

Chamber temperature: 80℃

Print speed：20 mm/s

Shell thickness：0.8mm

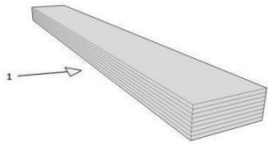
Infill under 45。

Infill	100%
Tensile strength（Mpa）	85~90
Elongation at break（%）	3~6

MECHANICAL PROPERTIES|IMPACT TEST **Test Method ISO 179**

The same conditions as tensile test.

1→Impact direction

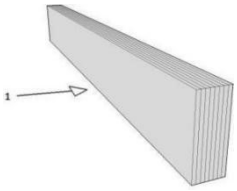


Infill	100%
Impact strength（KJ/m^2）	30~35
Notch impact strength[1]（KJ/m^2）	8~12

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）	3200~3400

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

Suzhou Melovy Technology CO., Ltd

NO.68, Nantiancheng Road, Xiangcheng Dist.

Suzhou City, Jiangsu Prov. China

Tel: +86-0-512-6580-8834

Email:info@melovy3d.com

Website: www.melovy3d.com