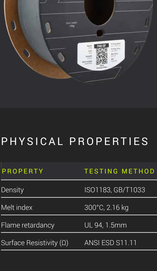
TECHNICAL DATA SHEET

V1.0

FIBERON By polymaker



FIBERON™ PA6-GF25

Fiberon™ PA6-GF25 is a glass fiber reinforced PA6 (Nylon 6) filament. The material exhibits excellent thermal and mechanical properties without sacrificing the layer adhesion.

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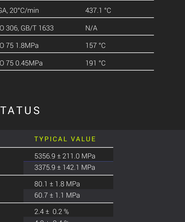
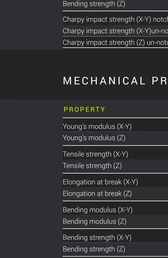
PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO1183, GB/T1033	1.20 g/cm³ at 23°C
Melt index	300°C, 2.16 kg	15.9 g/10min
Flame retardancy	UL 94, 1.5mm	HB
Surface Resistivity (Ω)	ANSI ESD S11.11	OL, >10^{13} Ω

MOISTURE ABSORPTION CURVE



HDT CURVE



THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Glass transition temp.	DSC, 10°C/min	70.4 °C
Melting temperature	DSC, 10°C/min	214.5 °C
Crystallization temp.	DSC, 10°C/min	174.5 °C
Decomposition temp.	TGA, 20°C/min	437.1 °C
Vicat softening temp.	ISO 306, GB/T 1633	N/A
Heat deflection temp.	ISO 75 1.8MPa	157 °C
Heat deflection temp.	ISO 75 0.45MPa	191 °C

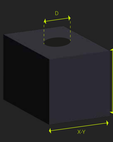
MECHANICAL PROPERTIES - DRY STATUS

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y) Young's modulus (Z)	ISO 527, GB/T 1040	5356.9 ± 211.0 MPa 3375.9 ± 142.1 MPa
Tensile strength (X-Y) Tensile strength (Z)	ISO 527, GB/T 1040	80.1 ± 1.8 MPa 60.7 ± 1.1 MPa
Elongation at break (X-Y) Elongation at break (Z)	ISO 527, GB/T 1040	2.4 ± 0.2 % 4.0 ± 0.4 %
Bending modulus (X-Y) Bending modulus (Z)	ISO 178, GB/T 9341	4314.22 ± 120.6 MPa N/A
Bending strength (X-Y) Bending strength (Z)	ISO 306, GB/T 1633	133.8 ± 4.7 MPa N/A
Charpy impact strength (X-Y) notched Charpy impact strength (X-Y)un-notched Charpy impact strength (Z) un-notched	ISO 179, GB/T 1043	10.0 ± 0.7 kJ/m² 27.4 ± 0.5 kJ/m² N/A

MECHANICAL PROPERTIES - WET STATUS

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y) Young's modulus (Z)	ISO 527, GB/T 1040	1793.6 ± 83.9 MPa 1164.7 ± 117.7 MPa
Tensile strength (X-Y) Tensile strength (Z)	ISO 527, GB/T 1040	40.2 ± 2.1 MPa 26.3 ± 1.5 MPa
Elongation at break (X-Y) Elongation at break (Z)	ISO 527, GB/T 1040	4.2 ± 0.7 % 7.1 ± 0.9 %
Bending modulus (X-Y) Bending modulus (Z)	ISO 178, GB/T 9341	1448.1 ± 38.5 MPa N/A
Bending strength (X-Y) Bending strength (Z)	ISO 306, GB/T 1633	47.8 ± 1.2 MPa N/A
Charpy impact strength (X-Y) notched Charpy impact strength (X-Y)un-notched Charpy impact strength (Z) un-notched	ISO 179, GB/T 1043	28.0 ± 1.0 kJ/m² N/A N/A

SHRINKAGE TESTING



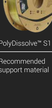
	MODEL SIZE	AFTER PRINTING	AFTER ANNEALING
X-Y	40mm	40.14mm	40.14mm
Z	40mm	40.12mm	40.08mm
Diameter	10mm	9.69mm	9.62mm

*Model infill 30%

RECOMMENDED PRINTING CONDITIONS

Nozzle temperature	280-300 °C
Build plate temperature	40-50 °C
Chamber temperature	Room Temp.
Cooling fan	OFF

Printing speed	Up to 300mm/s
Drying temp. and time	100 °C/10H
Annealing temp. and time	100 °C/16H



PolyDissolve™ S1

Recommended support material

NOTE

Abrasion of the brass nozzle happens frequently when printing Fiberon™ PA6-GF25. Normally, the life of a brass nozzle would be approximately 5h. A wear-resistance nozzle, such as hardened steel and ruby nozzle, is highly recommended to be used with Fiberon™ PA6-GF25.
Fiberon™ PA6-GF25 is sensitive to moisture and should always be stored and used under dry conditions (relative humidity below 20%).

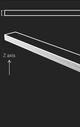
HOW TO MAKE SPECIMENS

Printing temperature	300 °C
Bed temperature	50 °C
Top & bottom layer	3

Infill	100%
Shell	2
Cooling fan	OFF

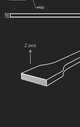
FLEXURAL TESTING SPECIMEN

ASTM D638 (ISO 527, GB/T 1040)



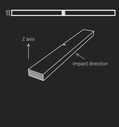
TENSILE TESTING SPECIMEN

ASTM D638 (ISO 527, GB/T 1040)



IMPACT TESTING SPECIMEN

ASTM D638 (ISO 179, GB/T 1043)



DISCLAIMER

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End- use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc.
Product specifications are subject to change without notice. Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of Polymaker materials for the intended application. Polymaker makes no warranty of any kind, unless announced separately, to the fitness for any use or application. Polymaker shall not be liable for any damage, injury or loss induced from the use of Polymaker materials in any application.

FIBERON

MATERIALS COMPARISON

Heat resistance - Stiffness

FIBERON WEBSITE