

TECHNICAL DATA SHEET

V1.0



FIBERON

By **polymaker**



FIBERON™ PETG-rCF08

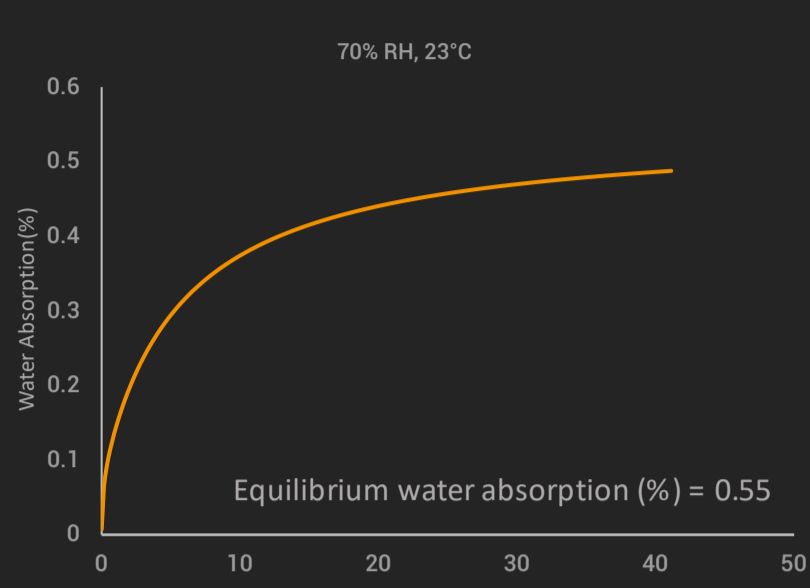
Fiberon™ PETG-rCF08 is a recycled carbon fiber reinforced PETG filament. It inherits the comprehensive performance of PETG, featuring recycled carbon fiber for enhanced surface texture and improved mechanical properties.

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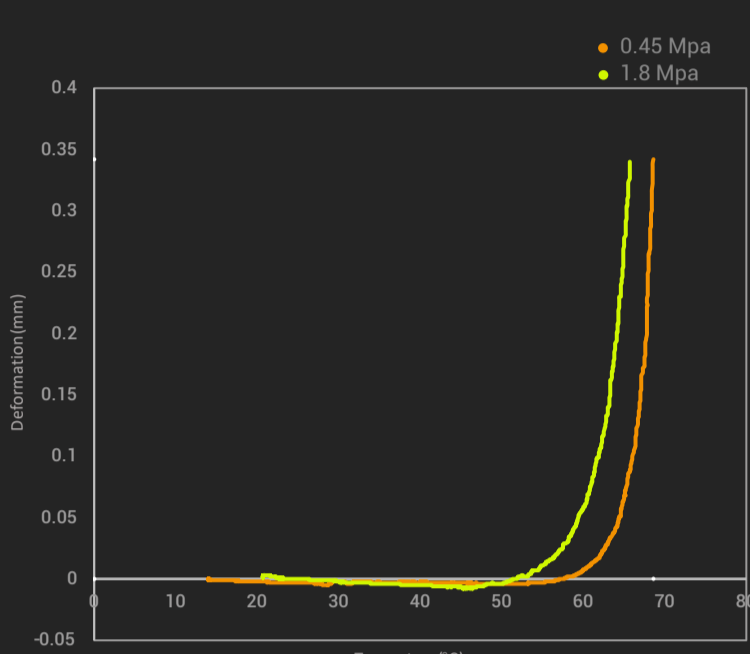
PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO1183, GB/T1033	1.30 g/cm ³ at 23°C
Melt index	230°C, 2.16 kg	11.5 g/10min
Flame retardancy	UL 94, 1.5mm	HB
Surface Resistivity (Ω)	ANSI ESD S11.11	OL, >10 ¹² Ω

MOISTURE ABSORPTION CURVE



HDT CURVE



THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Glass transition temp.	DSC, 10°C/min	69.7 °C
Melting temperature	DSC, 10°C/min	N/A
Crystallization temp.	DSC, 10°C/min	N/A
Decomposition temp.	TGA, 20°C/min	432.62 °C
Vicat softening temp.	ISO 306, GB/T 1633	81.6 °C
Heat deflection temp.	ISO 75 1.8MPa	65.7 °C
Heat deflection temp.	ISO 75 0.45MPa	68.6 °C

MECHANICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y)	ISO 527, GB/T 1040	3710.1 ± 151.1 MPa
Young's modulus (Z)		2651.9 ± 51.0 MPa
Tensile strength (X-Y)	ISO 527, GB/T 1040	59.8 ± 0.3 MPa
Tensile strength (Z)		41.1 ± 4.1 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	5.7 ± 1.0%
Elongation at break (Z)		1.9 ± 0.3%
Bending modulus (X-Y)	ISO 178, GB/T 9341	3779.1 ± 40.6 MPa
Bending modulus (Z)		1622.2 ± 104.6 MPa
Bending strength (X-Y)	ISO 306, GB/T 1633	94.6 ± 1.3 MPa
Bending strength (Z)		47.8 ± 2.4 MPa
Charpy impact strength (X-Y) notched	ISO 179, GB/T 1043	4.0 ± 0.9 kJ/m ²
Charpy impact strength (X-Y) un-notched		18.0 ± 1.1 kJ/m ²
Charpy impact strength (Z) un-notched		

RECOMMENDED PRINTING CONDITIONS

Nozzle temperature	240-270 °C	Printing speed	Up to 300mm/s
Build plate temperature	60-70 °C	Drying temp. and time	65 °C/3H
Chamber temperature	Room temp.	Annealing temp. and time	N/A
Cooling fan	0-50%		

NOTE

Abrasion of the brass nozzle happens frequently when printing Fiberon™ PETG-rCF08. Normally, the life of a brass nozzle would be approximately 9h. A wear-resistance nozzle, such as hardened steel and ruby nozzle, is highly recommended to be used with Fiberon™ PETG-rCF08.

Fiberon™ PETG-rCF08 is sensitive to moisture and should always be stored and used under dry conditions (relative humidity below 20%).

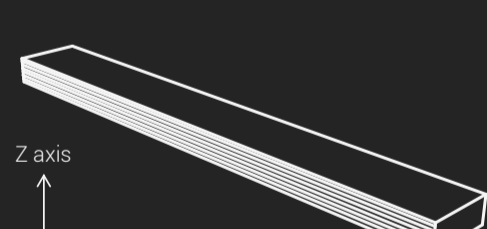
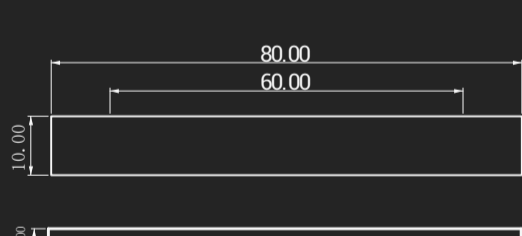
HOW TO MAKE SPECIMENS

Printing temperature	270 °C
Bed temperature	60 °C
Top & bottom layer	3

Infill	100%
Shell	2
Cooling fan	0-50%

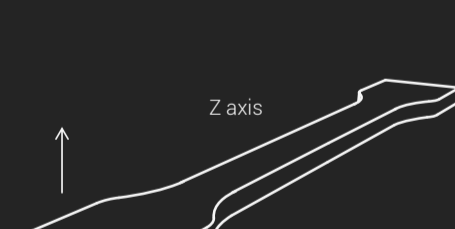
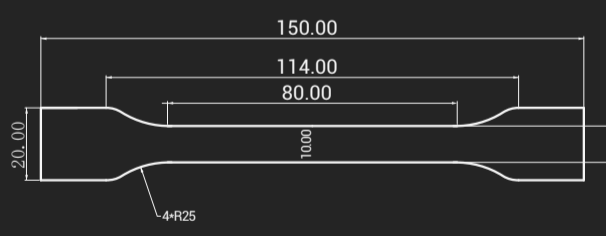
FLEXURAL TESTING SPECIMEN

ASTM D638 (ISO 527, GB/T 1040)



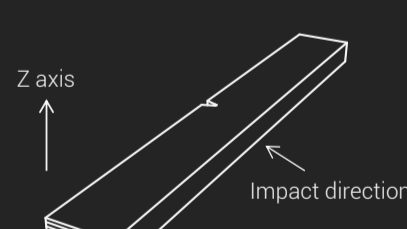
TENSILE TESTING SPECIMEN

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 purposes of the 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 made liable for any damage, injury or loss induced from the use of Polymaker materials in any application.



MATERIALS COMPARISON

Heat resistance - Stiffness

