TECHNICAL DATA SHEET

V1.1

FIBERON
By polymaker

FIBERON™ PETG-ESD

Fiberon™ PETG-ESD offers electrostatic discharge (ESD) safety with improved toughness making it a good candidate for applications in electronics industry.

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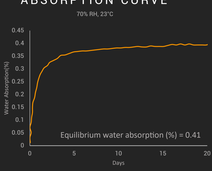
PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO1183, GB/T1033	1.24 g/cm³ at 23°C
Melt index	280°C, 5 kg	14 g/10min
Flame retardancy	UL 94, 1.5mm	HB

MOISTURE ABSORPTION CURVE



THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Glass transition temp.	DSC, 10°C/min	77 °C
Melting temperature	DSC, 10°C/min	N/A
Crystallization temp.	DSC, 10°C/min	N/A
Decomposition temp.	TGA, 20°C/min	373 °C
Vicat softening temp.	ISO 306, GB/T 1633	86 °C
Heat deflection temp.	ISO 75 1.8MPa	72 °C
Heat deflection temp.	ISO 75 0.45MPa	76 °C

MECHANICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y)	ISO 527, GB/T 1040	1983.0 ± 74.9 MPa
Young's modulus (Z)		1626.4 ± 31.5 MPa
Tensile strength (X-Y)	ISO 527, GB/T 1040	36.1 ± 0.9 MPa
Tensile strength (Z)		20.7 ± 0.6 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	7.3 ± 0.7%
Elongation at break (Z)		1.8 ± 0.1%
Bending modulus (X-Y)	ISO 178, GB/T 9341	1650.8 ± 140.7 MPa
Bending modulus (Z)		1150.9 ± 75.6 MPa
Bending strength (X-Y)	ISO 306, GB/T 1633	54.0 ± 2.5 MPa
Bending strength (Z)		24.1 ± 1.2 MPa
Charpy impact strength (X-Y) notched	ISO 179, GB/T 1043	5.7 ± 0.5 kJ/m²
Charpy impact strength (X-Y)un-notched		29.3 ± 2.2 kJ/m²
Charpy impact strength (Z) un-notched		5.2 ± 0.7 kJ/m²

ELECTRICAL PROPERTIES

SURFACE RESISTIVITY (Ω)		Nozzle temperature 250°C	270°C	290°C
Specimen type	0°	(1.6±0.3)E+7	(4.7±0.8)E+5	<1E+4
	45°	(7.0±0.9)E+6	(3.4±1.2)E+5	<1E+4
	90°	(8.8±0.8)E+6	(3.2±1.0)E+5	<1E+4

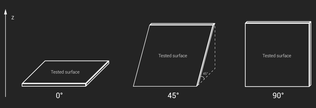


Diagram of test specimen

RECOMMENDED PRINTING CONDITIONS

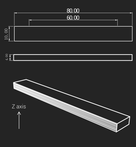
Nozzle temperature	250-290 °C	Printing speed	Up to 500mm/s
Build plate temperature	70-80 °C	Drying temp. and time	65 °C/3H
Chamber temperature	Room temp.	Annealing temp. and time	N/A
Cooling fan	OFF		

HOW TO MAKE SPECIMENS

Printing temperature	290 °C	Infill	100%
Bed temperature	80 °C	Shell	2
Top & bottom layer	3	Cooling fan	OFF

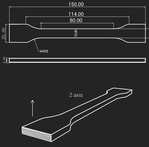
FLEXURAL TESTING SPECIMEN

ASTM D638 (ISO 527, GB/T 1040)



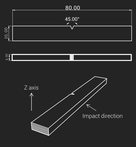
TENSILE TESTING SPECIMEN

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

FIBERON

MATERIALS COMPARISON

Heat resistance - Stiffness