TDS Rev. 2.0
Update 14.06.2019

Technical Data Sheet

FUSION-X

IDENTIFICATION	
Commercial name	FUSION-X
Raw Material	PET Copolymer
Use	3D printing applications

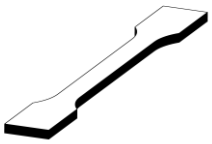
PHYSICAL PROPERTIES	VALUE	STANDARD
Density	1,28 g/cc	ASTM D792

MECHANICAL PROPERTIES

TENSILE TEST – STANDARD ISO 527

Test specimens printed on Ultimaker 2+ with the following setup:

- Nozzle type: Standard Brass 0.4
- Nozzle Temperature: 230 ºC
- Heat bed Temp: 85 ºC
- Print speed: 30 mm/s
- Infill orientation: 45 ºC
- Cooling fan: OFF



Infill	15%	50%	100%
Tensile strength (Mpa)	18,1	21,7	27,8
Elastic Modulus (Mpa)	862	1015	1452
Elongation at break (%)	4,68	5,21	4,68
Energy at break (J)	2,37	3,45	3,84

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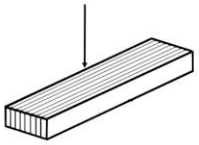
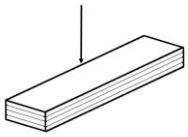
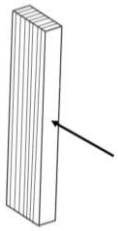
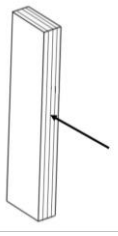
FLEXURAL TEST – STANDARD ISO 178				
Test specimens printed on Ultimaker 2+ with the following setup: - Nozzle type: Standard Brass 0.4 - Nozzle Temperature: 230 ºC - Heat bed Temp: 85 ºC - Print speed: 30 mm/s - Infill orientation: 45 ºC - Cooling fan: OFF	**zy- parallel** 		**xy- normal** 	
Infill	50%	100%	50%	100%
Flexural strength (Mpa)	58,0	63,9	50,3	57,8
Flexural Modulus (Mpa)	1298	1334	1239	1743
Deformation (%)	4,84	5,53	5,49	5,74

IMPACT TEST IZOD – STANDARD ISO 180				
Test specimens printed on Ultimaker 2+ with the following setup: - Nozzle type: Standard Brass 0.4 - Nozzle Temperature: 230 ºC - Heat bed Temp: 85 ºC - Print speed: 30 mm/s - Infill orientation: 45 ºC - Cooling fan: OFF	**zy- normal** 		**xy- parallel** 	
Infill	50%	100%	50%	100%
Impact strength (KJ/m^2)	23,14	39,83	27,01	37,13
Impact Energy (J)	0,93	1,59	1,08	1,49

THERMAL PROPERTIES	VALUE	STANDARD
Glass Transition Temp.	62 ºC	ASTM D3418
Heat Deflection Temp.	72 ºC	ASTM D648

FILAMENT SPECIFICATIONS AND PRINT SETTINGS	
Diameter 1.75mm	1.75 ± 0.05 mm
Diameter 2.85mm	2.85 ± 0.05 mm
Roundness deviation	max 2%
Suggested Print Temperature	230 – 245 ºC
Suggested Print Speed	20 – 40 mm/s
Suggested Bed Temperature	85 ºC
Cooling fan	OFF – 50%