

Technical Data Sheet

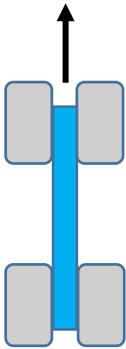
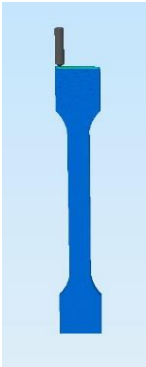

ABS by Procatec GmbH

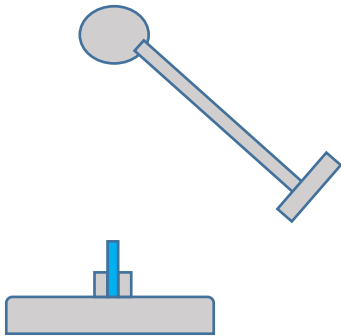
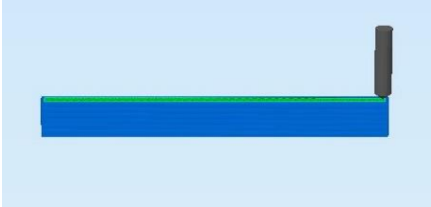
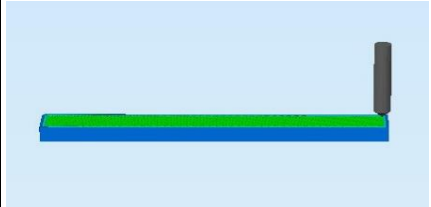
IDENTIFICATION OF THE MATERIAL	
Trade Name	ABS
Chemical name	Acrylnitril-Butadien Styrol Copolymer
Chemical family	Thermoplastic Styrol
Use	3D-Printing

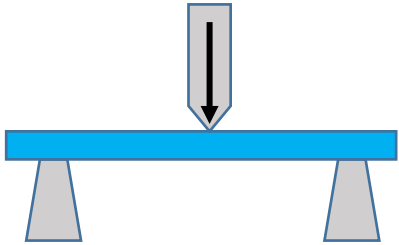
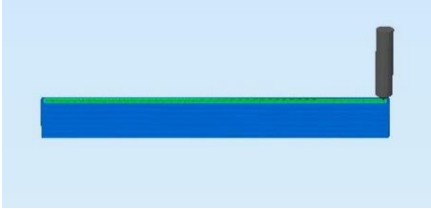
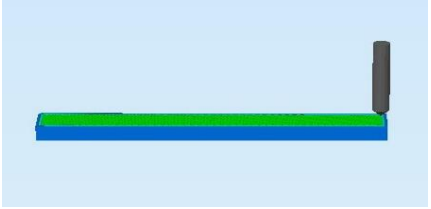
Print parameters of the test procedure	
Nozzle temperature	250 °C
Bed temperature	90 °C
Layer hight	0,2mm
Nozzle size	0,6mm
Print speed	60mm/s
Printer	Original Prusa i3 MK2

MATERIAL PROPERTIES *		Test method
Melt temperature	≈ 93°C	ISO 75-1/-2
Glass transition temperature	≈ 90°C	ISO 306
Melt flow rate	5,5	ISO 1133
Density	1,03 g/cm ³	ASTM D-792

* These data were taken from the raw material manufacturer

MECHANICAL PROPERTIES TENSILE TEST		Test method ISO 527		
				
Infill	50%	100%	50%	100%
Tensile strength (N/mm ²)	10,1 ± 0,2	18,6 ± 1,8	13,2 ± 0,4	27,5 ± 1,6
Force break (N)	409,0 ± 11,4	761,2 ± 75,5	536,5 ± 15,1	1115,8 ± 62,6
Elongation at max force (%)	2,1 ± 0,2	2,4 ± 0,3	5,6 ± 1,2	4,5 ± 0,5
Elongation at brake (%)	2,1 ± 0,2	2,4 ± 0,3	5,6 ± 1,2	4,5 ± 0,5

MECHANICAL PROPERTIES CHARPY Impact Test		Test method ISO 179-1 / eU	
			
Infill	100%	100%	
Impact strength (kJ/m ²)	55 ± 10	44 ± 6,8	
Impact energy (mJ)	2257,8 ± 428,1	1728,4 ± 208,8	

MECHANICAL PROPERTIES FLEXURAL TEST		Test method	ISO 178
			
Infill	100%	100%	
Maximum force (N)	86,9 ± 1,5	83,3 ± 3,2	

FILAMENT SPECIFICATION		Test method
Diameter 1,75	1,75 ± 0,05 mm	PROCATEC
Diameter 2,85	2,85 ± 0,05 mm	PROCATEC
max. roundness deviation 1,75	0,05 mm	PROCATEC
max. roundness deviation 2,85	0,05 mm	PROCATEC