

Technical Data Sheet



Product Name: ABS

Material Identification:

Item Name	ABS
Chemical Name	Acrylonitrile-butadiene-styreneterpolymer
Application	FFF/FDM 3D Printing







Guidelines for Print Settings:

Nozzle Temperature	220~250°C
Bed Temperature	80~100°C
Bed Modification	NO
Active Cooling Fan	OFF
Layer Height	0.2mm
Shell Thickness	≥0.8mm
Print Speed	40-80mm/s

Material Properties:

Melt Temperature	~180	ISO 11357
Glass Transition Temperature	~105°C	ISO 11357
Melt Flow Rate	30.7g/10min	ISO 1133
Heat deflection temperature (HDT)2	94.6°C	ISO 75
Vicat softening temperature(VST)3	100.9°C	ISO 306
Density	1.05g/cm3	ISO 1183
Odour	Odourless	/
Solubility	Insoluble in water	/

Mechanical Properties Tensile Test – Test Method ISO 527

MECHANICAL PROPERTIES TENSILE TEST			Test Method ISO 527	
All tests specimens were printed by Ultimaker 2+ under the following conditions: Printing temperature: 240°C Heated bed temperature: 90°C Print speed: 45mm/s Shell thickness: 0.8mm Infill under 45°	 Printed Vertical Z-axis		 Printed horizontal X,Y-axis	
	Infill	50%	100%	50%
Tensile strength (Mpa)	16.8	23.4	16.5	42.7
Force at break (Mpa)	16.8	23.4	16.5	42.7
Elongation at break (%)	3.8	4.6	6.3	9.9
Modulus (Mpa)	413	506	324	651
MECHANICAL PROPERTIES IMPACT TEST			Test Method ISO 179	
The same conditions as tensile test. 1 → impact direction	 Charpy(en)		 Charpy(ep)	
	Infill	50%	100%	50%
Impact strength (KJ/m ²)	9.7	22.7	10.7	23.2
Notch impact strength ¹ (KJ/m ²)	7.6	15.5	5.5	15.0
MECHANICAL PROPERTIES FLEXURAL TEST			Test Method ISO 178	
The same conditions as tensile test. 1 → bending direction	 Normal		 parallel	
	Infill	50%	100%	50%
Maximum force (Mpa)	38.9	75.8	47.4	77.8
Flexural modulus (Mpa)	1333	2312	1527	2370

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