

# ABS

## Technical Data Sheet

It is a material with low cost and good mechanical properties; ABS has good toughness and impact resistance, which can print strong and durable parts; It has high thermal deformation temperature and can be used in some outdoor and high temperature applications.

Material Status	Mass Production	
Characteristics	<ul style="list-style-type: none"> <li>• low cost</li> <li>• sturdy and durable</li> <li>• High impact resistance</li> </ul>	<ul style="list-style-type: none"> <li>• heat resistance</li> <li>• high toughness</li> </ul>
Applications	<ul style="list-style-type: none"> <li>• machinery</li> <li>• mould</li> <li>• electric products</li> </ul>	<ul style="list-style-type: none"> <li>• toy</li> <li>• automobile</li> </ul>
Form	<ul style="list-style-type: none"> <li>• Filament</li> </ul>	
Processing method	<ul style="list-style-type: none"> <li>• 3D Print, FDM Print</li> </ul>	

	testing method	Typical value	
<b>Physical Properties</b>			
Density	GB/T 1033	1.04	g/cm <sup>3</sup>
Melt Flow Index	GB/T 3682	12	(190°C/2.16kg)
<b>Mechanical Properties</b>			
Tensile Strength	GB/T 1040	43	MPa
Elongation at Break	GB/T 1040	22	%
Flexural Strength	GB/T 9341	66	MPa
Flexural Modulus	GB/T 9341	1177	MPa
IZOD Impact Strength	GB/T 1843	29	kJ/m <sup>2</sup>
<b>Thermal Properties</b>			
Heat distortion Temperature	GB/T 1634	78	°C
Continuous Service Temperature	IEC 60216	N/A	
Maximum (short term) Use Temperature		N/A	
<b>Electrical Properties</b>			
Insulation Resistance	DIN IEC 60167	N/A	
Surface Resistance	DIN IEC 60093	N/A	

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### Recommended printing parameters

Extruder Temperature	230- 270°C
Build Platform Temperature	95-110°C
Fan Speed	0%
Printing Speed	40 - 100mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2. Printing conditions may vary with different nozzle diameters

### Drying Recommendations

N/A

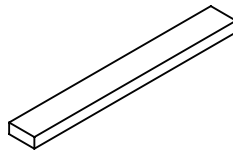
### Precautions:

ABS material has large shrinkage rate, so please pay attention to heat preservation when printing, and print it in printers with closed chamber.

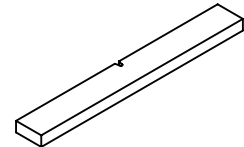
### Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The physical properties, mechanical properties, thermal properties, and electrical properties of the line are obtained based on the injection molding spline test.

### Print test condition:

Extruder Temperature	230-270°C
Build Platform Temperature	95°C
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Fan speed	0%
Printing speed	40mm/s

Based on 0.4 mm nozzle and Simplify 3D v.4.1.2.

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