HIPS

Technical Data Sheet

It is a printing material that is completely soluble in limonene, there will be no residue on the surface of the model after dissolution, and the contact surface is smooth and flat; its printing performance is similar to ABS, and can be used for ABS, PETG and other materials to print extremely complex shapes or a supporting material having the shape of a partially enclosed chamber; suitable for multi-nozzle printers.

Material Status	Mass Production	
Characteristics	• Solubility • Support • Heat resistance	• High toughness • High impact resistance
Applications	• Support material • Machinery	
Form	• Filament	
Processing method	• 3D Print, FDM Print	

	Testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.05	g/cm^3
Melt Flow Index	GB/T 3682	3	(200°C/5kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	27	MPa
Elongation at Break	GB/T 1040	55	%
Flexural Strength	GB/T 9341	39	MPa
Flexural Modulus	GB/T 9341	2280	MPa
IZOD Impact Strength	GB/T 1843	11	kJ/m^2
Thermal Properties			
Heat distortion Temperature	GB/T 1634	N/A	
Continuous Service Temperature	IEC 60216	N/A	
Maximum (short term) Use Temperature		N/A	
Electrical Properties			
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	100 - 115°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

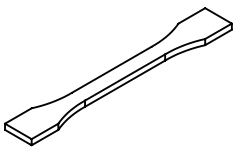
Drying Recommendations

N/A

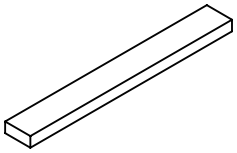
Notes

1.HIPS has a large shrinkage rate, so you should pay attention to heat preservation when printing, and print in a printer with a closed chamber.
2. It is recommended to set the distance between the support and the model to 0, the first contact layer to slow down and turn off the blowing fan to improve the bonding strength with the main material.

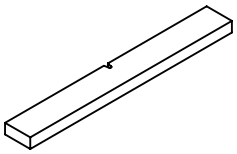
Mechanical Properties



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 filament are obtained based on the injection molding spline test.
Print test condition:

Extruder Temperature	230-270°C
Build Platform Temperature	100°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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