TPU-HS

Technical Data Sheet

It has good flexibility with a hardness of 95A, easy to print, and can quickly print large, complex and accurate prototypes of elastomer parts; excellent elasticity, printed products are not easy to deform; good flexibility, high tear resistance and wear resistance and cut resistance, sturdiness and durability; high hardness and good resilience, can be used for insoles and other applications.

Material Status	Mass Production
Characteristics	• Flexible and soft • Sturdy and durable • High flexibility • High toughness • High impact resistance
Applications	• Shoe material • Automobile • Conveying pipeline • Medical prosthesis • Machinery • Electronic appliances • Sporting products
Form	• Filament
Processing method	• 3D Print, FDM Print

	Testing method	Typical value	
Physical Properties			
Density	GB/T 1033	1.21	g/cm³
Melt Flow Index	GB/T 3682	1.2	(190℃/2.16kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	35	MPa
Elongation at Break	GB/T 1040	≥800	%
Flexural Strength	GB/T 9341	N/A	
Flexural Modulus	GB/T 9341	N/A	
IZOD Impact Strength	GB/T 1843	N/A	
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	

Wuhan University Building A403-I,A901,No.6 Yuexing 2 Road,Nanshan District,Shenzhen,Guangdong
China
Tel +86 755 86581960
fax +86 755 26031982
Email: bright@brightcn.net
www.esun3d.net

Recommended printing parameters

Extruder Temperature	220 - 250℃
Build Platform Temperature	45-60℃
Fan Speed	100%
Printing Speed	20 - 50mm/s

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

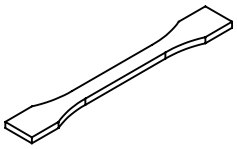
Drying Recommendations

N/A

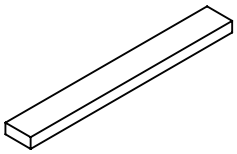
Notes

1. It is recommended to dry the printing (55℃/ > 4H) to achieve the best printing effect. It is recommended to use it with eBOX cartridges when printing.
2. It is recommended to use a short-range two-wheel reduction extrude r designed for flexibility, TPU-HS materials are usually difficult to print on a remote extrusion machine. The remote extrude r can try to print at a slower speed at 20mm/s or even slower.
3. The nozzle may have impurities after printing for a long time. It is recommended to use it with the cleaning filament. If necessary, replace the nozzle and throat with a new one.

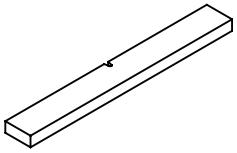
Mechanical Properties



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	210-250℃
Build Platform Temperature	60℃
Outline/Perimeter Shells	4
Top/Bottom Layers	4
Infill Percentage	20%
Fan speed	100%
Printing speed	40mm/s

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

Notice

Wuhan University Building A403-I,A901,No.6 Yuexing 2 Road,Nanshan District,Shenzhen,Guangdong

China

Tel +86 755 86581960
fax +86 755 26031982
Email: bright@brightcn. net
www.esun3d. net