

# PLA+HS

## Technical Data Sheet

With faster printing speeds and better fluidity, it ensures excellent interlayer adhesion and printing accuracy is maintained even during high-speed printing

### Basic Information

|                   |                                                                                                                             |                                                                          |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Characteristics   | <ul style="list-style-type: none"><li>• Higher toughness</li><li>• Fast printing</li><li>• Excellent printability</li></ul> |                                                                          |
| Applications      | <ul style="list-style-type: none"><li>• Prototype design</li><li>• Electronics and electrical appliances</li></ul>          | <ul style="list-style-type: none"><li>• Multi-piece production</li></ul> |
| Forming Method    | <ul style="list-style-type: none"><li>• Filament</li></ul>                                                                  |                                                                          |
| Processing Method | <ul style="list-style-type: none"><li>• 3D Printing</li></ul>                                                               |                                                                          |

| Physical Properties | Testing Method | Data                   |
|---------------------|----------------|------------------------|
| Density             | GB/T 1033      | 1.24 g/cm <sup>3</sup> |
| Melt Flow Index     | GB/T 3682      | 5.2 (190°C/2.16kg)     |

| Thermal Properties                   | Testing Method | Data            |
|--------------------------------------|----------------|-----------------|
| Heat Distortion Temperature          | GB/T 1634      | 54 °C (0.45Mpa) |
| Glass Transition Temperature         |                | N/A             |
| Continuous Service Temperature       | IEC 60216      | N/A             |
| Maximum (short term) Use Temperature |                | N/A             |

| Electrical Properties | Testing Method | Data |
|-----------------------|----------------|------|
| Insulation Resistance | DIN IEC 60167  | N/A  |
| Surface Resistance    | DIN IEC 60093  | N/A  |

| Mechanical Properties      | Testing Method | Data                  |
|----------------------------|----------------|-----------------------|
| Tensile Strength (X-Y)     | GB/T 1040      | 53.12 Mpa             |
| Tensile Strength (Z)       | GB/T 1040      | 32 MPa                |
| Elongation at Break (X-Y)  | GB/T 1040      | 4.01 %                |
| Elongation at Break (Z)    | GB/T 1040      | 2.8 %                 |
| Flexural Strength (X-Y)    | GB/T 9341      | 83 MPa                |
| Flexural Strength (Z)      | GB/T 9341      | 58.6 Mpa              |
| Flexural Modulus (X-Y)     | GB/T 9341      | 2900 MPa              |
| Flexural Modulus (Z)       | GB/T 9341      | 2680.2 Mpa            |
| IZOD Impact Strength (X-Y) | GB/T 1843      | 5.6 KJ/m <sup>2</sup> |
| IZOD Impact Strength (Z)   | GB/T 1843      | 2.41KJ/m <sup>2</sup> |

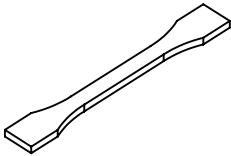
| Chemical Properties        | Data |
|----------------------------|------|
| Acid and Alkali Resistance | NO   |
| Grease Resistance          | N/A  |
| UV Resistance              | NO   |
| Water Repellency           | N/A  |

| Recommended Printing Parameters | Data              |
|---------------------------------|-------------------|
| Drying Preparation              | 50°C > 8H         |
| Nozzle Size                     | 0.2,0.4,0.6,0.8mm |
| Nozzle Temperature              | 210-230°C         |
| Build Platform Type             | PEI               |
| Build Platform Temperature      | 45-60°C           |
| Fan Speed                       | 100%              |
| Printing Speed                  | < 350mm/s         |

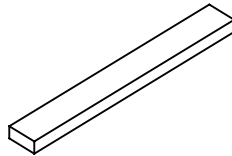
## Printing Tips

When slicing, it is best to turn on the Z seam alignment and starting point alignment functions, turn off the Z-axis lift and exit, avoid passing through the shell when idling, optimize the slicing printing path, and appropriately reduce the printing speed to achieve the best printing effect.

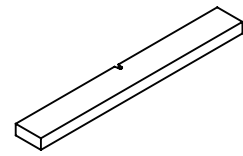
## Test Conditions of Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1843

The performance of the filament is evaluated based on standard samples printed by eSUN, while the actual printing performance is influenced by various factors such as printer type, printing parameters, and print environment.

## Printing Test Conditions:

|                            |       |
|----------------------------|-------|
| Extruder Temperature       | 220°C |
| Build Platform Temperature | 60°C  |
| Outer Layer Number         | 2     |
| Top/Bottom Layer Number    | 3     |
| Infill Density             | 100%  |
| Fan Speed                  | 100%  |

\*Based on Bambu P1S 0.4 mm nozzle and Orcaslicer 2.1.0 Beta.

## Notice

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