

# ASA+

## Technical Data Sheet

ASA+ characteristics similar to ABS, but it offers better resistance to ultraviolet light and harsh weather conditions, with enhanced toughness, rigidity, and high impact resistance. Its excellent weatherability and mechanical properties enable it to better withstand the effects of environmental aging, making it commonly used for outdoor applications.

|                        |   |              |   |                           |
|------------------------|---|--------------|---|---------------------------|
| <b>Material Status</b> | <b>Mass Production</b>  |              |   |                           |
| Characteristics        | <ul style="list-style-type: none"> <li>• Heat Resistance</li> <li>• High toughness and high brightness</li> <li>• Excellent printing performance</li> </ul> |              | <ul style="list-style-type: none"> <li>• Good Weatherability</li> </ul> |                           |
| Applications           | • Outdoor products  | • Aeromodels | • Electronic appliances   | • Engineering accessories |
| Form                   | • Filament  |              |   |                           |
| Processing method      | • 3D Print, FDM Print   |              |   |                           |

|                                      | testing method | Typical value |                   |
|--------------------------------------|----------------|---------------|-------------------|
| <b>Physical Properties</b>           |                |               |                   |
| Density                              | GB/T 1033      | 1.06          | g/cm <sup>3</sup> |
| Melt Flow Index                      | GB/T 3682      | 16            | (220°C/10KG)      |
| <b>Mechanical Properties</b>         |                |               |                   |
| Tensile Strength                     | GB/T 1040      | 45.5          | MPa               |
| Elongation at Break                  | GB/T 1040      | 18.0          | %                 |
| Flexural Strength                    | GB/T 9341      | 68.7          | MPa               |
| Flexural Modulus                     | GB/T 9341      | 2297.5        | MPa               |
| IZOD Impact Strength                 | GB/T 1843      | 13.2          | kJ/m <sup>2</sup> |
| <b>Thermal Properties</b>            |                |               |                   |
| Heat distortion Temperature          | GB/T 1634      | 89.3°C        | (0.45Mpa)         |
| 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           |                   |

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.com

### Recommended printing parameters

|                            |           |
|----------------------------|-----------|
| Extruder Temperature       | 250-280°C |
| Build Platform Temperature | 100-110°C |
| Fan Speed                  | 10-50%    |
| Printing Speed             | 0-250mm/s |

Based on Bambu P1S 0.4 mm nozzle and Orcaslicer2.1.0 Beta. Printing conditions may vary with different

### nozzle diameters Drying Recommendations

N/A

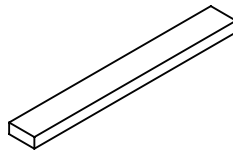
### Precautions:

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.

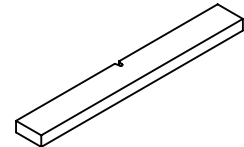
### Mechanical Properties



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         | 275°C                |
| Build Platform Temperature   | 90°C                 |
| Outline/Perimeter Shells     | 2                    |
| Top/Bottom Layers            | 3                    |
| Infill Percentage            | 100%                 |
| Fan speed                    | 50%                  |
| Maximum volumetric flow rate | 10mm <sup>3</sup> /s |

Based on Bambu P1S 0.4 mm nozzle and Orcaslicer2.1.0 Beta.

### Notice

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