

## Technical Data Sheet (TDS)

### Hyper Speed Matte PLA

Eryone-Hyper Speed Matte PLA filament prints produce a delicate matte surface effect, showcasing a soft and high-end texture with almost no visible layer lines. This material can achieve printing speeds of up to 500mm/s, significantly enhancing printing efficiency. It is particularly beginner-friendly, easy to shape, and has good scratch and wear resistance, ensuring a stable printing process. Additionally, its high surface hardness makes the finished products less susceptible to scratches, making it suitable for various application needs.

#### Part I: Suggests Printing Parameters

| Parameter                   | Set up                         |
|-----------------------------|--------------------------------|
| Nozzle temperature          | 190°C-220°C                    |
| Bed temperature             | 55-70°C                        |
| Bed material                | glass, PEI, spring steel plate |
| Bottom printing temperature | 190°C-220°C                    |
| Sealed printing             | open printing/closed printing  |
| Printing speed              | 30-500mm/s                     |
| Drying conditions           | 50-60°C , 6h                   |

#### Part II: Physical Properties of Materials

| Property                               | Testing Method                  | Unit              | Typical Value |
|----------------------------------------|---------------------------------|-------------------|---------------|
| Density(g/cm <sup>3</sup> at 21.5 ° C) | ASTM D792 (ISO 1183, GB/T 1033) | g/cm <sup>3</sup> | 1.25          |
| Vicat Softening Temperature(° C)       | ASTM D1525 (ISO 306 GB/T 1633)  | °C                | 54            |
| Heat distortion temperature(° C)       | ASTM D648 0.45MPa               | °C                | 55            |
| Glass transition temperature (° C)     | DSC, 10 ° C/min                 | °C                | /             |
| Melt Index(g/10 min)                   | 220 ° C, 10kg 240 ° C, 2.16 kg  | g/10min           | 6.3           |

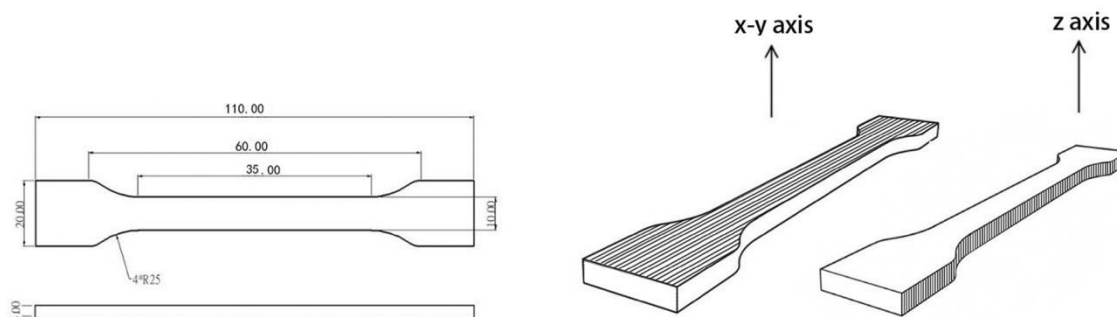
## Part III: Mechanical Properties of Printed Samples

| Property                | Test conditions | Test standards   | unit  | Typical Value |
|-------------------------|-----------------|------------------|-------|---------------|
| Tensile strength X-Y    | 50mm/min        | GB/T 1040.4      | MPa   | 32.7          |
| Elastic modulus X-Y     | 50mm/min        | GB/T 1040.1-2006 | MPa   | 1345.5        |
| Elongation at break X-Y | 50mm/min        | GB/T 1040.4      | %     | 1.2           |
| Tensile strength X-Z    | 50mm/min        | GB/T 1843        | MPa   | 8.7           |
| Elastic modulus X-Z     | 50mm/min        | GB/T 1040.1-2006 | MPa   | 1283.9        |
| Elongation at break X-Z | 50mm/min        | GB/T 1040.4      | %     | 1.0           |
| Bending strength        | 2mm/min         | GB/T 9341        | MPa   | 63.8          |
| Bending modulus         | 2mm/min         | GB/T 9341        | MPa   | 3601.2        |
| Charpy Impact strenght  | 2.75J           | GB/T 1843        | kJ/m2 | 9.8           |

Note: All splines are printed under the following conditions: printing temperature=210° C, printing speed=80mm/s, base plate 60 ° C, filling=100%, nozzle diameter=0.4mm

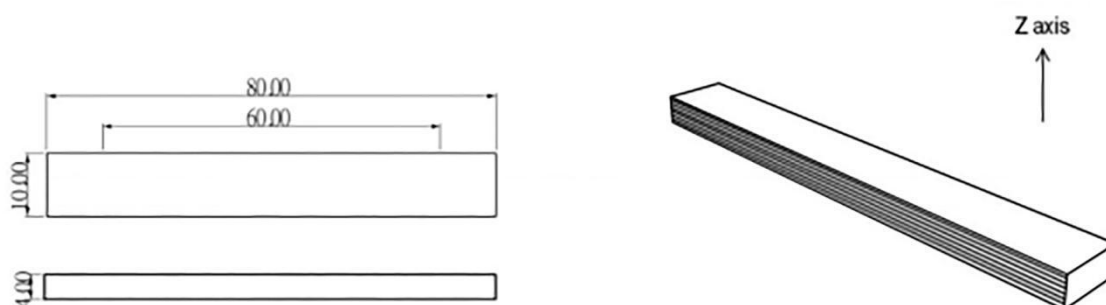
## TENSILE TESTING SPECIMEN

ISO 527,GB/T 1040



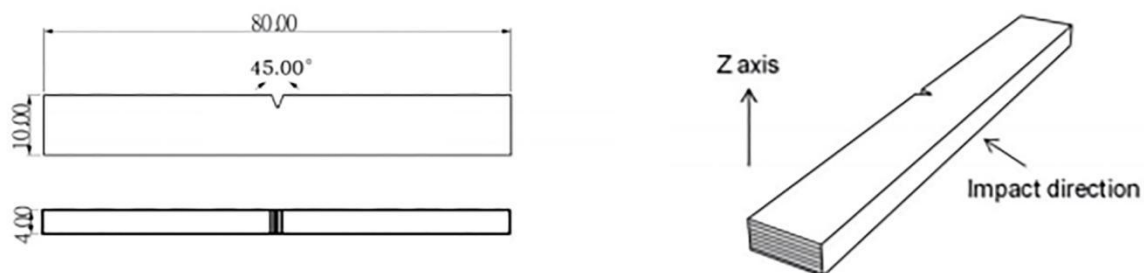
## FLEXURAL TESTING SPECIMEN

ISO 178,GB/T 9341



## IMPACT TESTING SPECIMEN

ISO 179,GB/T 1043



## Disclaimers

The values given in this data table are for reference and comparison only. They should not be used for design specifications or quality control. The actual value may vary depending on the printing conditions. The final performance of printed components depends not only on the material, but also on the component design, environmental conditions, printing conditions, and so on. Product specifications are subject to change without prior notice.