

## TECHNICAL DATA SHEET

Prima Creator Select PLA Marble

|                      |                         |                       |                 |
|----------------------|-------------------------|-----------------------|-----------------|
| <b>Product code:</b> | <b>Revision Number:</b> | <b>Revision date:</b> | <b>TDS No.:</b> |
| Select PLA Marble    | 04                      | 01/12/2022            | KT006           |

### Characteristic:

Quality of marble|universal easy print|imitation building material|strict quality control

### IDENTIFICATION OF THE MATERIAL

|                      |                   |
|----------------------|-------------------|
| <b>Trade name</b>    | Select PLA Marble |
| <b>Chemical name</b> | Polylactic Acid   |
| <b>Use</b>           | 3D Printing       |
| <b>Origin</b>        | Prima Creator     |

### GUIDELINE FOR PRINT SETTINGS

|                           |             |
|---------------------------|-------------|
| <b>Nozzle temperature</b> | 190~220℃    |
| <b>Bed temperature</b>    | 30~60℃      |
| <b>Bed modification</b>   | NO          |
| <b>Active cooling fan</b> | ON,50%~100% |
| <b>Layer height</b>       | 0.2mm       |
| <b>Shell thickness</b>    | ≥0.8mm      |
| <b>Print speed</b>        | 40-80mm/s   |

Settings are based on a 0.4mm nozzle.

### MATERIAL PROPERTIES

|                                                     |                       | Test Method |
|-----------------------------------------------------|-----------------------|-------------|
| <b>Melt temperature</b>                             | ~160℃                 | ISO 11357   |
| <b>Melt flow rate (MFR)<sup>1</sup></b>             | 5~6g/10min            | ISO 1133    |
| <b>Heat deflection temperature(HDT)<sup>2</sup></b> | 59℃                   | ISO 75      |
| <b>Vicat softening temperature(VST)<sup>3</sup></b> | 59℃                   | ISO 306     |
| <b>Density*</b>                                     | 1.18g/cm <sup>3</sup> | ISO 1183    |
| <b>Odor</b>                                         | Odorless              | /           |
| <b>Solubility</b>                                   | Insoluble in water    | /           |

1.test conditions: T= 190℃; m= 2.16kg.

2. test conditions:0.45MPa;120℃/h.

3. test conditions:10N; 120℃/h.

\*density of Magic Concrete:1.40-1.50 g/cm<sup>3</sup>

### MECHANICAL PROPERTIES|TENSILE TEST

Test Method ISO 527

All test specimens were printed using an FlashForge Guider 2s under the following conditions:

Printing temperature: 210°C

Heated bed temperature: 60°C

Print speed: 50mm/s

Shell thickness: 1.2mm

Infill under 45°



Printed horizontal X,Y-axis

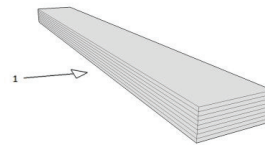
|                         |           |
|-------------------------|-----------|
| Infill                  | 100%      |
| Tensile strength (Mpa)  | 36~40     |
| Elongation at break (%) | 2~4       |
| Emodulus (Mpa)          | 3800~4200 |

### MECHANICAL PROPERTIES|IMPACT TEST

Test Method ISO 179

The same conditions as tensile test.

1→impact direction



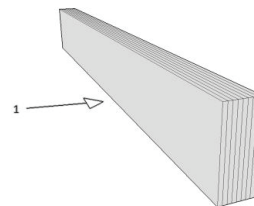
|                                                         |       |
|---------------------------------------------------------|-------|
| Infill                                                  | 100%  |
| Impact strength (KJ/m <sup>2</sup> )                    | 29~33 |
| Notch impact strength <sup>1</sup> (KJ/m <sup>2</sup> ) | 12~14 |

### MECHANICAL PROPERTIES |FLEXURAL TEST

Test Method ISO 178

The same conditions as tensile test.

1→bending direction



|                        |           |
|------------------------|-----------|
| Infill                 | 100%      |
| Maximum force (Mpa)    | 61~65     |
| Flexural modulus (Mpa) | 2300~2500 |

1. notch type: type A

| FILAMENT SPECIFICATION         |             | Test Method |
|--------------------------------|-------------|-------------|
| Diameter 1.75mm                | 1.75±0.03mm | EX1125      |
| Diameter 2.85mm                | 2.85±0.03mm | EX1125      |
| Diameter 3.00mm                | 3.00±0.03mm | EX1125      |
| Max roundness deviation (1.75) | 0.03mm      | EX1125      |
| Max roundness deviation (2.85) | 0.03mm      | EX1125      |
| Max roundness deviation (3.00) | 0.03mm      | EX1125      |
| Net weight on reel             | 1kg         | EX1125      |