



THE **LARGE-SCALE** FFF 3D-PRINTER  
FOR **PROFESSIONAL** AND **INDUSTRIAL** USE.

TECHNICAL DATA SHEET  
**BigRep HI-TEMP**

HI-TEMP is a bio polymer grade based 3D printing filament combining excellent heat resistance, mechanical properties and printability.

### Physical Properties

|  |                              |
|--|------------------------------|
| <b>Material</b>                              | <b>Biodegradable Polymer</b> |
| <b>Filament Net Weight:</b>                  | <b>4.5kg, 8.0kg</b>          |
| <b>Diameter</b>                              | <b>2.85 mm</b>               |
| <b>Density</b> (ISO 1183)                    | <b>1.39 g/cm<sup>3</sup></b> |
| <b>Melting temperature</b> (DSC)             | <b>190-210 °C</b>            |
| <b>Vicat Softening Temperature</b> (ISO 306) | <b>160 °C</b>                |
| <b>HDT / B</b> (ISO 75)                      | <b>115 °C</b>                |

### Recommended Printing Conditions (Original BigRep factory files for the material are available from BigRep Global Support)

|                                  |                    |
|----------------------------------|--------------------|
| <b>Nozzle temperature</b>        | <b>215 °C</b>      |
| <b>Heating bed temperature</b>   | <b>55-60 °C</b>    |
| <b>Environmental temperature</b> | <b>n.s. °C</b>     |
| <b>Printing speed</b>            | <b>&gt;40 mm/s</b> |

**Additional Comments** *e.g. Material is sensitive to moisture and should be stored under dry conditions at all times*

## Mechanical Properties (Dry State)

|   |                             |
|---|-----------------------------|
| <b>Flexural Modulus</b> (ISO 527)             | <b>4400 MPa</b>             |
| <b>Tensile Strength</b> (ISO 527)             | <b>61 MPa</b>               |
| <b>Elongation at break</b> (ISO 527)          | <b>3 %</b>                  |
| <b>Breaking stress</b> (ISO 178)              | <b>50 MPa</b>               |
| <b>Impact resistance</b> (ISO 179-1 eU)       | <b>72 kJ/m<sup>2</sup></b>  |
| <b>Notched Impact strength</b> (ISO 179-1 eA) | <b>4.4 kJ/m<sup>2</sup></b> |

Keep sealed in an air tight container, away from humidity.  
Store at around room temperature and protect from direct heat or sunlight.

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