



Technical Data Sheet

Product name:PLA Rainbow

Version: 1.0

Date: 01.21.2024

Dimensions

| Size | Ø tolerance | Roundness |
|---------|-------------|-----------|
| 1,75 mm | ± 0.05 mm | ± 0.05 mm |
| 2,85 mm | ± 0,10 mm | ± 0,10 mm |

MATERIAL PROPERTIES

| Description | Typical value | Test method |
|--------------------------------------|-----------------------------------|----------------------|
| Density | 1.228 g/cc | ISO 1183,GB/T 1033 |
| Meltindex (MFR) | 10.48 g/10 min (210 °C/2,16kg) | ISO 1133,GB/T 3682 |
| Glasstransition temperature | 65.6 °C | DSC,10 °C/min |
| Melting temperature | 182.83 °C | DSC,10 °C/min |
| Crystallinity | 92.4857% | DSC,10 °C/min |
| Vicatsofteningtemperature | 64 °C | ISO306,GB/T1633 |
| Heatdeflectiontemperature | 54 °C | ISO 75 1.8MPa |
| Heatdeflectiontemperature | 57 °C | ISO 75 0.45MPa |
| Tensile strength at Yield | 47.636 MPa | ISO 527, GB/T 1040 |
| Strain at yield | 10.922% | ISO 527, GB/T 1040 |
| Strain at break | 47.290% | ISO 527, GB/T 1040 |
| E-Modulus | 400.339 MPa | ISO 527, GB/T 9341 |
| Bendingmodulus | 2574.397MPa | ISO 178, GB/T 9341 |
| Bending strength | 176.673MPa | ISO 178, GB/T 9341 |
| Impact strength | 2.819 kJ/ m ² | ISO 179, GB/T 1043 |
| Layer Adhesion (Impact Strength - Z) | 2.117 kJ/ m ² | ISO 179, GB/T 1043 |
| Moisture absorption | 0.11% | ISO 62 23 °C, 50% RH |



GUIDELINE FOR PRINT SETTINGS

| Description | Typical value |
|---------------------------|--|
| Printing temperature | 200 – 240 °C |
| Build Plate Compatibility | BuildTak®,Glass,BlueTape,PEI |
| Bed Temperature | 55-70°C (Glue Recommended) |
| Cooling fan | 100% |
| Drying Settings | 45–50°C (Blast Drying Oven) |
| Printing speed | 50-300(mm/s) |
| AMS Compatibility | YES |
| Raftseparationdistance | 0.2(mm)Settings are based on a 0.4mm nozzle. |
| Retractionspeed | 30(mm/s) |
| Hotend Compatibility | 0.2mm,0.3mm,0.4mm,0.6mm,0.8mm 1.0mm nozzle. |
| Environmentaltemperature | 25°C Roomtemperature |

Packaging:

All spools are sealed and packed with silica gel to avoid humidity.

Additional info:

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End- use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.

Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/ recycling practices of R3D materials for the intended application. R3D makes no warranty of any kind, unless announced separately, to the fitness for any use or application. R3D shall not be made liable for any damage, injury or loss induced from the use of R3D materials in any application.

Storage: Cool and dry (15-25°C) and away from UV light. This enhances the shelf life significantly.