Chemical Specifications

PLA Multicolor Filaments

PLA Multicolor is an FFF 3D printing filament, which is produced with a reinforced and toughened polylactic acid modified material, and an appropriate amount of color toner is added during production, so that PLA Multicolor filament presents a variety of different colors. Models printed with this filaments change to different colors at different angles.

Main Features：

Discoloration/Easy to Print/Dimensional Stability

Main Parameters:

|  |  |  |  |
| --- | --- | --- | --- |
| Physical properties | Testing Method | Unit | Typical value |
| Density | ISO 1183 | g/cm3 | 1.25~1.26 |
| Melt IndexMFR(190℃/2.16Kg) | ISO 1133 | g/10min | 4~8 |
| Water absorption(23℃/24h) | ISO 62 | % | ＜0.3 |
| Mechanical behavior | | | |
| Tensile strength（X-Y） | ISO 527 | Mpa | 45~49 |
| Elongation at break（X-Y） | ISO 527 | % | 13.5~15.5 |
| Elastic modulus（X-Y） | ISO 527 | Mpa | 1000~1100 |
| Bending strength（X-Y） | ISO178 | Mpa | 69~75 |
| Notched impact strength（X-Y） | ISO180 | KJ/m2 | 4.5~5 |
| Thermodynamic properties | | | |
| HDT@ 0.455 MPa(66 psi) | ISO75 | ℃ | 53 |
| Continuous use temperature | IEC 60216 | ℃ | 50 |

Test Spline Printing Conditions：

|  |  |
| --- | --- |
| Test conditions | Guider IIS （Flashforge technology） |
| Nozzle diameter | 0.4mm |
| Nozzle temperature | 210 °C |
| Printing speed | 60mm/s |
| Wall thickness | 1.2mm |
| Filling | 100% |
| Standard spline | The specific dimensions are as in appendix 1 |

Recommended Printing Parameters:

|  |  |
| --- | --- |
| Parameter |  |
| Nozzle temperature | 190~220℃(Recommended 210℃) |
| Print platform temperature | Room temperature~60℃(Recommended 40℃) |
| Printing platform materials | Tempered glass，BuildTak，carbon fiber board |
| Nozzle Diameter | φ0.4/0.6mm(Recommendedφ0.4mm) |
| Model cooling fan | 50~100% |
| Layer thickness | 0.12~0.3mm |
| Printing speed | 60~90mm/s(Recommended 60mm/s) |
| Idle speed | 60~120mm/s |
| Printing ambient temperature | Room temperature ~40℃ |
| Withdrawal length | 1~2mm |
| Withdrawal speed | 30~50mm/s |
| Support materials | Self support、PVA、BVOH |

Precautions：

To prevent moisture absorption and contamination, the packaging of filamentss should be kept airtight and undamaged until they are opened for use. For the same reason, some used filamentss should be resealed before storage.

PLA is a biodegradable material. Moisture and oxygen in the air and ultraviolet rays will accelerate the aging of the material. In order not to affect the final print quality, the PLA Multicolor filaments after opening need to be used up as soon as possible.

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Annex 1: Test spline size and printing orientation