

### Product description:

PLA PREMIUM is a grade developed for manufacturing 3D printer monofilament. Engineered to deliver improved heat-resistance and high impact strength to 3D printed parts, this formulated grade achieves thermal and mechanical properties similar to ABS while offering an alternative to styrenic-based materials. Monofilaments made with PLA PREMIUM provide excellent 3D printing characteristics such as precise detail, good adhesion to build plates, less warping or curling, and low odor.

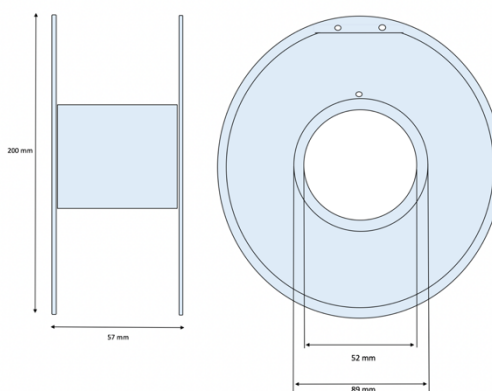
### Storage:

Store in dry area, in a closed container away from moisture.

### PRODUCT PARAMETERS

| Parameter               | Value    |
|-------------------------|----------|
| Filament diameter [mm]  | 1.75     |
| Diameter tolerance [mm] | +/- 0,01 |
| Oval tolerance [mm]     | +/- 0,01 |

|  |                 |
|--|-----------------|
| Spool dimensions [mm]<br>(ø / height / hole ø) | 200/57/52       |
| Spool weight [g]                               | 204             |
| Spool material                                 | Transparent SAN |
| Weight with packaging [g]                      | 1 550           |
| Net weight [g]                                 | 1 000           |
| Box dimensions [mm]                            | 203/207/70      |



### RECOMMENDED PRINTING PARAMETERS

| Parameter                | Value                                      |
|--------------------------|--|
| Print temperature [°C]   | 200-230                                    |
| Bed temperature [°C]     | None needed or 50-60 if applicable         |
| Cooling [%]              | 100 recommended for better surface quality |
| Closed chamber           | Not required, but may improve print        |
| Chamber temperature [°C] | 30-60                                      |
| Printing Speed [mm/s]    | 60-300                                     |
| Nozzle type              | -  |

### PHYSICAL PARAMETERS OF THE MATERIAL

| MECHANICAL PROPERTIES                              | XY AXIS     | YX AXIS     | ZX AXIS     | ASTM METHOD |
|--|-------------|-------------|-------------|-------------|
| Tensile Strength, psi (Mpa)                        | 5,802 (40)  | 4,641 (32)  | 3,481 (24)  | D638        |
| Tensile modulus, kpsi (Mpa)                        | 416 (2,865) | 355 (2,447) | 359 (2,477) | D638        |
| Flexural strength, psi (Mpa)                       | 10,588 (73) | 7,106 (49)  | 6,672 (46)  | D790        |
| Flexural modulus, psi (Mpa)                        | 350 (2,414) | 287 (1,979) | 341 (2,352) | D790        |
| Notched Izod Impact (Amorphous), ft-lb/in (J/m)    | 2,99 (160)  | 2,26 (21)   | 2,04 (109)  | D256        |
| Notched Izod Impact (Crystalline), ft-lb/in (J/m)  | 4,37 (233)  | 3,74 (200)  | 1,19 (64)   | D256        |
| Heat Distortion Temperature (°C) 66 psi (0.45 Mpa) | 75-85       |             |             | E2092       |

| PHYSICAL PROPERTIES              | PLA PREMIUM | ASTM METHOD |
|----------------------------------|-------------|-------------|
| Specific Gravity, g/cc           | 1,22        | D792        |
| MFR, g/10 min                    | 9 - 15      | D1238       |
| Peak Melt Temperature, °C        | 165 - 180   | D3418       |
| Glass Transition Temperature, °C | 55 - 60     | D3418       |

The values above have been measured using standard test specimens made of non-colored material at room temperature. The figures should be considered as indicative values only. Actual properties of PLA PREMIUM parts can be affected by the printing parameters, design of the model, ambient conditions, application of the printout etc. It is essential that users test our products to determine whether they are suitable for their intended use.

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