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Technical datasheet

Prusament PETG V0 by Prusa Polymers



Identification

| | |
|---------------|---|
| Trade Name | Prusament PETG V0 |
| Chemical Name | Flame retardant polyethylene terephthalate glycol copolymer |
| Usage | FDM/FFF 3D printing |
| Diameter | 1.75 ± 0.02 mm |
| Manufacturer | Prusa Polymers a.s., Prague, Czech Republic |

Recommended print settings

| | |
|--------------------------|---|
| Nozzle Temperature [°C] | 230 ± 10 |
| Heatbed Temperature [°C] | 80 ± 10 |
| Print Speed [mm/s] | up to 200 |
| Cooling Fan Speed [%] | 50 |
| Bed Type | satin sheet; powder coated sheet; smooth PEI sheet* |
| Additional Info | The brim is not necessary in general. |

* with a glue stick

Typical material properties

| | Typical Value | Method |
|---|----------------|----------------|
| MFR [g/10 min] | not applicable | ISO 1133 |
| MVR [cm ³ /10 min] | not applicable | ISO 1133 |
| Density [g/cm ³] | 1.27 | ISO 1183 |
| Moisture Absorption in 24 hours [%](1) | 0.13 | Prusa Polymers |
| Moisture Absorption in 7 days [%](1) | 0.19 | Prusa Polymers |
| Heat Deflection Temperature (0.45 MPa) [°C] | 74 | ISO 75 |
| Heat Deflection Temperature (1.80 MPa) [°C] | 68 | ISO 75 |
| Tensile Yield Strength for Filament [MPa] | 39.4 ± 0.1 | ISO 527 |
| Hardness - Shore D | 79 | Prusa Polymers |
| Interlayer Adhesion [MPa] | 16.4 ± 1.3 | Prusa Polymers |

(1) 25 °C; humidity 23 %

Mechanical properties of 3D printed testing specimens(2)

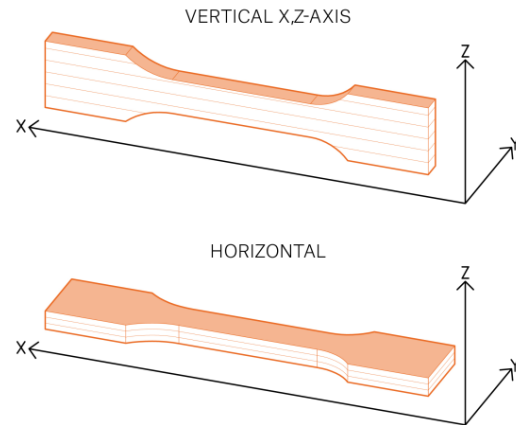
| Property\Print Direction | Horizontal | Vertical xz | Method |
|--|----------------|----------------|-----------|
| Tensile Yield Strength [MPa] | 39 ± 2 | 42 ± 1 | ISO 527-1 |
| Tensile Modulus [GPa] | 1.7 ± 0.1 | 1.8 ± 0.1 | ISO 527-1 |
| Elongation at Yield Point [%] | 3.5 ± 0.2 | 3.7 ± 0.1 | ISO 527-1 |
| Flexural Strength [MPa] | 60 ± 1 | 64 ± 1 | ISO 178 |
| Flexural Modulus [GPa] | 1.0 ± 0.1 | 1.0 ± 0.1 | ISO 178 |
| Deflection at Flexural Strength [mm] | 7.7 ± 0.2 | 7.7 ± 0.1 | ISO 178 |
| Impact Strength Charpy [kJ/m ²](3) | 23 ± 1 | 33 ± 2 | ISO 179-1 |
| Impact S.Charpy notch. [kJ/m ²](4) | not applicable | not applicable | ISO 179-1 |

(2) Original Prusa i3 MK3S+ 3D printer was used to make testing specimens. Prusa Slicer 2.6.0 was used to create G-codes with the following settings:

- Prusament PETG V0 filament;
 - Print Settings 0.20 mm FAST (layers 0.20 mm);
 - Solid Layers Top: 0, Bottom: 0;
 - Perimeters: 2;
 - Infill 100% rectilinear;
 - Infill Print Speed 200 mm/s;
 - Nozzle Temperature 230 °C all layers;
 - Bed Temperature 80 °C all layers;
- Other parameters are left at default values.

(3) Charpy Unnotched – Edgewise direction of blow according to ISO 179-1

(4) Charpy Notched – Edgewise direction of blow according to ISO 179-1



Disclaimer:

The results presented in this data sheet are just for your information and comparison. Values are significantly dependent on print settings, operator experiences, and surrounding conditions. Everyone has to consider suitability and possible consequences of printed parts usage. Prusa Polymers can not carry any responsibility for injuries or any loss caused by using Prusa Polymers material. Before using Prusa Polymers material read properly all the details in the available safety data sheet (SDS).