Technical Data Sheet

Prusament PVB by Prusa Polymers

Identification:

Trade name:	Prusament PVB
Chemical name:	Polyvinyl butyral
Usage:	FDM/FFF 3D printing
Diameter:	1.75 ± 0.03 mm
Manufacturer:	Prusa Polymers a.s., Prague, Czech Republic

Recommended print settings:

Nozzle Temperature [°C]	215 ± 10
Heatbed Temperature [°C]	75 ± 5
Print Speed [mm/s]	up to 200
Cooling Fan Speed [%]	100
Bed Type	PEI smooth foil

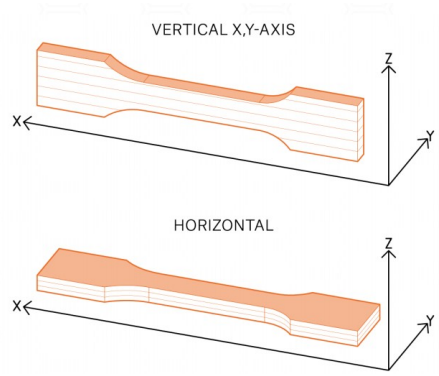
Typical material properties:

Physical Properties	**Typical Value**	**Method**
MFR [g/10min](1)	6	ISO 1133
Density [g/cm3]	1,09	Prusa Polymers
Moisture Absorption 24 hours [%](2,3)	1 – 2	Prusa Polymers
Moisture Absorption 7 days [%](2,3)	2 – 3	Prusa Polymers
Heat Deflection Temperature (0,45 MPa) [°C]	60	ISO 75
Heat Deflection Temperature (1,80 MPa) [°C]	55	ISO 75
Tensile Yield Strength Filament [MPa]	57 ±1	ISO 527
Hardness – Shore D	77	Prusa Polymers
Interlayer adhesion [MPa]	9 ± 1	Prusa Polymers

(1) 230°C; 2,16kg
(2) ambient conditions approximately 20 °C and 30% humidity;
(3) max drying temperature is 60°C, duration depends on how wet the material is (4 – 8 hours)

Mechanical properties of printed testing specimens(4)

Property\Print Direction	Horizontal	Vertical xz	Method
Tensile Yield Strength [MPa]	50 ± 5	49 ± 5	ISO 527-1
Tensile Modulus [GPa]	1,6 ± 0,3	1,6 ± 0,2	ISO 527-1
Elongation at Yield Point [%]	4,6 ± 0,7	4,4 ± 0,7	ISO 527-1
Flexural strength [MPa]	72 ± 1	73 ± 3	ISO 178
Flexural modulus [GPa]	2,2 ± 0,1	2,3 ± 0,1	ISO 178
Deflection at flexural str. [mm]	8,4 ± 0,4	8,5 ± 0,3	ISO 178
Impact Strength Charpy(5) [kJ/m2]	55 ± 7	59 ± 12	ISO 179-1
Impact S.Charpy notch.(6) [kJ/m2]	7 ± 1	10 ± 1	ISO 179-1



(4) Original Prusa i3 MK3S 3D printer was used to make testing specimens. PrusaSlicer-2.2.0 was used to create G-codes with following settings: Prusament PVB; Print settings 0,20mm FAST (layers 0,2mm); solid layers Top:0 Bottom:0; Infill 100% Rectilinear, infill print speed 200mm/s; extruder temperature 215°C all layers; bed temperature 75°C all layers; extrusion multiplier 1.05; print cooling off; other parameters set default, filament was dried before printing 60°C (8hours)

Disclaimer

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