

Technical data sheet PVA

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Chemical Name	Polyvinyl alcohol
Description	PVA (Polyvinyl Alcohol) is a water soluble support material for multi-extrusion 3D printing. With a good thermal stability, Ultimaker PVA is ideal for printing complex models that require supports for large overhangs, deep internal cavities, and intricate geometries. Designed for a seamless 3D printing experience, our PVA provides good adhesion to both PLA and Nylon.
Key features	Good thermal stability resulting in better degradation resistance compared to other PVA filaments; less moisture sensitive than other PVA filaments; great adhesion to both PLA and Nylon; safe dissolution in tap water (no harmful chemicals required); biodegradable with no hazardous by-products.
Applications	Reliable 3D printing of water soluble support structures for PLA and Nylon build materials. PVA molds
Non suitable for	Reliable 3D printing of water soluble support structures for ABS or CPE build materials

Filament specifications

	<u>Value</u>	<u>Method</u>
Diameter	2.85±0.10 mm	-
Max roundness deviation	0.10 mm	-
Net filament weight	350 g	-

Color information

<u>Color</u>	<u>Color code</u>
Natural	n/a

Mechanical properties (*)

Injection molding

3D printing

	Typical value	Test method	Typical value	Test method
Tensile modulus	3860 MPa	ISO 527 (1 mm/min)	-	-
Tensile stress at yield	-	-	-	-
Tensile stress at break	78 MPa	ISO 527 (50 mm/min)	-	-
Elongation at yield	-	-	-	-
Elongation at break	9.90 %	ISO 527 (50 mm/min)	-	-
Flexural strength	-	-	-	-
Flexural modulus	-	-	-	-
Izod impact strength, notched (at 23°C)	-	-	-	-
Charpy impact strength, unnotched (at 23°C)	1.6 kJ/m ²	ISO 179	-	-
Hardness	-	-	-	-

Thermal properties

Typical value

Test method

Melt mass-flow rate (MFR)	17-21 g/10 min	(190 °C, 21.6 kg)
Heat deflection (HDT) at 0.455 MPa	-	-
Heat deflection (HDT) at 1.82 MPa	-	-
Glass transition	60.2 °C	ISO 306
Coefficient of thermal expansion (flow)	-	-
Coefficient of thermal expansion (xflow)	-	-
Melting temperature	163 °C	ISO 11357
Thermal shrinkage	-	-

Other properties

Typical value

Test method

Specific gravity	1.23	ASTM D1505
Flame classification	-	-

(*) See notes.

Notes

Properties reported here are average of a typical batch. Ultimaker is constantly working on extending the TDS data.

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Version

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