PLX

Bio-polymer blend, BigRep PLX

Printer **BigRep ONE · BigRep VIIO**

Process **Large-format FDM**

Filament **Ø 2.85 mm**

OVERVIEW

PLX is a bio-polymer blend optimized for large-format printing. It consistently produces high-quality parts with clean, attractive surfaces at a low material cost.

It is stiff and has high flexural strength, making it the go-to choice for large visual models, concept parts and prototypes that do not see heat or impact.

KEY BENEFITS

- Lowest-cost option for large parts
- Clean, attractive print surfaces
- High flexural strength (90 MPa) and stiffness
- Consistent results on big builds

MECHANICAL & THERMAL PROPERTIES

Property	Test method	Typical value
TENSILE & FLEXURAL		
Tensile strength	ISO 527	48 MPa 6,960 psi
Tensile modulus	ISO 527	3,100 MPa 450 ksi
Flexural strength	ISO 178	90 MPa 13,050 psi
Flexural modulus	ISO 178	2,800 MPa 406 ksi
IMPACT		
Charpy impact, notched	ISO 179	4 kJ/m²
THERMAL		
Heat deflection temp., 1.8 MPa (HDT A)	ISO 75	56 °C 133 °F
Heat deflection temp., 0.45 MPa (HDT B)	ISO 75	58 °C 136 °F
Glass transition temp. (Tg)	DSC	63 °C 145 °F
Melting temp. (Tm)	DSC	170 °C 338 °F

Printed parts are directional. BigRep does not state how its test specimens were made or oriented. On large-format FDM parts, strength across layers (Z) is noticeably lower than along them (XY). The values above are typical values, not guaranteed minimums. Design with margin and orient load paths in XY where you can.

GENERAL FILAMENT PROPERTIES

Material	Density	FDA compliant
Bio-polymer blend	**1.24 g/cm³**	**Yes**
Filament base	ISO 1183	Raw filament, per BigRep

DIMENSIONAL TOLERANCES

Direction	First inch (25 mm)	Each additional inch (25 mm)
XY (horizontal)	± 0.020 in · ± 0.51 mm	+ 0.003 in · + 0.08 mm
Z (vertical)	± 0.030 in · ± 0.76 mm	+ 0.003 in · + 0.08 mm

Typical IA3D tolerances for large-format FDM across our BigRep printers. Holes and bores print slightly undersize; drill or ream features that need a fit. Flatness and warp on large, thin or flat sections depend on geometry. For critical fits or tighter requirements, **talk to an engineer**.

TYPICAL APPLICATIONS

- Large concept and visual models
- Architectural and presentation models
- Props, sculptures and displays
- Form-and-fit prototypes
- Low-cost large parts and mock-ups

GOOD TO KNOW

- **Compliance:** REACH compliant, RoHS certified and FDA compliant
- **Keep it cool:** softens near 56–63 °C. Not for hot cars or outdoor sun
- **Brittle under impact** (4 kJ/m² notched). For tough parts, see rPETG or ASA

TEST CONDITIONS & SOURCE

Source: BigRep PLX filament data sheet (bigrep.com/filaments/plx, last updated 30.07.2025). Values are BigRep typical values tested to the ISO methods shown. BigRep does not state specimen preparation, orientation or print settings. Unit conversions and tolerances are by IA3D.

Disclaimer: Material properties are provided as a general reference to help with material selection. Actual part properties depend on geometry, orientation, wall thickness, build position, print settings and service conditions, and may differ from the values shown. This sheet does not guarantee specific properties or suitability for a particular application. Validate critical parts under real operating conditions.

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