

FL600PE-BIO

FL600PE-BIO is a bio-based high-density polyethylene (HDPE) filament, derived from raw sugar cane, providing a more sustainable alternative to traditional materials available on the market. This low carbon footprint formulation, delivers a unique combination of sustainability, high elongation, light weighting, and

moisture resistance for Bowden and direct drive 3D printing systems. FL600PE-BIO expands the availability of sustainable materials for use in 3D printing applications such as; consumer, packaging, and industrial markets.

Recommended Print Settings

Parameter	Units	Range
Extruder Temperature	°C	220 - 250
*Recommended Bed Temperature (first layer)/ Substrate	°C / Type	20-40 (90) / Magigoo PPGF adhesion solution stick
**Alternate Bed Temperature (first layer)/ Substrate	°C / Type	20 - 40 (90) / Multi-purpose polyolefin adhesive
Printing Speed	mm/s	20 - 60
Fan Speed	%	50 - 100
Extrusion Multiplier	–	0.90 - 1.10
Overlap Percentage	%	20 - 40
Brim	Layers	≥ 10
Raft Air Gap	mm	0.1

* Recommended to use a bed adhesive specifically designed for flexible filaments.

** Traditional bed adhesive solutions used for PLA and ABS (such as blue tape, glue sticks, hair spray) will not properly adhere PP to the built plate.

Printed Part Properties

Parameter	Method	Units	Value
Density	ASTM D 792	g/cm ³	0.95
Hardness	ASTM D 2240	Shore D	60
Tensile Strength at Break*	ASTM D 638	MPa	12
Tensile Elongation at Break*	ASTM D 638	%	574
Young's Modulus*	ASTM D 638	MPa	717
Flexural Modulus – Chord Modulus	ASTM D790	MPa	440
Vicat Softening Temperature (at 10 N)	ASTM D 648	°C	110.5
Deflection Temperature (at 0.455 MPa)	ASTM D 1525	°C	56

***Note:** Printed part properties obtained using test specimens printed in X-Y direction under the following conditions: printing temperature 230°C, bed temperature 20°C (90°C first layer) , print speed 20 mm/s, 100% of lines infill, 0 perimeter layers, 0.15 mm layer height, 0.4 mm brass nozzle.

Notes

1. Recommended process conditions and printed part properties may be changed at any moment without previous communication from Braskem.
2. This resin does not contain the substance Bisphenol A (BPA, CAS: 80-05-7) in its composition.
3. For information on about safety, handling, individual protection, first aids and waste disposal, please see SDS. In case of questions regarding utilization or regulatory information, please contact our technical assistance area.

Braskem does not guarantee printed part conditions, these represent estimated values based on internal test methods. Properties may vary based on print conditions.