

FL500PP-GF

FL500PP-GF is an **engineering-grade** composite made with glass fiber (GF) and is designed to provide robust impact strength performance while maintaining a high degree of printability for complex structures.

FL500PP-GF provides engineering level performance without compromising any of PP's inherent properties which include light weight, water resistance (no drying needed), chemical resistance, and impact resistance.

Recommended Print Settings

Parameter	Units	Range
Extruder Temperature	°C	240 - 260
Nozzle Size (Material)	mm	≥0.6 (Hardened Nozzle)
Recommended Bed Temperature / Substrate ^a	°C / Type	80 / PP bed adhesion solution stick (water soluble)
Alternate Bed Temperature / Substrate ^b	°C / Type	20-40 / Multi-purpose adhesive spray
Printing Speed (First Layer)	mm/s	35 - 65 (60% speed)
Fan Speed	%	50 - 100
Extrusion Multiplier	—	0.90 – 1.10
Overlap Percentage	%	20 – 40
Brim	Layers	0 - 5
Support/Raft Air Gap	mm	0.2 or single layer thickness

^a Recommended to use a bed adhesive specifically designed for Polypropylene filaments.

^b 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	D 792	g/cm ³	1.08
Hardness	D 2240	Shore D	63
Ultimate Tensile Strength*	D 638	MPa	50
Tensile Elongation at Break*	D 638	%	2.2
Young's Modulus *	D 638	GPa	4.5
Flexural Modulus – Chord Modulus [§]	D 790	MPa	
Charpy Impact Strength [§] at 23°C [*]	ISO 179	kJ/m ²	
Drop Impact Puncture Energy [§] at 2.73 m/s, 3 mm	23°C	D-3763	↓
	0°C	D-3763	↓
	-20°C	D-3763	↓
Drop Impact Peak Energy [§] at 2.73 m/s, 3 mm	23°C	D-3763	↓
	0°C	D-3763	↓
	-20°C	D-3763	↓
Deflection Temperature [§] at 0.455 MPa, 12.7mm	D-648	°C	
Vicat Softening Temperature [§] at 10 N	D-1525	°C	

* Printed part properties obtained using test specimens printed in X-Y direction under the following conditions: printing temperature 240°C, bed temperature 85°C, print speed 1800 mm/min, 100% of grid (90°) infill, 0 perimeter/shell layers, 0.60 mm hardened nozzle and 0.2 mm layer height.

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 MSDS.
4. 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.