FL605R-CF

FL605R-CF is an **engineering-grade** filament containing **90% recycled content.** Primarily sourced from **recycled bottle caps.** FL605R-CF also incorporates **recycled carbon fiber** for added strength and durability. FL605R-CF is designed to provide a more **sustainable solution** without sacrificing printability and mechanical properties. This environmentally friendly filament retains the **water, chemical, and impact resistance** as well as the **lower density** inherent to polyethylene and polypropylene-based materials.

Recommended Print Settings

Parameter	Units	Range
Extruder Temperature	℃	220 - 240
*Recommended Bed Temperature / Substrate	℃ / Type	60 / PP-GF bed adhesion solution stick (water soluble)
*Initial Bed Temperature / Substrate	℃ / Type	110 / PP-GF bed adhesion solution stick (water soluble)
Printing Speed (First Layer)	mm/s	30 - 65 (50% speed)
Fan Speed	%	50 - 100
Extrusion Multiplier	–	0.90 – 1.10
Overlap Percentage	%	20 – 40
**Brim	Layers	≥ 5
Raft Air Gap	mm	0.1

* Recommended to use a bed adhesive specifically designed for Polypropylene or glass-filled Polypropylene filaments. For longer prints it may be necessary to lower the bed temperature to 30 °C then increase the temperature to remove the part.

** Depends on geometry and length of print. Some prints will not require a brim.

Material Properties

Parameter	Method	Units	Value
Density	D 792	g/cm³	0.95
Hardness	D 2240	Shore D	64
Ultimate Tensile Strength [a]	D 638	MPa	5.1
Tensile Elongation at Break [a]	D 638	%	1.2
Youngs Modulus [a]	D 638	GPa	3.9
Flexural Modulus – Chord Modulus [a]	D 790	GPa	2.7
Charpy Impact Strength at 23℃ [a]	ISO 179	kJ/m²	10.4
Drop Impact Puncture Energy at 23℃	D 3763	J	5.9
Drop Impact Puncture Energy at 0℃	D 3763	J	5.9
Drop Impact Puncture Energy at -20℃	D 3763	J	5.5
Deflection Temperature (at 0.455 MPa)	D 648	℃	122
Vicat Softening Temperature (at 10 N)	D 1525	℃	124

[a] Printed part properties obtained using test specimens printed in X-Y direction under the following conditions: printing temperature 230 °C, bed temperature 60 °C (initial temperature 110 °C), print speed 2400 mm/min (900 mm/min first two layers), 100% line infill, 0 perimeter/shell layers, 0.6 mm hardened nozzle, 0.2 mm layer height, 0-10 brim layers depending on geometry, and Magigoo PP-GF bed adhesive.

Notes

1. Read Safety Data Sheet before use.
2. Recommended process conditions and printed part properties may be changed at any moment without previous communication from Braskem.
3. For product stewardship information, please contact Braskem at us_compliance@braskem.com.
4. In case of questions regarding utilization, or for other applications, please contact Braskem at 3dprinting@braskem.com.

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

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