

GR605R-CF

GR605R-CF is an **engineering-grade** polymer for additive manufacturing, containing **90% recycled content**. Primarily sourced from **recycled bottle caps**, FL605R-CF also incorporates the use of 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.

Material Properties

| Parameter | Method | Units | Value |
|---|---------|-------------------|-------|
| Density | D 792 | g/cm ³ | 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°C ^a | ISO 179 | kJ/m ² | 10.4 |
| Drop Impact Puncture Energy at 23°C | D 3763 | J | 5.9 |
| Drop Impact Puncture Energy at 0°C | D 3763 | J | 5.9 |
| Drop Impact Puncture Energy at -20°C | D 3763 | J | 5.5 |
| Deflection Temperature (at 0.455 MPa) | D 648 | °C | 122 |
| Vicat Softening Temperature (at 10 N) | D 1525 | °C | 124 |

^aPrinted 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.