

# UltiMaker PET CF Expansion Kit Product data sheet



## The complete composite printing solution

The PET CF Expansion Kit includes everything you need to start printing high-performance parts on an UltiMaker S series printer so that you can get the full power of carbon fiber composite parts, combined with the seamless workflow and ease of use of the UltiMaker platform.

## What's in the box?

- 2x spools of PET CF Black
- 1x spool of PET CF Blue
- 1x spool of PET CF Gray
- 1x CC 0.4 Print Core
- 1x CC 0.6 Print Core
- Free Ultimaker Cura software with optimized PET CF annealing slicing features

- ✓ **Excellent mechanical properties:** With a flexural strength of ~100 MPa and a stiffness of ~6000 MPa, PET CF provides excellent mechanical properties, suitable for a wide range of applications
- ✓ **Color code your carbon fiber:** UltiMaker PET CF comes in three colors: black, gray, and blue, all three of which are included in this kit
- ✓ **Low moisture sensitivity:** Less moisture sensitive than other carbon fiber-based materials
- ✓ **Enhanced performance through annealing:** Annealing your part results in a temperature resistance of 181 °C, a 30% increase in strength, and a 10% increase in stiffness
- ✓ **Compatible with UltiMaker support materials:** Enjoy full design freedom when printing PET CF in combination with PVA or Breakaway support materials
- ✓ **Perfectly tuned for UltiMaker S series printer:** Complete integration of PET CF with S series printers: including NFC-equipped spools, intent profiles in UltiMaker Cura, and two sizes of CC Print Core, both of which are in this kit

## The UltiMaker platform



### 3D printers that simply work

Our award-winning 3D printers are robust, reliable, and easy to use. They deliver quality parts time and again. Designed and tested to run 24/7, they allow you to achieve the results you need more quickly and easily.



### Software for industry 4.0

Trusted by millions of users across 14 languages, UltiMaker Cura integrates with any workflow through UltiMaker Marketplace plugins. Scale production and digital distribution with UltiMaker Digital Factory.



**Material choice unlike any** UltiMaker offers the widest material choice on the market. Through our Material Alliance, choose the perfect filament for your application – from advanced polymers to carbon fiber composites.



### Support for your success

Wherever you are in the world, UltiMaker support is close by. Our global network of service partners offer professional installation, training, and maintenance in your language and time zone.

## UltiMaker PET CF Expansion Kit specifications

<b>Filament diameter</b>	2.85 mm
<b>Colors</b>	Black, gray, blue
<b>Printer compatibility</b>	All S series printers
<b>Print core</b>	CC 0.4 and CC 0.6
<b>Support materials</b>	PVA, Breakaway, and model support
<b>Software</b>	UltiMaker Cura 5.4 and up
<b>Adhesion</b>	Only for large prints, use 3DLAC Plus on S7. Use a thin layer of UHU on S3/S5.
<b>Storage</b>	In a resealable bag with desiccant between 0 and 30 °C and out of sunlight (or in Material Station)
<b>Drying</b>	70 °C for 4–16 hours dependent on moisture level
<b>Annealing</b>	Use annealing intent profile in Cura. Programmable industrial-grade convection oven with well-controlled heating and cooling ramps recommended (such as Binder FP115). If n/a: anneal at 80-100 °C for 8-12 hours
<b>Maintenance</b>	Regularly clean print cores
<b>Optimize Z-strength</b>	<ul style="list-style-type: none"><li>• Wall thickness min. 2 mm, preferred 4 mm or more</li><li>• Avoid strong external air circulation (ventilation, air conditioning)</li><li>• Set “Fan Speed” and “Maximum Fan Speed” to 0% or 5% (note: reduces dimensional accuracy somewhat).</li><li>• If printing multiple models single extrusion: set Cura setting “Print Sequence” to “One at a time”</li><li>• <b>Tip:</b> avoid issues by orienting the model such that the highest mechanical forces are applied to the XY plane</li></ul>
<b>Health and Safety</b>	SDS available Validated against UL2904 Air Manager recommended

## Printing and annealing instructions

Scan the QR code to access detailed instructions for how to print with PET CF and how to anneal your printed parts to unlock the full potential of PET CF.

