



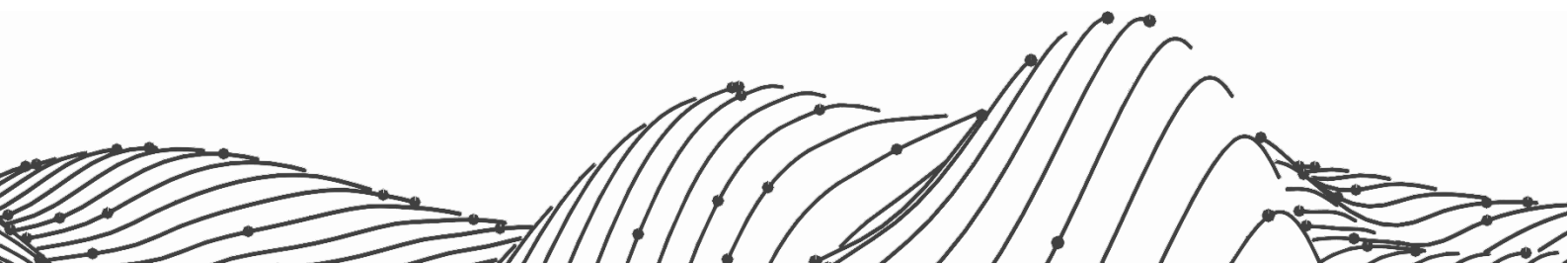
KREI PLA REVOLUTION CARBON HF

KREI PLA REVOLUTION CARBON HF is a polylactic acid biopolymer developed especially for 3D printing. It receives carbon grafts during its synthesis, making it lighter and further improving its mechanical and thermal resistance. It is ideal for those who want decorative and functional prints, due to its improved mechanical resistance and excellent surface quality, dimensional stability, lightness and ease of printing. This filament can be used to print waterproof and watertight parts. It can be used in any printer that operates at temperatures between 180°C - 300°C.

KREI PLA REVOLUTION CARBON HF DIFFERENTIALS:

- Superior combination of mechanical properties (traction, flexion and impact) vs. PLA, PLA REVOLUTION ABS, ASA and PETG;
- Superior thermal resistance vs. PLA and PLA REVOLUTION;
- High resistance to U.V rays;
- Low moisture absorption;
- Low crystallinity, resulting in low shrinkage;
- Does not emit toxic vapors during processing (no odor);
- Free of chlorine and heavy metals in its formulation;
- Can be printed at high speeds;
- Does not require a closed chamber for printing;
- Excellent adhesion between layers, allowing parts to be sanded, drilled and machined without peeling;
- Excellent adhesion to the printing table, not requiring the use of adhesives/glues;
- Free from warping during the printing process;
- It has technology capable of hiding printing lines;
- May come into contact with food;
- Wide processing temperature range: 200 - 300°C.

Even though it is a low hygroscopic material, if necessary, it can be dried at 45°C for 4 hours to completely remove water molecules.



IDENTIFICATION	
Comercial name	KREI PLA REVOLUTION CARBON HF
Chemical name	Carbon Grafted Polylatic Acid
Aplication	FFF 3D printing
Diameter (mm)	1,75±0,05
Manufacturer	SPALC INDUSTRIAL

MECHANICAL PROPERTIES	KREI PLA REVOLUTION CARBON HF
Specific gravity (g/cm ³)	≈ 1,18
Softening temperature (°C)	≈ 67
Tensile stress at yield (MPa)	≈ 55
Elongation at break (%)	≈ 15
IZOD impact resistance (entahado kJ/m ²)	≈ 18
Flexural Strength (MPa)	≈ 58
Hardness (shore D)	≈ 68

PARAMETERS FOR FFF PRINTING WITH KREI PLA REVOLUTION CARBON HF		
PARAMETER	STANDARD	RANGE
Nozzle temperature (°C)	230	200 a 300
Bed temperature (°C)	60	0 a 70
Print speed (mm/s)	300	20 a 600
Nozzle diameter (mm)	≥ 0,1	
Recommended layer height (mm)	≥ 0,01	
First layer print speed (mm/s)	20	20 a 60
First layer fan speed (%)	0	0 a 100
Model fan speed (%)	100	0 a 100

- The aforementioned values may vary according to the analysis methodology used;
- The parameters described above may vary depending on the printer model to be used and slicing conditions;
- It is recommended to use a thermal insulator for the heat block.

