



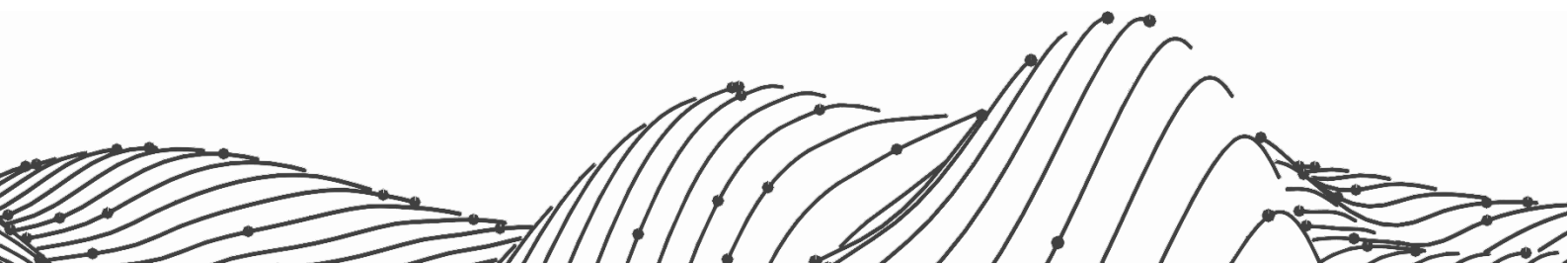
KREI APEX CARBON HF

KREI APEX HF is a semi-flexible terpolyester with high mechanical resistance developed especially for 3D printing. It receives carbon grafts during its synthesis, improving its mechanical characteristics and surface quality. It presents excellent dimensional stability, lightness and ease of printing. It can be used in any printer that operates at temperatures between 260°C - 300°C and has a heated bed.

DIFFERENTIALS OF **KREI APEX CARBON HF**:

- Superior combination of mechanical characteristics (traction, flexion and impact) vs. ABS, ASA, PLA, PLA REVOLUTION HF, PLA REVOLUTION CARBON HF, PETG, CORE HF, PET, PCTG, CPE and POLYAMIDE;
- Superior chemical resistance vs. ABS, ASA, PLA, PLA REVOLUTION HF and PLA REVOLUTION CARBON HF, enabling the use of some solvents and facilitating the painting and finishing process;
- Superior thermal resistance vs. PLA, PLA REVOLUTION HF, PLA REVOLUTION CARBON HF, PETG, PET, CPE and CORE HF;
- High resistance to UV rays;
- 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 range: 260°C - 300°C.

This material has a degree of hygroscopicity; once opened, the filament will absorb moisture from the air. If this happens, it can be dried at 75°C for 4 hours to completely remove water molecules.



Due to its mechanical, thermal and chemical resistance characteristics, this filament can be used for any type of printing, especially functional parts. This filament can be used to print waterproof and watertight parts.

IDENTIFICATION	
Comercial name	KREI APEX CARBON HF
Chemical name	Terpolyester
Aplication	FFF 3D printing
Diameter (mm)	1,75±0,05 / 2,85±0,05
Manufacturer	SPALC INDUSTRIAL

MECHANICAL PROPERTIES	KREI APEX CARBON HF
Specific gravity (g/cm ³)	≈ 1,15
Softening temperature (°C)	≈ 88
Tensile stress at yield (MPa)	≈ 32
Elongation at break (%)	≈ 44
IZOD impact resistance (entahado kJ/m ²)	≈ 57
Flexural Strength (MPa)	≈ 40
Hardness (shore D)	≈ 62

PARAMETERS FOR FFF PRINTING WITH KREI APEX CARBON HF		
PARAMETER	STANDARD	RANGE
Nozzle temperature (°C)	275	260 a 300
Bed temperature (°C)	75	40 a 90
Print speed (mm/s)	300	40 a 600
Nozzle diameter (mm)	≥ 0,1	
Recommended layer height (mm)	≥ 0,05	
First layer print speed (mm/s)	60	20 a 80
First layer fan speed (%)	0	
Model fan speed (%)	50	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 heating head (heat block).

