KREI TPU-X 95A HF

It is a flexible polymer based on TPU polyester with cross-links, with a hardness of 95 shore A (95A), which differentiates itself due to its ease of printing, greater adhesion of layers, greater mechanical, chemical and thermal resistance when compared to Traditional TPU. Due to these improved properties, TPU-X is often used in applications where its characteristics are required, such as in functional parts, automotive components, electronic parts, clothing, among others.
In summary, TPU-X 95A HF is a modified variant of TPU that features greater printability with improved properties, especially in relation to thermal, mechanical, chemical resistance and dimensional stability.

DIFFERENTIALS OF **KREI TPU-X 95A HF**:

- High working temperature (approx. 130°C);
- High flexibility with hardness of 95 shore A;
- High resistance to abrasion;
- High resistance to tears;
- Superior chemical resistance vs. ABS, ASA, PLA, PLA REVOLUTION HF, PLA REVOLUTION CARBON HF, PETG, CORE HF, APEX CARBON HF, PET, PCTG, CPE and POLYAMIDE, enabling the use of solvents and facilitating the painting and finishing process;
- High resistance to U.V rays;
- Dimensionally stable;
- Low moisture absorption;
- It has no odor emitted during printing and does not emit toxic vapors during processing;
- Free of chlorine in its formulation;
- Accepts working at high printing speeds;
- 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;
- Features excellent finishing;
- May come into contact with food;
- Wide processing range: 220 - 300°C.

Once opened, the filament can absorb moisture from the air. If this happens, it can be dried at 65°C for 4 hours to completely remove water molecules.

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

IDENTIFICATION	
Comercial name	KREI TPU-X 95A HF
Chemical name	TPU modified with cross-linking
Aplication	FFF 3D printing
Diameter (mm)	1,75±0,05 / 2,85±0,05
Manufacturer	SPALC INDUSTRIAL

MECHANICAL PROPERTIES	KREI TPU-X 95A
Specific gravity (g/cm³)	≈ 1,20
Maximum working temperature (°C)	≈ 130
Tensile stress at yield (MPa)	≈ 29,7
Elongation at break (%)	≈ 650
IZOD impact resistance (entalhado kJ/m²)	≈ 105
Flexural Strength (MPa)	≈ 5,6
Hardness (shore D)	≈ 95
Tear strength (N/mm)	≈ 150
Abrasion resistance (mm³)	≈ 40

PARAMETERS FOR FFF PRINTING WITH KREI TPU-X		
PARAMETER	STANDARD	RANGE
Nozzle temperature (°C)	240	220 a 300
Bed temperature (°C)	65	0 a 100
Print speed (mm/s)	150	40 a 600
Nozzle diameter (mm)	≥ 0,1	
Recommended layer height (mm)	≥ 0,05	
First layer print speed (mm/s)	20	20 a 80
First layer fan speed (%)	0	
Model fan speed (%)	60	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).