

ISET KH Textile Innovation Center

CENTER SERVICES

New to ISET, the textile innovation center (CIT ISET KH) set up as part of the Wintex project aims to promote innovation and technology transfer and develop cooperative exchanges in this context with companies in the Tunisian textile sector and their EU

The main services that will be offered by ISET CIT are::

1. Expertise in diagnosing innovation areas in industrial companies
2. Assistance in the optimization of innovative textile processes
3. Development of innovative textile product prototypes and launch monitoring

EQUIPMENT

1. Electrospinning Unit

- ✓ Modular benchtop electrospinning instrument designed for lab scale fabrication of micro or nanostructured fibres for several applications such as functional textiles, reinforcement of composites, filtration, regenerative medicine and microencapsulation.
- ✓ Integrated high-voltage source (up to 30 kV), flat plate collector (20x20 cm), syringe feeding system (flow rates: 0.1 µl/h – 6 l/h), 2 additional syringes for coaxial & triaxial spinning, Taylor cone imaging system.

2. Embroidery machine

15-Color single-head machine operating on finished garments, fabrics and accessories, with 36x50 cm embroidery field and some devices that open up great creative freedom, namely: Sequin device, Cord/loop device, Needle punch device, Boring device and Cap frame.

3. 3D Printer

A professional 3D printing machine, designed to deliver large-scale parts with industrial-grade materials, thanks to features such as its passive heated chamber, full enclosure, and humidity-controlled environment.

- ✓ Internal temperature: up to 60°C
- ✓ Heated bed: up to 120°C
- ✓ Standard filaments that can be used: PLA, PETG, TPU98A, PVA, etc.
- ✓ Technical filaments: ABS, PA, PP, etc.
- ✓ Composites: PAHT CF15, PP GF30.

4. Manual Hot press

Machine with programmable and adjustable temperature (up to 300 °C) and force (up to 20 tons), used for classic apparel applications (transfer, sublimation printing, flocking) and complementing the ISET line of dry-laid nonwovens, which opens up great potential for innovation in several areas.

With its nonwoven pilot line, ISET will be able to strengthen its potential for innovation in certain areas, in particular:

- ✓ Filtration: Indutech, Medtech
- ✓ Acoustic and thermal insulation: Mobiltech, Buildtech
- ✓ Baby diapers and incontinence structures: Medtech
- ✓ Sporttech and Hometech applications.

5. Scorch tester

- ✓ Suitable for checking the color fastness of textile products to hot pressing and dry heat and for performing sublimation tests.
- ✓ Built in accordance with: UNI EN ISO 105 X11, UNI EN ISO 105 P01, AATCC 117, AATCC 133

6. Knitted Fabric stretch recovery tester

- ✓ Détermine Determines the stretch properties of knitted fabrics under a specified tension and extension, including constant load test frame and constant extension test frame.
- ✓ Reference test method: ASTM D2594