

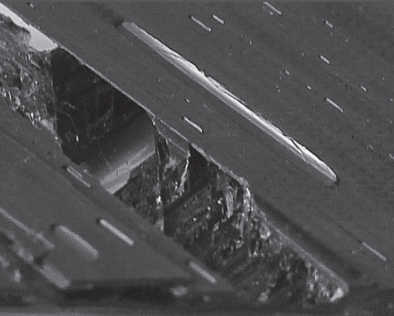
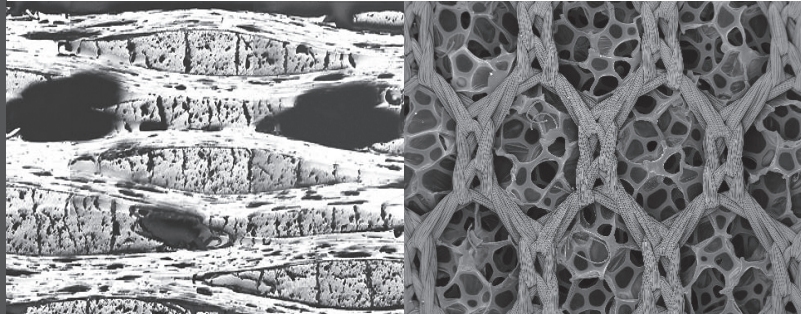
Laboratory of Composites & Nanocomposites

The main objectives and activities

- Development of composite structures with basalt and carbon fibers,
- Development of nanoparticulate and nanocomposite systems with the aim of acquiring multifunctional effects (antistatic, antimicrobial, increased heat resistance, improved mechanical properties, self-cleaning effects, etc.),
- Standard methods of testing of mechanical and thermomechanical properties of composites,
- Development and application of new and non-standard measurement methods for reviews of hierarchical structures,
- Modeling the geometry and properties of textile structures, simulation of behavior of composite, comprehensive review of hierarchical structures, quality of textiles and special criteria for the design of textile structures.

Specialization of the laboratory

- Preparation of Nanoparticles (mechanically by grinding or chemically),
- Creation of composite structures with different geometry of reinforcement,
- Testing 3-point bending statically and dynamically,
- Analysis of impact toughness, fortress and ductility of the composites.



Specific devices and outcomes

- *Nano noughts and crosses*
- *High-temperature furnace*
- *Charpy impact tester*
- *High pressure compression device*
- *Diamond circular saw*
- *Vacuum equipment for the production of composites*
- *Devices for preparation of thin sections*
- *Laser particle size distribution*

