



Foundation for the research development and application
of composite materials



- ❑ FIDAMC purpose is to become a center of excellence in R&D&I of composite technologies in all the sectors and promoting collaboration network with universities and R&D centers related to composite materials

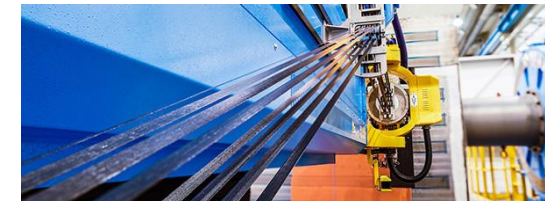
Facilities: Workshop

Workshop has all the following:

- Automatic curbing(ATL/AFP, thermoplastic)
- Hotforming and forming of stringers
- Stoves and autoclaves required for curing processes
- Automatic or manual mode hot plate press
- Injectors, resin containers
- Nondestructive testing(NDT) equipments and probes qualified by Airbus regulations
- 3D printers and Robots for advanced manufacturing techniques



Automatic tape laying(ATL) with ultrasonic panex cutter included



Automatic fiber placement(AFP)



Sewing robot



IN SITU consolidation thermoplastic AFP



Autoclave(length:2.5m, diameter:1.5m)

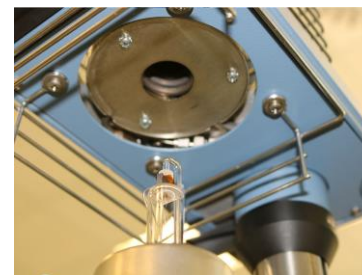


Autoclave(length:8m, diameter:6m)

Facilities: Laboratory

Physical-Chemical Laboratory :

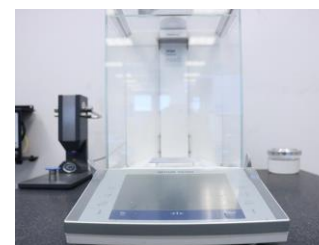
- Equipped with characterization techniques aimed at evaluating and analyzing thermal, dynamic-mechanical, viscoelastic, electrical properties and microscopy analysis of polymers and composite materials.
- It also has infrared spectroscopy equipment and climatic chambers for hydrothermal aging tests



Thermomechanical analysis, TMA
Mod. Q400 TMA EM (TA Instruments-Watters LCC)
Range: -150 to 1000°C



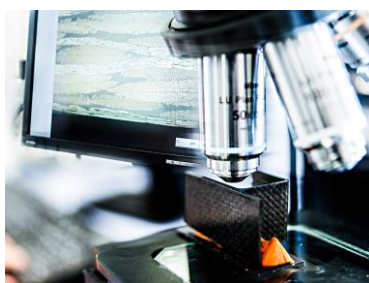
Differential Scanning Calorimeter, DSC
Mod. Q2000 DSC (TA Instruments-Watters LCC)
Range: -90°C to 55°C



Precision scale
Mod. XP205DR (Mettler Toledo AG)



rheometer
AR-G2 (TA Instruments)
T Ambient at 600 °C



Microscope
Mod. Eclipse LV150 (Nikon)



Electrical conductivity equipment
Model 2410 (Keithley)



Dynamic mechanical analysis, DMA
Mod. Q800 DMA (TA Instruments-Watters LCC)
Range: -145°C to 600°C

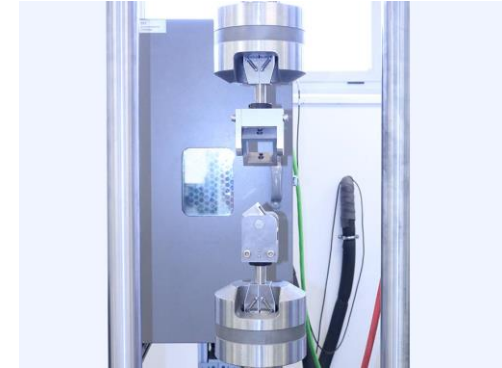


Thermogravimetric analysis, TGA
Mod. Q500 TGA (TA Instruments-Watters LCC)
Range: T Ambient to 1000 °C

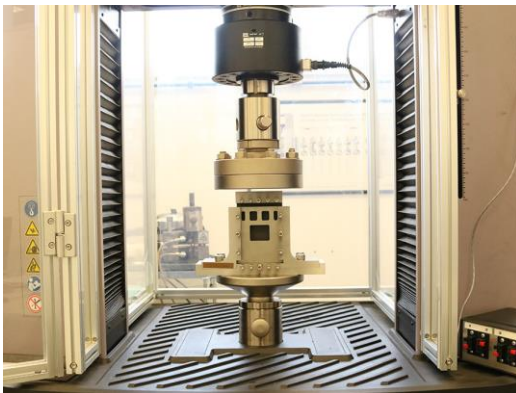
Facilities: Laboratory

Mechanical Laboratory :

FIDAMC has testing machines with the capacity to carry out static and dynamic tests both at room temperature and at high and low temperatures.



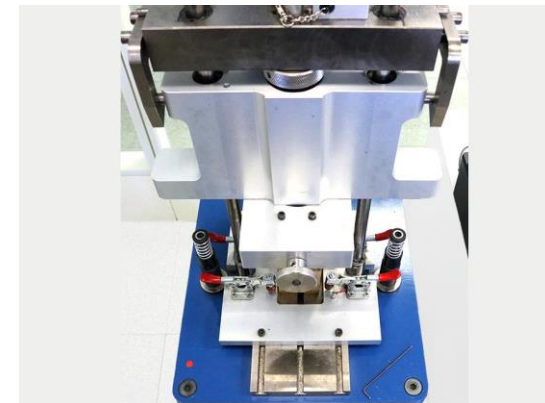
Universal Testing Machine:
MTS Landmark Servohydraulic Test System mod. 370.1
 Temperature: -120°C to 315°C
 Range: 100kN



Electromechanical Universal Testing Machine:
MTS Model Criterion 45.305 series 40
 Temperature: -40°C to 177°C
 Range: 300kN



Universal Testing Machine:
Zwick AllroundLine Z010TH
 Room temperature
 Range: 10kN



Impact Test Equipment

Facilities: Laboratory

Preparation and machining area of test specimens :

FIDAMC has cutting machines and grinding equipment to perform the machining of composite material specimens.



Dimensional analysis



Cutting machine



surface grinding machine