Introduction

The objective of the leaflet is to introduce you to Testlab in order to facilitate your activities in the lab and the cooperation with you.

Testlab is an accredited test laboratory (http://english.danak.dk/) for mechanical characterisation of materials, particularly composite materials, interfaces and joints. The laboratory is part of Section of Composite Materials (COM) at DTU Wind Energy.

Our goal in Testlab is to improve and develop test methods and geometries to characterize mechanical properties of composites, as well as other materials, in order to support the national and international wind energy sector. In the laboratory, you will receive support from highly skilled technicians, dedicated engineers and expert researchers, aiming to make your experimental work and research activities a success.

Facilities

Testlab is equipped with 15 mechanical test machines. Tests can be performed at a range from 5N to 500kN. This load range permits testing of coupons up to small sub-components (approximate 2m in size).

Static and fatigue tests can be performed in different test configurations:
  - Tension
  - Compression
  - Bending
  - Shear
  - Environmental tests in climate chambers; -60 - 550 °C, 10-90 % RH

List of Instron test machines:

- 1x 100kN Electromechanical machine
- 1x 1kN and 1 Intron 30kN Static machine
- 1x 3kN Electropulse machine
- 1x 50kN Servo-hydraulic machine
- 5x 100kN Servo-hydraulic machine
- 1x 250kN Servo-hydraulic tension-torsion machine
- 1x 10kN Servo-hydraulic tension-torsion machine
- 2x 250kN Servo-hydraulic machine
• 1x 500kN Servo-hydraulic machine
• 1x Static DCB (moment loading) machine
• 1x Dynamic DCB (moment loading) machine

Using unique setups, DCB specimens can be tested to measure fracture resistance for delaminations, adhesive joints or sandwich interfaces.

Add-ons can be mounted on test machines to record specific properties, such as:
- Thermal imaging
- Digital image correlation
- Laser extensometers
- Acoustic emission

We have a close collaboration with 3D X-Ray Tomography to identify and understand the damage mechanisms occurring in the materials.

Moreover, capabilities to manufacture laminates and specimens are also available thanks to our nearby laboratory for manufacturing and characterization of composites.

How to proceed

If you are interested in getting activities done in the Testlab, you can first get in contact with one of our engineers or researchers in order to define the task.

When the task is defined, we will describe a quote gathering all the task details and cost. With this quote, you will also receive an estimated delivery time for the work.

Please feel free to contact us for more detail.
# Contacts

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