

Structural Lab – LEST (630 m²)



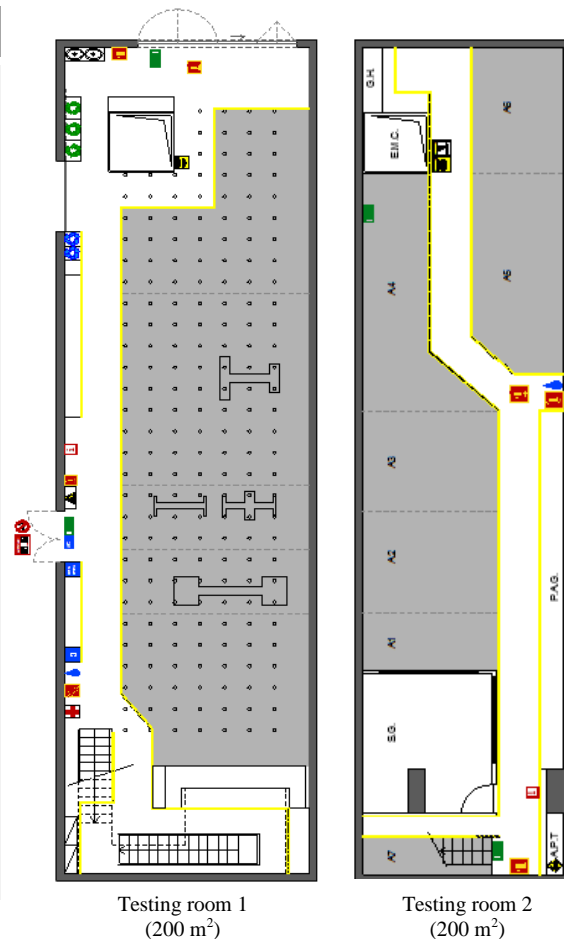
**LABORATÓRIO
DE ESTRUTURAS**
U.MINHO

Mission

LEST develops experimental testing works in the framework of applied research and consultancy activities on Civil Engineering Structures addressed to scientific research units and institutions/companies.

The main activities of LEST are:

- Support research and projects in the framework of qualified research units
- Support educational and teaching projects at the University of Minho with experimental background
- Support consultancy works in Civil Engineering, for public or private companies/institutions
- Support to research activities of the industry, by promoting innovation, know-how transfer and solving problems from the industry



Main Equipment

- Universal testing machine with 1000 kN of maximum load capacity for tensile, compression and fatigue testing
- Reaction frames with 250 kN of maximum load capacity for tensile and compression testing
- Reaction frame with 1000 kN of maximum load capacity for tensile, compression and fatigue testing
- Reaction wall with 500 kN of maximum load capacity for static and cyclic testing
- Testing machine with 1600 kN of maximum load capacity for compression and Young's modulus testing
- Pre-stressed concrete line with 200 kN of maximum load
- Oven with 1000°C of maximum temperature
- Drop-weight tower with 3 m height for impact testing
- Five climatic chambers
- NDT equipment

Main tests

- Structural Response Characterization:
 - On-site loading tests
 - Biaxial tests
 - Cyclic tests
 - Fatigue tests
 - Structural monitoring
- Material Characterization:
 - Young's modulus tests
 - Compressive strength tests
 - Tensile strength tests
 - Shear tests
 - Flexural tests
- Dynamic Testing:
 - Dynamic identification tests
 - Vibration control
 - Monitoring of dynamic behavior
 - Monitoring of vibrations induced by explosions or traffic
- Non-Destructive Testing:
 - Ground penetrating radar tests (GPR)
 - Resistograph tests
 - Sonic and ultrasonic tests
 - Flat jack tests

