MECHANICAL CHARACTERIZATION

Tensile Testing Machine

EA 050 electromechanical testing machine, by Step-Lab, can be used to test material specimens or components.

The instrument can reach 50 kN as maximum force and it can test different material types, as polymers or thin metals, applying many different deformation modes.

In particular, specimens can be bent, compressed or stretched; tests can be performed in quasi-static or dynamic mode (frequency up to 20 Hz); at a constant speed or following a customized waveform, collecting a wide range of mechanical and thermo-mechanical properties.

Thanks to its electromechanical motor, provided by an extended shaft (600 mm), it is possible to perform test at high deformation speed (up to 300 mm/s) and to test at break very ductile materials, such as plastics, rubbers, and elastomers.

In addition, it is possible to investigate about different phenomena, as Creep, the frequency effect on properties, stress relaxation, high cycles and low cycles fatigue, temperature effect on properties.

The testing machine, in facts, is equipped by a climatic chamber which allows to perform tests from room temperature up to 250 °C, in isothermal or in temperature ramp.

Materials

Plastics

Rubbers

Elastomers

Metals

SENTIERO INTERNATIONAL CAMPUS

Specifications

- Max static force
  50 kN
- Max dynamic force
  50 kN
- Load cells
  1 kN and 10 kN
- Stroke
  600 mm
- Frequency
  up to 20 Hz
- Temperature
  RT to 250 °C
- Test linear speed
  up to 300 mm/s

Test modules

- Traction, pneumatic clamps
- Compression discs
- Three point bending

Accessories

- Extensometer for elastic modulus measurement



