

Mechanical and thermal characterization of materials

Mechanical properties

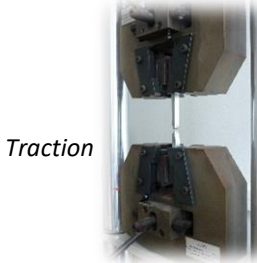
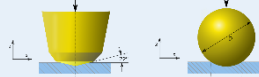
All types of materials: Metals - Polymers - Composites - Ceramics - Glass

Tensile, compression, bending tests (at different temperatures)

- Modulus of Elasticity E, Shear G, Poisson's ratio, Yield strength Re, Strength Rm and Elongation at break (A%), Compressive strength

NF EN ISO 6892
, NF EN 12390
NF EN ISO 178, NF EN ISO 3327, ISO 6506/7 Standards

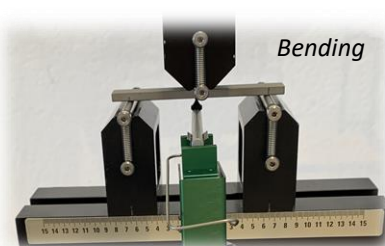
Vickers, Brinell hardness measurement



Traction



Compression



Bending



Hardness

Thermal properties

All types of materials: Metals - Polymers - Composites - Ceramics - Glass

Dilatometry:

- Coefficient of thermal expansion over the range : ambient temperature to 1000°C

ASTM E473-85,
ASTM E 228,
ISO/DIS 11357-8 Standards

Measurement of thermal properties:

Thermal conductivity λ (W.m-1.K-1), thermal capacity Cp (J / (kg.K))

Thermal properties measurement bench



Dilatometer