

VERIFICATION OF THE STRESSES HYPOTHESIS



Experimental capabilities

- **Experimental verification of the hypothesis of the normal constraints**
- **Experimental verification of the hypothesis of the shear constraints**
- **Experimental verification of the hypothesis of composition of the constraints**
- **Comparison the results obtained for different materials.**

Operating principle

The SFT 100 bench allows the study in an empirical manner the hypotheses of composition of normal and tangential constraints in the cases of loading ranging from the pure torsion to pure bending , through all compositions torsions / bendings

Highlighting of the composition of Mohr circle.

Measurement of deformations by comparator.

The robust design of this device makes it suitable for use in schools.

The equipment is set up on an Anodized aluminium frame on casters wheels. This gives it great strength and a flexibility of integration into your premises.

The manufacture of this equipment complies with the European standard for machinery manufacturing.

This equipment can be used alone or with other compatible equipment from our range (see last section of this document).

Illustrations Technical details

- The bench is equipped with an anodized aluminum structure.
- In the central part, a mast ensures the embedding function of one of the ends of the test tube (embedding obtained by pinching)
- A circular plateau is secured to the other end of the test tube by pinching
- This plateau allows to realize the different cases of the test tube loading, and measuring the deformations of the latter.
- A mobile weight support ensures the plateau loading on its periphery
- A balancing device eliminates the shear forces applied onto the test piece, in countering the effect of the weight of the plateau as well as the different components attached on this latter
- The solicitation can evolve in pure bending, at pure torsion, through all the intermediate states of compound solicitations.
- A comparator of magnetic base allows to measure the displacements periphery of the disc
- The integration positions of loading and of the comparator are marked every 15°

Test tubes:

- 1 set of 4 cylindrical test pieces of diameter 6mm comes with the unit for the beam deformation study:
1 in brass, 1 in copper, 1 in aluminum, 1 in steel



Option : possibility to provide test parts, 10mm diameter , made of steel, aluminum, brass or copper, and instrumented with stress gauge (3@45°) - request us for more details or quotation



Services required

- Dimensions: (LxWxH mm): 400 x 400 x 400
- weight (Kg): 25

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Technical documentation of the components
- Certificate of conformity CE