

Combined Torsion and Bending (EDC-SM-105)

EXPERIMENTAL DATA:

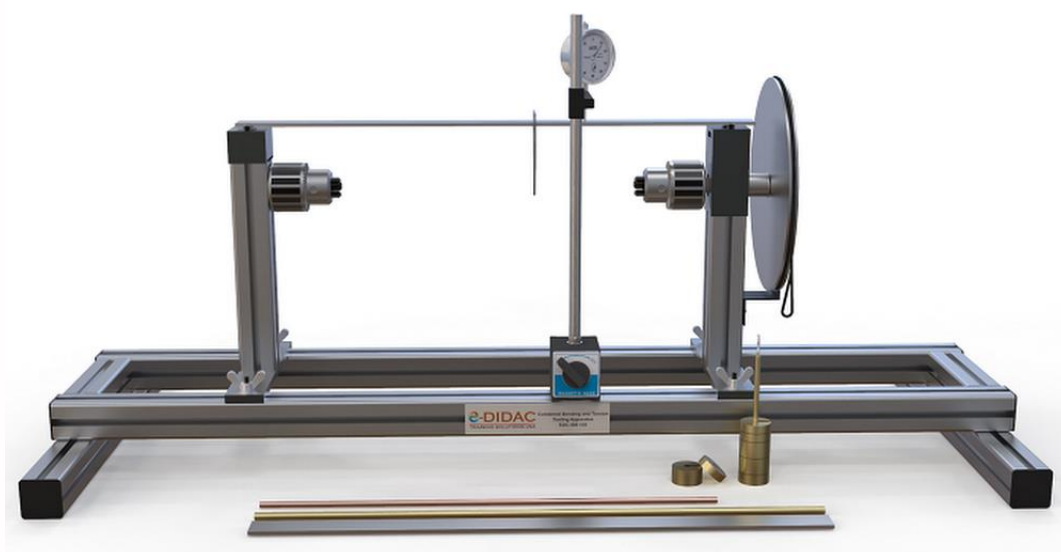
- Bending tests
 - Purpose of the modulus of elasticity.
 - Cantilever beam testing.
 - Statically indeterminate systems.
 - Deformation of a beam dependent on material, geometry (section width, height and length), type of support and length of span.
- Torsion tests
 - Purpose of the shear modulus of various materials.
 - Angle of twist dependent on clamping length, bar diameter.
 - Design of proportional relationships for the angle of twist.

DESCRIPTION:

Torsion is the twisting or wrenching of a body by the exertion of forces tending to turn one end or part about a longitudinal axis while the other is held fast or turned in the opposite direction.

A bending moment is a measure of the bending effect that can occur when an external force (or moment) is applied to a structural element.

Apparatus contains the fitting for both the torsion and bending experiment performance. Specimen for both the experimentation given with the apparatus.



SPECIFICATIONS:

- Elastic deformation of bars under bending or torsion
- Bending tests performance.
- Torsion tests performance.
- 2 changeable blocks with clamping chuck for torsion tests and supports for bending tests.
- Weights to generate the bending or twisting moment
- Dial gauge.

DIMENSIONS AND WEIGHT:

- L x W x H (mm): 1000 X 250 X 300 approx.
- Weight: 22 kg approx.

SCOPE OF DELIVERY:

- 1 x EDC-SM-105.
- 1 x Instructional Manual.

TECHNICAL DATA:

- Bars for bending tests:
 - Material: aluminium, steel, brass, copper.
 - LXW 510x20mm: h=3 - 10mm.
 - LXH 510x5mm: w=10 - 30mm.
 - WXH 20x4mm: l=210 - 510mm.
 - LXWXH: 20x4x510mm (al, st, brass, cu).
 - LXWXH: 10x10x510mm (aluminium).
- Torsion bars:
 - Material: aluminium, steel, brass, copper.
 - Ø 10mm: l=50 - 640mm (aluminium).
 - ØXL: 10x50mm/10x340mm (aluminium, steel, copper, brass).
 - Diameter with L=50/340mm: Ø 5 - 12mm (steel).
- Dial gauge:
 - 0 - 10mm, graduation: 0.01mm.
- Tape measure.
- Weights:
 - 1x 100g (hanger).
 - 1x 100g.
 - 1x 400g.
 - 1x 500g.
 - 1x 900g.

