

Product Name :
Deformation of Bars Under Bending or Torsion

Product Code :
TN915



Description :

Deformation of Bars Under Bending or Torsion

Technical Specification :

Deformation Of Bars Under Bending Or Torsion

The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:

Bending tests

Determination of the modulus of elasticity

Statically determinate systems (beam mounted on two supports; cantilever beam)

Statically indeterminate systems (dual-span beam)

Deformation of a beam dependent on material, geometry (section width, height and length), type of support and length of span

Formulation of proportional relationships for the deformation

Torsion tests

Determination of the shear modulus of various materials

Angle of twist dependent on clamping length, bar diameter

Formulation of proportional relationships for the angle of twist

Specifications:

Elastic deformation of bars under bending or torsion

Bending tests with statically determinate and indeterminate systems

Torsion tests with a statically determinate system

Supports in the bending test may be clamped or free
2 adjustable blocks with clamping chuck for torsion tests and supports for bending tests
Weights to generate the bending or twisting moment
Dial gauge with bracket
Storage system to house the components

Technical Data:

17 bars for bending tests
Material: aluminium, steel, brass, copper
Height with Length x Width 510x20mm: h=3...10mm
Width with Length x Height 510x5mm: w=10...30mm
Length with Width x Height 20x4mm: l=210...510mm
Length x Width x Height: 20x4x510mm (Al, St, brass, Cu)
Length x Width x Height: 10x10x510mm (aluminium)
22 torsion bars
Material: aluminium, steel, brass, copper
Length with \bar{A} 10mm: 50...640mm (aluminium)
 \bar{A} x L: 10x50mm/10x340mm (aluminium, steel, copper, brass)
Diameter with L=50/340mm: \bar{A} 5...12mm (steel)
Dial gauge
0...10mm, graduation: 0,01mm
Tape measure
Graduation: 0,01m
Weights
1x 1N (hanger)
1x 1N, 1x 4N, 1x 5N, 1x 9N
Dimensions and Weight
Length x Width x Height: 1000x250x200mm
Weight: 18kg
Length x Width x Height: 1170x480x207mm (storage system)
Weight: 12kg (storage system).

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