TECHNICAL DATA

Modulus of elasticity

Article no: P2120200

Principle

A flat bar is supported at two points. It is bent by the action of a force acting at its centre. The modulus of elasticity is determined from the bending and the geometric data of the bar.

Benefits

- Find out the parameters that give a bar stability
- Measure the difference of elasticity in various metals with different lengths
- Learn how to determine forces with a dial gauge

Tasks

1. Determination of the characteristic curve of the dial gauge.
2. Determination of the bending of flatbars as a function of the force; at constant force: of the thickness, of the width and of the distance between the support points.
3. Determination of the modulus of elasticity of steel, aluminium and brass.

Learning objectives

- Young's modulus
- Modulus of elasticity
- Stress
- Deformation
- Poisson's ratio
- Hooke's law

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Scope of delivery

Dial gauge 10/0.01 mm	03013-00	1
Holder for dial gauge	03013-01	1
Flat bars, set	17570-00	1
Knife-edge with stirrup	03015-00	1
Bolt with knife-edge	02049-00	2
Weight holder, 10 g	02204-01	1
Spring balance,transparent, 1 N	03065-02	1
Tripod base PHYWE	02002-55	2
Support rod, stainless steel, different lenghts	02031-00	2
Support rod, stainless steel, different lenghts	02033-00	1
Right angle clamp expert with fulcrum screw	02054-00	5
Slotted weight, silver bronze, 10 g	02205-03	10
Slotted weight, silver bronze, 50 g	02206-03	6
Vernier calliper stainless steel 0-157mm, 1/20	03010-00	1
Measuring tape, l = 2 m	09936-00	1
Fish line, l. 100m	02090-00	1