

Product Name :
Methods To Determine The Elastic Line

Product Code :
TN954



Description :

Methods To Determine The Elastic Line

Technical Specification :

Methods To Determine The Elastic Line

The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:

Elastic lines for statically determinate or indeterminate beams under load

Determination of the elastic line of a beam by the principle of virtual work (calculation)

Mohr's analogy (area moment method devised by mohr; graphical representation)

Application of the principle of superposition

Determination of the deflection of the beam

Angle of inclination of the beam comparison between calculated and measured values for angle of inclination and deflection

Specifications:

Comparison of different methods to determine the elastic line

Statically determinate or indeterminate beam

2 supports with clamp fixing, optionally as articulated support with measurement of angle of inclination or clamp fixing

1 articulated support with force gauge

Device to generate a bending moment

Dial gauge with generation of moment to measure the angle of inclination

Dial gauge to record the deformations of the beam
Weights to subject the beam to point loads or moment
Weights to determine the clamping moments on the supports with clamp fixings
Storage system to house the components
Experimental setup in the included mounting frame

Technical Data:

Beam

Length: 1000mm

Cross-section: 20x4mm

Material: steel

Weights

7x 1N (hanger)

28x 1N

21x 5N

Measuring ranges

Force: ± 50 N, graduation: 1N

Travel: 0...20mm, graduation: 0,01mm

Dimensions and Weight

Length x Width x Height: 1170x480x178mm (storage system)

Weight: 42kg (total)

Mounting Frame

Specification:

Frame for mounting of experiments in statics, strength of materials and dynamics

Sturdy sectional steel double frame, welded

Easy, exact mounting of all components by precision clamp fixings

Stable on laboratory desktops or workbenches

Frame supplied disassembled

Technical Data:

Mounting frame made of steel sections

Frame opening Width x Height: 1250x900mm

Section groove width: 40mm

Dimensions and Weight

Length x Width x Height: 1400x400x1130mm (assembled)

Length x Width x Height: 1400x400x200mm (without mountings)

Weight: 32kg.

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