

Product Name :
Deformation of Frames

Product Code :
TN111



Description :

Deformation of Frames

Technical Specification :

Deformation Of Frames

The unit is perform the following experiments and investigations:

Learning Objectives / Experiments

Relationship between load application and deformation on the frame

Differences between statically determinate and statically indeterminate frames

Familiarization with the first-order elasticity theory for statically determinate and indeterminate systems

Application of the principle of superposition

Application of the principle of virtual work on statically determinate and statically indeterminate frames

Determination of a deformation by the principle of virtual forces

Determination of a load by the principle of virtual displacement

Comparison of calculated and measured deformations

Specifications:

Investigation of the deformation of steel frames under load

1 u-shaped and 1 s-shaped frame

Statically determinate or statically indeterminate bearing support possible

1 long and 1 short clamping pillar

Roller bearing for statically indeterminate support

Weights with a movable hook to adjust to any load application point

Dial gauges record the deformation of the investigated frame under load

Storage system to house the components
Experimental setup in the included mounting frame

Technical Data:

Frame made of steel

Edge length: 600mm

Cross-section: 20x10mm

U-shaped: 600x600mm

S-shaped: 600x600mm

Dial gauges

Measuring range: 0...20mm

Graduation: 0,01mm

Weights

2x 1N (hanger)

8x 1N

6x 5N

Dimensions and Weight

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

Weight: 34kg (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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