



Features

- High-quality structures teaching module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into bending stress in a beam
- Realistic and verifiable experiment results
- Optional Tesca's SCI-CALS Structures Software package for extra 'virtual' experiments that simulate and confirm the results from your hardware and allow extended experiments
- Optional DAQ Structures Software package for automatic data acquisition and virtual experiments
- Ideal for classroom demonstrations, or students working in pairs or small groups

Tesca Bending Stress in a Beam Apparatus allows adjustment of a load cell that bends the beam and, when connected to the optional Digital Force Display, it measures the bending force (load). Strain gauges and a digital strain bridge measure the strains in the beam. Dummy strain gauges compensate for temperature variation and balance the strain bridges. The equipment includes a lead for connection to the Digital Force Display. The lecturer guide provides details of the equipment including sample experiment results. The student guide describes how to use the equipment and gives experiment procedures.

For extra 'virtual' experiments, Tesca's SCI-CALS Structures Software, available for use on a

Note: Specifications are subject to change.

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suitable computer. The virtual experiments simulate the tests that you do with the hardware. They also extend the choice of tests than that available using only the hardware, for example: higher loads, uniform loads or different test specimens. This extends the student's learning experience.

For automatic data acquisition of your experiment results, DAQ, the optional Automatic Data Acquisition Unit, that displays and logs your experiment results and gives the extra virtual experiments.

Specifications

- Load:
 - Adjustable 0 to 500 N load cell with electronic force sensor
- Test beam:
 - Aluminum T-section
- Strain measurement:
 - Nine strain gauges (with nine dummy gauges) and a 16-way digital strain bridge
- Digital Force Display

Experiments

Study of:

- Second moment of area
- Converting strains to stresses
- Strain gauges
- The neutral axis
- The bending equation