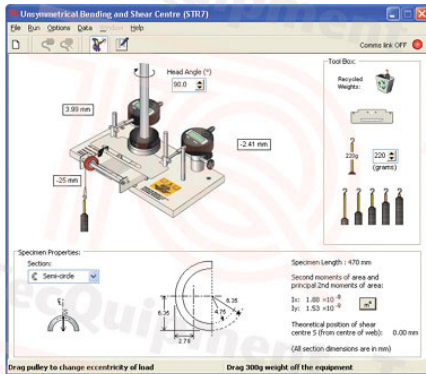


**STR7**

## Unsymmetrical Bending and Shear Centre

**For study of vertical and horizontal deflection of different asymmetric (unsymmetrical) sections**



Screenshot of the optional TecEquipment Structures Software



Shown fitted to the Structures Test Frame (supplied separately)

- High-quality structures teaching module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into unsymmetrical bending and shear centre
- Realistic and verifiable experiments results
- Optional TecEquipment's Structures Software package for extra 'virtual' experiments that simulate and confirm the results from your hardware and allow extended experiments
- Optional STR2000 unit with TecEquipment's Structures Software package for automatic data acquisition **and** virtual experiments
- One of many interchangeable experiment modules from TecEquipment's modern, flexible and cost-effective structures teaching system
- Ideal for classroom demonstrations, or students working in pairs or small groups

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- An ISO 9001 certified company

# STR7

# Unsymmetrical Bending and Shear Centre

## Description

The experiment hardware fits onto a Structures Test Frame (STR1, available separately). It examines the vertical and horizontal deflection of different asymmetrical sections at various angles and loads.

Two multi-way chucks hold a test specimen vertically. One chuck has an indexing system for rotating the beam in set increments. This changes the angle of loading. The other chuck and a weight hanger applies a variable load. Two digital deflection indicators measure deflection in the  $x$  and  $y$  directions. An interchangeable plate allows students to find the shear centre of the specimen.

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, TecEquipment can supply the optional TecEquipment Structures Software (STRS), for use on a suitable computer. The virtual experiments simulate the tests you can perform with the hardware. They also extend the choice of tests beyond 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, TecEquipment can supply the optional Automatic Data Acquisition Unit (STR2000). Supplied as standard with the STR2000 is TecEquipment's Structures Software that displays and logs your experiment results and gives the extra virtual experiments.

## Standard Features

- Supplied with lecturer guide and student guide
- Two-year warranty
- Made in accordance with the latest European Union directives

## Experiments

Study of:

- horizontal and vertical deflection of different asymmetrical sections at various angles;
- horizontal and vertical deflection of different asymmetrical sections under various loads;
- the relationship between the vertical and horizontal deflections and the principal moments of area of each section;
- the shear centre of various asymmetrical sections.

## Essential Ancillaries

- Structures Test Frame (STR1)

## Recommended Ancillaries

- Structures Software (STRS) for virtual experiments
- or**
- Automatic Data Acquisition Unit (STR2000) for automatic data acquisition **and** virtual experiments

## Operating Conditions

*Operating environment:*  
Laboratory environment

*Storage temperature range:*  
-25°C to +55°C (when packed for transport)

*Operating temperature range:*  
+5°C to +40°C

*Operating relative humidity range:*  
80% at temperatures < 31°C decreasing linearly to 50% at 40°C

## Specifications

*Nett dimensions and weight:*  
550 x 210 x 130 mm, 4 kg

*Packed dimensions and weight:*  
Approximately 0.060 m<sup>3</sup>, 5 kg

*Loads:*  
Five weight hangers and 150 x 10 g masses

*Specimens:*  
All aluminium:

- 1 x 'U' section
- 1 x 'L' section
- 1 x flat section

*Accessories:*  
Rule and vernier