



Features

Tesca Plastic Bending of Beams Apparatus provides two end supports; one for completely rigid end fixings, whilst the other giving horizontal travel. Both supports create simple supports (knife edges) and have clamp plates which create fixed ends by restricting the end rotation of the test beam.

The test beams have a single point load applied using the fine screw jack mechanism with integral load cell supplied. The displacement of the test beam within its elastic and plastic regions is measured using a dial gauge and this along with the load cell output connect into the optional Interface.

A set of black mild steel beams can be supplied with further sets available.

A comprehensive instruction manual for lecturer and student, giving full details on apparatus assembly and operation as well as example results. All necessary assembly and operational tools are provided.

Note: Specifications are subject to change.

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Specifications

- Demonstration of the theory of plastic bending of a beam section, and increase in bending moment due to redundancy
- The apparatus provides two end supports which allow for rigid clamping or simple support of the mild steel beams
- One support allows for horizontal travel
- Supplied 10 test beams with dimension of approximately 5mm (thickness) x 20mm (width) x 1200mm (length)
- Dial gauge for measurement 0-13mm range and 0.01mm resolution
- Capacity of screw jack loading mechanism: Approximately 500N
- External frame maximum load: Approximately 5 kN
- External frame equipped with 1000mm stand.
- External frame dimension: Approximately 1000mm x 1200mm
- A screw jack with integral load cell, capable of applying loads 500N is provided
- Deflection measurement available
- Applied force and deflection viewed via Interface optional

Experiment Possibilities

- Measurement of collapse load for a black mild steel beam
- Study of extra load carried as beam is made redundant by end fixing Comprehensive instruction manual provided