

The experiment torsion of rods and tubes allows the experimental investigation of the torsional differences between specimens of various material properties under different load conditions.

This experiment has the following properties:

- ▶ Torsion specimens secured between 2 chucks fixed to a pair of supports
- ▶ Inclinerometers to measure angular displacement of rod specimens at varying torsional loads, effective lengths and cross-sectional areas

ALLOWS THE STUDY OF THE TORSIONAL DIFFERENCES BETWEEN SPECIMENS OF VARIOUS MATERIAL PROPERTIES UNDER DIFFERENT LOAD CONDITIONS

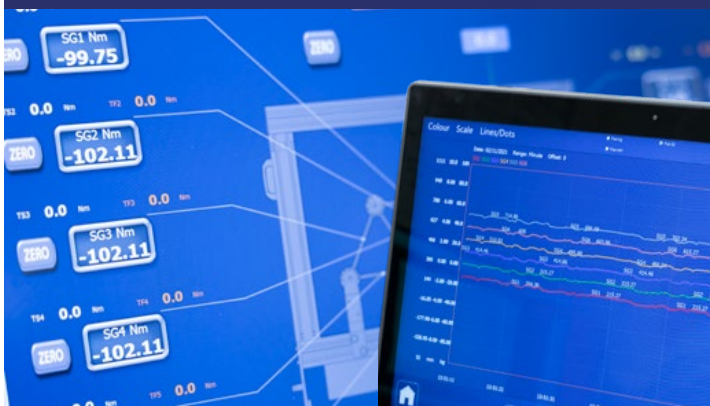


SV100 Bench Mounted Frame (sold separately)



Digital Level

armBUS software



Inclinometers to measure angular displacement



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Issue: 1
 URL: <http://www.armfield.co.uk/structures>

Applications

ME CE IP

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Description

One of a range of Experiment Modules that fit onto the SV100 Structures Bench Mounted Frame.

Two chucks supported by mounts on the Universal Frame hold a test mechanism. A torsion drive wheel secured to one of the chucks manually applies a torque to the specimen.

Three inclinometers positioned at equal distances along the effective length of the test specimen measure the angular displacement at that point along the specimen.

In order to vary the effective length of a specimen, one of the chuck supports can laterally traverse the Universal Frame.

Results can be manual added to the supplied software for further analysis.



Requirements

Scale

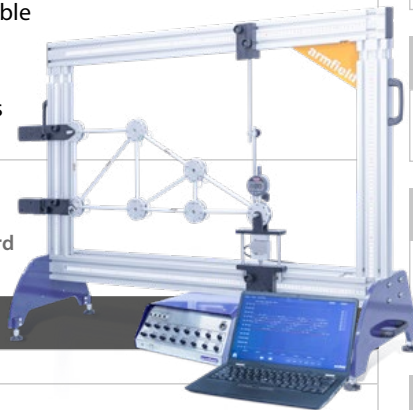


Electrical supply: 110/120V, 60Hz or 220/240V, 50Hz

- ▶ SV100: Bench Mounted Frame
- ▶ PC with a USB port, running Windows 7 or above

Technical specification

- ▶ 2 x Torsion Support Blocks; 1 x fixed, 1 x movable support.
- ▶ 1 x Pulley Support with Fixed Connection
- ▶ Frame Mounting Hardware
- ▶ 1 x Torsion Drive Wheel
- ▶ 1 x Torsion Application Cable
- ▶ 2 x Drill Chucks
- ▶ 7 x Torsion Specimens
- ▶ 1 x 1000g Weight Hangers
- ▶ 3 x Inclinometers



The Armfield SV series is supplied with structures software as standard

Overall dimensions

Length	1.176m
Width	0.392m
Height	0.922m

Packed and crated shipping specifications

Volume	0.1m ³
Gross weight	25 kg

Experimental content

- ▶ Verification of the classical theory of torsion in circular section rods and tubes
- ▶ Comparison of rods of different materials
- ▶ Comparison of rods and tubes of similar materials

Features / benefits

- ▶ Six specimens provided; four solid and two tube
- ▶ Chucks allow customer specific specimens
- ▶ Angle of twist measured using three inclinometers
- ▶ Supplied with Armfield structures software as standard

Graphing detail



Essential accessories/equipment

- ▶ SV100: Bench Mounted Frame

Related laws

- ▶ Modulus of Rigidity
- ▶ Shear Modulus
- ▶ Torsion Constant
- ▶ Polar Moment of Inertia
- ▶ Angle of Twist
- ▶ Gauge Length

Related products

- ▶ SV600: Buckling of Struts
- ▶ SV601: Unsymmetrical Bending and Shear

Operational conditions

- ▶ Storage temperature: -10°C to +70°C
- ▶ Operating temperature range: +10°C to +50°C
- ▶ Operating relative humidity range: 0 to 95%, non-condensing

Ordering codes

- ▶ SV602: Torsion of Rods and Tubes
- ▶ SV100: Bench Mounted Frame (Sold separately)

Armfield standard warranty applies with this product

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



Products CE certified

armfield.co.uk

Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com