



SM1000G

BEAM AND LEAF SPRING

Fits in the Universal Testing Machine (SM1000) for tests on bending beams and a leaf spring.



KEY FEATURES

- Fits in the compressive test area of TecEquipment's Universal Testing Machine for bending tests on a leaf spring and beams
- Includes two different test beams – flat steel and channel section aluminium
- Knife-edge supports for the beams, and rollers for the leaf spring for accurate results
- Heavy-duty box-section beam to support the tests
- Includes tools needed to fit the parts to the testing machine
- Heavy-duty leaf spring for a more practical experience

BEAM AND LEAF SPRING

DESCRIPTION

The Beam and Leaf Spring parts (SM1000g) fit into the compressive test area of TecQuipment's Universal Testing Machine (SM1000).

The heavy-duty box-section support beam works as the main support underneath the test beams and the leaf spring during the tests.

The spring is of the same heavy-duty design as those used in vehicle suspensions. This gives students a better understanding of a 'real world' engineering component.

For beam tests, the test beam rests across two knife-edge supports fixed to the support beam. This forms a 'simply supported beam'. The testing machine applies a compressive bending force and measures the beam deflection. Students may adjust the position of the knife-edge supports to set the length of beam under test.

For leaf spring tests, the spring rests on its rollers on two flat supports fixed to the support beam. Again, the testing machine applies a compressive force and measures the leaf spring deflection.

For the beams, students use the deflection and force values to find the relationship between force and deflection for the different beams. They can then compare the results with those predicted by theory.

For the leaf spring, students use the deflection and force values to find actual leaf 'spring rate'.

TecQuipment includes the spanner and hexagon tools needed to fix the parts to the testing machine.

STANDARD FEATURES

- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

LEARNING OUTCOMES

- Beam bending tests on beams of different shape, material and length
- Spring rate tests on a leaf spring

ESSENTIAL BASE UNIT

- Universal Testing Machine (SM1000)

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

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

APPROXIMATE NETT WEIGHT:

85 kg

APPROXIMATE PACKED VOLUME:

0.28 m³

TEST BEAMS:

- Bright-drawn, mild steel, solid flat section approximately 25 mm x 13 mm x 560 mm
- Aluminium channel section approximately 51 mm x 51 mm x 6.5 mm x 860 mm

LEAF SPRING:

4 leaf, spring steel

TOOLS INCLUDED:

- 2 x hexagon tool
- 1 x spanner