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Product Name :

Stiffness - Bending and Torsion

Product Code :

SLE/ETP/02



Science Lab
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Description :

Stiffness - Bending and Torsion (Product Code: SLE/ETP/02) is a compact, bench-mounted frame used to investigate how stiff beams of different materials and cross-sections are in bending — and, with optional kits, in torsion — in engineering and materials science labs. The standard kit pairs a rigid metal frame with two adjustable knife edges, weights, a magnetic dial gauge, a set of beams and a vernier gauge. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**,an OEM manufacturer of engineering lab equipment in India, at its own factory in Ambala.

Specifications

Parameter	Detail
Frame	Compact, bench-mounting rigid metal frame
Beam supports	Two adjustable knife edges acting as simple supports
Positioning	Linear scale on the back panel for accurate placing of the knife edges
Deflection measurement	Magnetic dial gauge
Loading	Weights, included in the kit
Test beams	Set of beams of different materials and cross-sections
Specimen measurement	Vernier gauge for measuring beam dimensions
Optional kits	Different beam fixings; torsional stiffness
Product code	SLE/ETP/02
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Bending and Torsion Stiffness Apparatus Used For?

Students set the two knife edges to a chosen span using the linear scale, measure the width and depth of a beam with the vernier gauge, and rest the beam across the supports. Weights are then added step by step while the magnetic dial gauge records how far the beam deflects. Plotting load against deflection gives a straight line whose slope is the beam's bending stiffness.

Repeating the test with the other beams separates the two things that control stiffness: the material, through its elastic modulus, and the shape of the cross-section, through its second moment of area. Changing the span shows how quickly deflection grows as supports move apart. The optional kits take the same frame further, into other beam fixings and into twisting tests that measure torsional stiffness — core topics for mechanics lab equipment in India.

What to Specify When Ordering

- Whether you need the standard bending kit only, or the optional beam-fixings and torsional-stiffness kits as well
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