SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

Phone: +91 7015865225 **Email:** info@scienticoindia.com **Web:** scienticoindia.com **Address:** #71, Industrial Area, Ambala Cantt, Haryana, India

Young's Modulus Apparatus | FortiTestX-43

Category: Strength of Materials · **Order Code:** FORTITESTX-43 · **Country of Origin:** India

Product Overview

The Young's Modulus Apparatus FortiTestX-43 is a wall-mounted laboratory unit for investigating elastic elongation of metal wire specimens under direct tensile loading. This Young's modulus apparatus supports experiments with steel, aluminium, brass, and copper wires (1000 mm length, 1 to 2 mm diameter), measuring elongation via a vernier gauge with a 100 mm range and 0.02 mm graduation. A traverse distributes load evenly from the weight set to the wire bottom ends, enabling systematic study of elongation as a function of load, diameter, and material. The unit supports direct determination and verification of the modulus of elasticity for all four wire materials.

View this product online: https://scienticoindia.com/product/youngs-modulus-apparatus-fortitestx-43/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Young's Modulus Apparatus FortiTestX-43, Technical Specifications

Parameter	Detail
Model Reference	FortiTestX-43
Category	Strength of Materials and Structures
Mounting Type	Wall-mounted carrier
Wire Length	1000 mm
Wire Diameter	1 to 2 mm
Wire Materials	Steel, Aluminium, Brass, Copper
Load Application	Direct load via traverse and weight set
Displacement Range	100 mm
Graduation	0.02 mm
Measuring Device	Vernier gauge on moment lever
Wire Attachment	Two sliders at bottom ends

Technical Data

Wire Specimens

Parameter	Value
Wire Length	1000 mm
Wire Diameter	1 to 2 mm
Materials	Steel, Copper, Brass, Aluminium

Displacement Measuring Device

Parameter	Value
Type	Vernier gauge
Displacement Range	100 mm
Graduation	0.02 mm

Weight Set

Weight	Quantity
1 N hanger weight	1
1 kg weight	1
2 kg weights	4

Key Features

Key Features

- Wall Mounting: carrier fixed to wall, wire specimens suspended vertically for direct tensile loading
- Wire Specimens: steel, aluminium, brass, and copper, each 1000 mm length, 1 to 2 mm diameter
- Load Application: direct load via traverse connecting bottom wire ends, loaded by weight set
- Elongation Measurement: vernier gauge on moment lever, 100 mm displacement range, 0.02 mm graduation
- Wire Attachment: two sliders secure the bottom ends of the wire specimens to the traverse
- Weight Set Included: 1x 1 N hanger, 1x 1 kg, 4x 2 kg
- Young's Modulus Coverage: this Young's modulus apparatus supports determination and verification of modulus of elasticity for four materials
- Experiment Variables: elongation measured as a function of load, wire diameter, and material
- Load Type: direct tensile load applied evenly across wires via traverse

Experiments

- Elastic elongation of metal wires subject to tensile force as a function of the load
- Elastic elongation as a function of the diameter of the wire
- Elastic elongation as a function of material: copper, aluminium, brass, and steel
- Determination and checking of the modulus of elasticity

Construction and Design

The Young's Modulus Apparatus FortiTestX-43 is mounted on a wall-fixed carrier from which wire specimens in steel, aluminium, brass, and copper are suspended vertically. Each wire is 1000 mm long with a diameter between 1 and 2 mm. The bottom ends of the wires are attached using two sliders that connect to a traverse. The traverse distributes the applied load evenly across the wire specimens and supports the weight set for direct tensile loading. A moment lever fitted with a vernier gauge measures elongation of the wires under load, with a displacement range of 100 mm and graduation of 0.02 mm. This Young's modulus apparatus allows the effect of load magnitude, wire diameter, and material on elastic elongation to be systematically investigated, and enables direct calculation and verification of the modulus of elasticity from the measured data.

Scope of Delivery

Scope of delivery not specified in source data. Please confirm with SCIENTICO before publishing.

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q1: What wire materials are included with the Young's Modulus Apparatus FortiTestX-43?
Four wire materials are provided: steel, aluminium, brass, and copper, each 1000 mm in length with a diameter between 1 and 2 mm.

Q2: How is wire elongation measured on this Young's modulus apparatus?
Elongation is measured using a vernier gauge mounted on a moment lever. The measuring range is 100 mm with a graduation of 0.02 mm.

Q3: How are loads applied to the wire specimens?
Weights are placed on a traverse that connects the bottom ends of the wire specimens, applying a direct and evenly distributed tensile load.

Q4: What variables can be investigated with the FortiTestX-43?
Elastic elongation can be investigated as a function of applied load, wire diameter, and wire material. The modulus of elasticity can also be determined and verified experimentally for each material.

Q5: What weight values are included with the apparatus?
The unit includes 1x 1 N hanger weight, 1x 1 kg weight, and 4x 2 kg weights.

SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India
#71, Industrial Area, Ambala Cantt, Haryana, India

+91 7015865225 · info@scienticoindia.com
scienticoindia.com
Product reference: FORTITESTX-43