

Shows the principles of tensile testing

*Shown fitted to a
TASK Frame*



- Ideal for classroom demonstrations and for use by small groups of students
- Fits onto one of the optional TASK Frames and shows students how to use tensile tests to find the properties of materials
- Tests different materials, including plastics and metals
- Colour-coded parts to help students understand what each part does
- Supports all teaching levels up to and including first year university courses
- Hands-on equipment - easy-to-assemble parts allow students to build the experiments for improved understanding of the experiment

- **TecEquipment** products are designed and manufactured by TQ Education and Training Ltd
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- TQ is an ISO 9001 certified company

Description

A kit that builds into a tensile testing machine, allowing students to stretch test specimens to destruction. The machine tests small sheet specimens of steel, aluminium, aluminium alloys, and plastics (TQ can supply low cost test specimens - available separately).

To work the tester, students attach a test specimen and fit a guard. They stretch the specimen by turning a hand-wheel. By counting turns of the hand-wheel and taking readings from a dial indicator on the machine, students work out force and specimen elongation.

Students work individually or in groups of up to three. The colour of parts indicates their function. For example, yellow parts are mainly stationary or passive, and white parts are instrumentation. Red parts may move or contain energy.

The kit comes with Assembly Instructions. A Teacher Guide provides experiment methods, information, references and tips. A Student Workbook guides students through experiments.

Standard Features

- Supplied with comprehensive User Guides (Assembly Instructions, Student Workbook and Teacher Guide)
- Two-year warranty
- Manufactured in accordance with the latest European Union directives

Essential Ancillaries

- Upright Frame (UF).
- Tensile Test Specimens Pack (MTT1).

This pack includes 25 specimens - five PVC, five Duralumin, five Aluminium and ten steel specimens.

MTT1 Specimens



Experiments

- Tensile testing to destruction of a variety of materials
- Measurement of applied force and elongation
- Calculation of tensile strength
- Force and elongation graphs
- Derivation of yield stress and ultimate tensile stress
- Material behaviour within elastic limit, plastic region and on failure

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

Tensile Tester

Packed Dimensions and Weight: 0.0084 m³ and 2.88 kg

- Test capacity: 1000 N
- Guard: high-impact plastic
- Measurement: hand-wheel scale, dial indicator, back scale

Test Specimens (MTT1)

Nominal dimensions: test length 31 mm, cross-sectional area 2 mm²

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