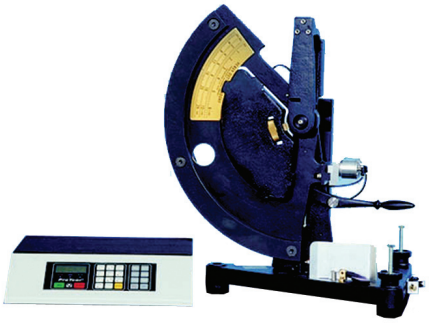
product specification

ProTear™ Elmendorf Heavy Duty Tearing Tester



Description

The Elmendorf Tear Testers are essential in materials quality control, providing more information on tearing properties than any other instrument. They are recognised as the worldwide standard and are the best way to accurately measure the tear resistance of heavy duty sheet materials.

Operation

The tearing resistance of a material is measured via the transference of the potential energy stored in the raised pendulum to kinetic energy. A portion of this energy is absorbed during the tearing of the sample and is used as a measure of the material's resistance to a continuing tear. The force required to tear the sample is reported as a percentage of the pendulum capacity.

The heavy duty tester offers capacity configurations ranging from standard 6400 g increasing to 25,000 g. Capacities are changed quickly and easily by adding augmenting weights, a configuration that eliminates the necessity of multiple pendulums and simplifies the testing of different materials.

Features

- User-friendly, one-touch software offering:
  – test results that include tear strength, tear per ply, average tear strength and tear index
  – rapid sample data entry – thickness, basis weight, sample id and sample direction
  – a configurable display of test parameters, results and reports
  – ability to delete and restore test results
  – results displayed as a percentage of pendulum capacity, g, lb and mN
  – statistics including average, high, low, standard deviation, range and variance
- Digital encoder ensures accurate results – 0.2% accuracy of the pendulum capacity
- RS-232 data output
- One-touch pneumatic clamping and pendulum release

Physical specifications

Dimensions
48 x 58 x 40 cm (W x L x H)

Net weight
16.8 kg (basic device less pendulum and weight)

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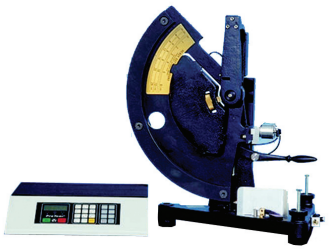

Options

- Augmenting weights – quick change of the pendulum capacities to 12,800–25,600 g
- Calibration weights of 6400 g to verify instrument calibration
- Calibration certificates for augmenting weights and calibration weights
- Spencer impact attachment – for the measurement of the impact resistance of various materials, typically plastic film. The attachment consists of a curved metal arm that is permanently attached to the pendulum and fitted on the end with an interchangeable impact head that is available in various shapes and sizes. The pendulum wings the impact head through the clamped specimen and the energy required to puncture the sample is recorded. Complies with ASTM D3420
- Data acquisition software (DAS) to capture serial data, customise them for specific requirements and then transfer them to any Windows® application. Enables creation of graphs and reports that automatically update with real-time data

Performance data

Capacity
Heavy duty – 6400, 12,800 and 25,600 g

Accuracy
Heavy duty ± 0.2% of pendulum capacity

Result reporting
Electronic digital through encoder

Results units
Electronic % of pendulum capacity, g, lb, mN

Specimen clamp
Pneumatic or manual

Pendulum release
Pneumatic

Statistical analysis
Mean value, standard deviation, highest, lowest values, variance

Display
4 line by 16-character backlit LCD

Test memory
99

Air supply
Compressed air 6 bar

Power supply
110 V, 50/60 Hz; 220/230 V, 50 Hz; 240 V, 50 Hz

Power consumption
Operating maximum 600 W
Standby maximum 12 W

Operating/storage environment
Air temperature: operating 10–50°C, storage –25–70°C
Relative humidity: operating 10–85% (non-condensing), storage 5–90% (non-condensing)

Standards

DIN 53862, 53128, ISO 1974, ASTM D295, D751, D1424, D1922, TAPPI T-414, T-496, BS 4253, 4468, CPPA D.9, SCAN P-11

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