

PROTEAR™ ELMENDORF TEARING TESTERS

The Elmendorf tear tester is essential in materials quality control - providing more information on tearing properties than any other instrument. Therefore it is recognised as the standard worldwide.

It is the best way to accurately measure the tear resistance of sheet materials including paper, packaging, foils, textiles, non-wovens and plastic films.

The ProTear is distinguished by its appropriate design, easy operation and menu-driven software, which lets you control test parameters easily, obtain crucial data in seconds.

It allows input of specimen data as thickness, g/m², number of plies being torn, MD/CD direction and indication of the results of the pendulum capacity specific to the specimens, in %, in millinewton or in grams.

The ProTear testers offer several capacity configurations ranging from 200 to 25.600 grams. Capacities are changed quickly and easily with augmenting weights. This configuration eliminates the necessity of multiple pendulums and simplifies the testing of different materials.

The materials' tearing resistance 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 materials' resistance to a continuing tear. The force required to tear the sample is reported as a percentage of the pendulum capacity.

We offer three different models to ensure you get the instrument ideal for your application and budget :

- **Electronic ProTear**
- **Heavy-duty ProTear**
- **Mechanical ProTear**



Model ProTear™ Electronic

Features

- **User-friendly, one-touch software :**
 - test results include tear strength, tear per ply, average tear strength and tear index
 - quickly enter sample data - thickness, basis weight, sample id and sample direction
 - configurable display - test parameters, results and reports
 - obtain results as percent of pendulum capacity, grams, pounds and millinewtons
 - calculated statistics - average, high, low, standard deviation, range and variance
 - configurable reports
 - provision to delete and restore test results
- Digital encoder ensures accurate results (0.2 % accuracy of the pendulum capacity)
- Considering of the bearing friction when reporting results
- RS-232 data output
- Single footprint design conserves space
- One-touch pneumatic clamping and pendulum release

Non-wovens, Packaging, Paper, Plastics, Textile...

Physical specifications

Dimensions	(WxLxH)
Electronic 60-2005	48 x 40 x 58 cm
Mechanical 60-2002	48 x 40 x 58 cm
Heavy-duty 60-2002	48 x 33 x 61 cm

Net Weight

Electronic 60-2005	15.2 kg
Mechanical 60-2002	14.3 kg
Heavy-duty 60-2002	31.3 kg

Options

- Augmenting weights
quick change of the pendulum capacities comprised between 200 - 6400 g
- Calibration check weights
provide the ability to verify calibration of your instruments. Available to check weights of 200, 400, 800, 1600, 3200 and 6400 grams.
Calibration certificates available.
- Spencer impact attachment
measures the impact resistance of various materials, typically plastic film. Complies with ASTM D3420.
This attachment consists of a curved metal arm that is permanently attached to the pendulum and is 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.
- Data acquisition software (DAS)
to capture serial data, customise it for specific requirements and then transfer it to any Windows application. Enables to create graphs and reports that automatically update with real-time data.

Standards

DIN 53862, 53128, ISO 1974, EN 21974, ASTM D295, D751, D1424, D1922, TAPPI T-414, T-496, BS 4253, 4468, CPPA D.9, SCAN P-11

Performance data

Capacity

Electronic 60-2005	200, 400, 800, 1600, 3200 and 6400 g
Mechanical 60-2002	1600, 3200 and 6400 g
Heavy-duty 60-2002	6400, 12.800 and 25.600 g

Accuracy

Electronic 60-2005	± 0.2 % of pendulum capacity
Mechanical 60-2002	± 0.5 % of pendulum capacity
Heavy-duty 60-2002	± 0.2 % of pendulum capacity

Display

Electronic 60-2005	4 line by 16 character backlit LCD
Mechanical 60-2002	NA
Heavy-duty 60-2002	4 line by 16 character backlit LCD

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° tot 50° C, storage -25° to 70° C

Relative humidity : operating 10 to 85 % (non-condensing), storage 5 to 90 % (non-condensing)

“Partners in Quality”