Elmendorf Tear Tester

Model 83-76

Elmendorf Tear testing determines the force required to continue the tearing of an initial cut in sheet materials such as paper, plastic film, textile and non-woven.

The Elmendorf Tear Tester is an automated tear tester equipped with an optical encoder for measuring the angular position of the pendulum during tearing and converting this measurement to tear units. A large, full-color touchscreen display with intuitive, easy-to-use software provides a revolutionary new approach to testing and data review.

FEATURES

- 7” full-color digital touchscreen display
- Storage and editing of up to 200 readings
- Universal pendulum with interchangeable weights
- Pneumatic clamps and pendulum release
- Automatic calibration of pendulum
- Multiple data export options: USB flash drive, USB ESC/POS printer, RS232 and GraphMaster™ software
- Selectable units: grams-force, millinewtons, lbs-force, percentage of pendulum capacity
- Onboard statistics: average, min, max, standard deviation
- Clamp pressure in psi and kg/cm
- Calculates force of multiple plies
- Report printout with optional printer

APPLICATIONS

Paper, Foil, Film, Textiles, Nonwovens

PENDULUMS

- 83-11-06 3200 gram pendulum
- 83-11-07 6400 gram pendulum
- 83-11-08 Universal pendulum 200, 400,
- 800 & 1600 gram pendulums

(the required calibration weights are included)

Easy-to-use, full color touchscreen interface

STANDARDS

Conforms to TAPPI T-414, ASTM D1922, ASTM D1424, ASTM D689, ISO 1974,CPPA d.9, AS/NZ 1301.400S, BS 4468 and SCAN P-11

Improved, intuitive software and new 7” digital touchscreen display

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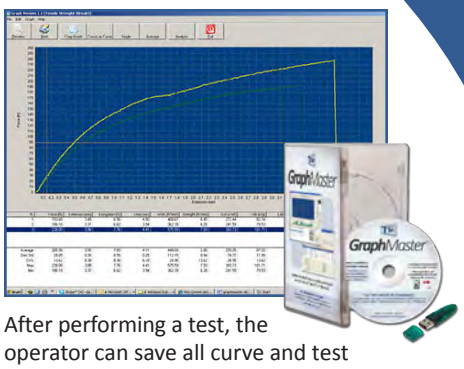
Pneumatic clamps

Simple, two-button operation of the pneumatic clamp and swing ensures efficient testing. A built-in cutting blade prepares samples quickly and easily.

Universal pendulum

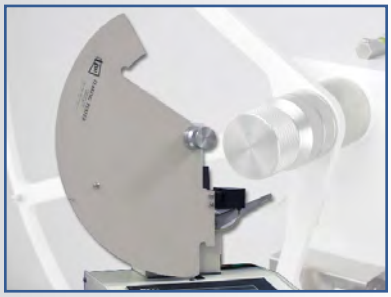
A universal pendulum with quick change hardware and weights provides multiple testing options. The required calibration weights are also included.

GraphMaster™ software



After performing a test, the operator can save all curve and test result data directly to an external PC with optional GraphMaster™ software.

Pendulum compatibility



Existing model 83-11 Elmendorf Tear Tester pendulums are compatible with the new 83-76 unit, preventing the need for additional pendulums.

Pneumatic sample press

The **22-55 Pneumatic Sample Press** produces constant radius samples for plastic film testing based on ASTM D 1922 specifications.

Triple shear sample cutter

The **83-20-08 Sample Cutter** produces rectangular samples for paper and textile testing based on ASTM D 689 and TAPPI T 414 specifications.

SPECIFICATIONS	
Selectable units	Percentage (%), Millinewtons (mN), Grams-force (gf), Pounds-force (lbf)
Sample statistics	Average, High/Low results, Standard deviation
Available pendulums	83-11-06 3200 gram pendulum 83-11-07 6400 gram pendulum 83-11-08 Universal pendulum 200, 400, 800 & 1600 gram *(calibration weights included)*
Additional options	GraphMaster™ software, Printer
Output	USB flash drive, USB ESC/POS printer, RS232, GraphMaster™ software
Power	120/240 VAC 50/60 Hz
Air	600 kPa (87 psi) - IG4 Instrument Grade Air (ISO Class 1-4-1), ¼" OD tubing
Dimensions (WxDxH)	12 in x 12 in x 20 in (305 mm x 305 mm x 508 mm)
Weight (approx.)	23 lbs (10.4 kg)

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Spencer Impact Attachment

Model 83-76

IMPACT RESISTANCE TESTING FOR PLASTIC FILMS

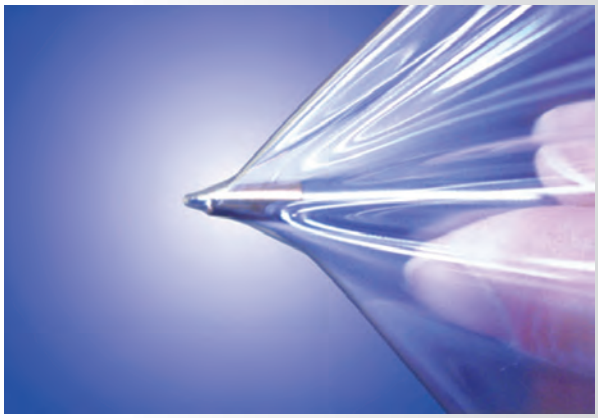
Film manufacturers that produce packaging materials for plastic bags and packaged goods require increased impact/puncture strength for product integrity during packaging and transport.

Impact resistance of plastic films provide useful information to determine the energy required to puncture a film sheet. Two primary dynamic impact methods exist for measuring plastic film. The Dart Drop method based on ASTM D 1709 is a pass/fail test. The test records the weight of the dart which penetrates through the film sample. (See TMI Part # 43-61)
The Spencer Impact method is based on ASTM D 3420. An attachment to the Elmendorf Tear Tester is mounted on the top of the instrument and measures the puncture impact resistance of a plastic film sheet or other related sheet-like material. The fixture consists of a probe mounted onto the end of the Elmendorf pendulum and an air-operated clamp used to secure the film sample. The unit measures the resistance to impact/puncture as the probe penetrates a sheet of plastic film.

The TMI Spencer Impact fixture consists of an air-operated clamping ring with a diameter of 89.0 +/- 0.5 mm. The puncture Impact arm has a radius of 12.7mm and a diameter of 19.0 mm. Measurement ranges include 200, 400, 800, 1600, 3200 and 6400 gf.

Spencer Impact Attachment meets ASTM D 3420 (part B).
Available ranges based on pendulum capacity:

- gf.....J (cm·kgf)
- 200.....0.169 (1.7)
- 400.....0.338 (3.4)
- 800.....0.675 (6.8)
- 1600.....1.35 (13.5)
- 3200.....2.70 (27)



- **Part Number:** 83-76-01-0002
- **Specimen size:**
  Square – 127 mm x 127 mm
  Round – 127 mm diameter

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