

# product specification

## ProTear™ Elmendorf Mechanical 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 sheet materials including paper, packaging, foils, textiles, non-wovens and plastic films.

### Operation

The tearing resistance of a material is measured via the transfer 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 mechanical model is a basic tear tester that offers an economic alternative to the electronic version. It offers the same pendulum configuration but without the electronic interface. Test results are obtained by means of a pointer on a graduated scale from 0% to 100%.

There are several configurations ranging from 200 to 6400 g, with capacities quickly and easily changed with augmenting weights, which both eliminate the need for multiple pendulums and simplify the testing of different materials.

### Features

- Bench space saving design
- One-touch pneumatic clamping and pendulum release

### Physical specifications

#### Dimensions

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

#### Net weight

15.2 kg

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## Options

- Augmenting weights – quick change of the pendulum capacities between 200 and 6400 g
- Calibration weights of 200, 400, 800, 1600, 3200 and 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 swings the impact head through the clamped specimen and the energy required to puncture the sample is recorded. Complies with ASTM D3420

## Performance data

### Capacity

200, 400, 800, 1600, 3200, 6400 g

### Accuracy

± 0.5% of pendulum capacity

### Result reporting

Pointer

### Results units

% of pendulum capacity

### Display

Pointer

### Specimen clamp

Mechanical or pneumatic

### Pendulum release

Mechanical

### Air supply

Compressed air 6 bar, required for pneumatic clamps only

### 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, EN 21974, ASTM D295, D751, D1424, D1922, TAPPI T-414, T-496, BS 4253, 4468, CPPA D.9, SCAN P-11

