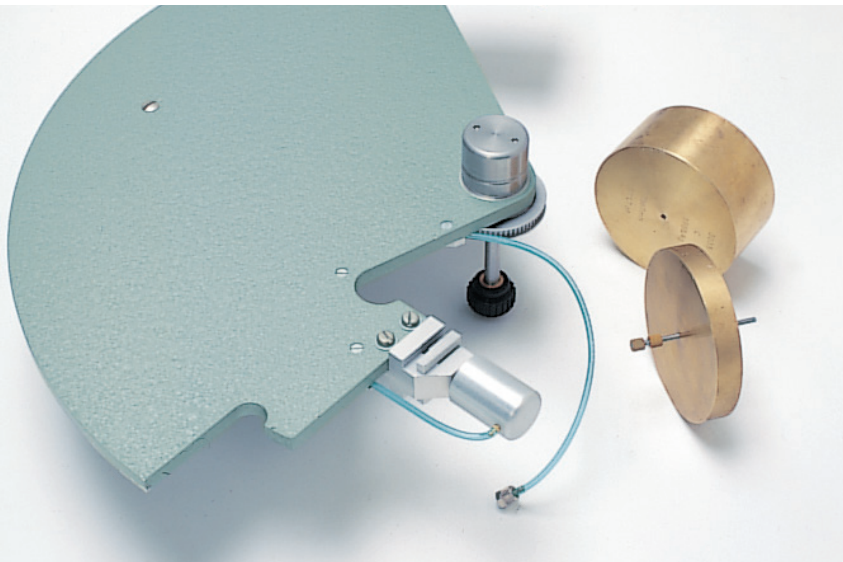


PULP AND PAPER

L&W Tearing Tester

Lorentzen & Wettre Products | Paper testing



Tearing resistance is often used as a component for predicting web breaks, and it is also an important property for sack paper. L&W Tearing Tester measures tearing resistance according to the Elmendorf method. Menu-based setup, pneumatic clamping of the test pieces, and automatic calculations of measured values, ensure stable and accurate test results.

— Each L&W Tearing Tester pendulum is delivered with two check weights.

L&W Tearing Tester uses the tearing principle according to the Elmendorf method, which is the classical method to measure tearing resistance in paper. L&W Tearing Tester is easy to use, because of its many advanced functions. An easy-to-read display, a simple keypad and interactive, menu-based set-up are a few of the features that have made this instrument a bestseller. The pneumatic clamping and pendulum release, contribute in making results stable and correct, regardless of operator.

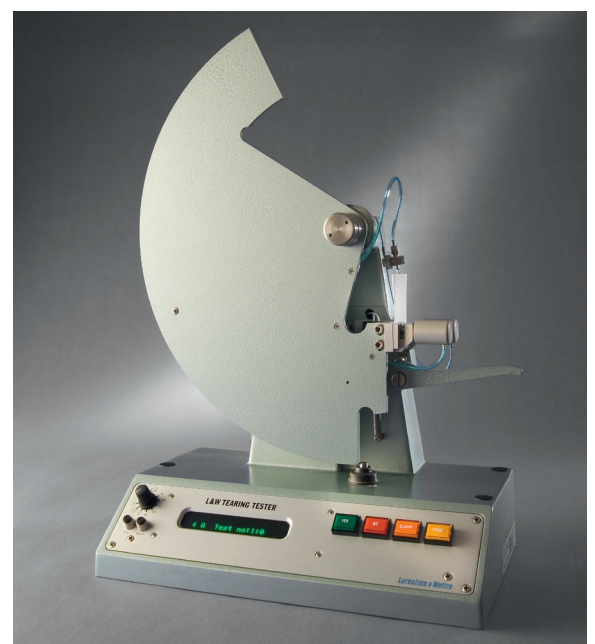
Calculations, calibrations, internal tests, alarm functions, zero-setting, pendulum release and reporting of results are all handled by the built-in microprocessor. No correction for pendulum factor is necessary. The serial output can be used to link the tearing tester to a PC for further statistical analysis of measured values.

Benefits

- Built in compensation of pendulum friction and belt resistance
- Easy to calibrate using the check weights which are included in delivery
- Pneumatic clamps
- The built-in microcomputer handles all calculations and set-up functions
- Measured values presented in mN, gf or scale parts
- Easily interchangeable pendulums

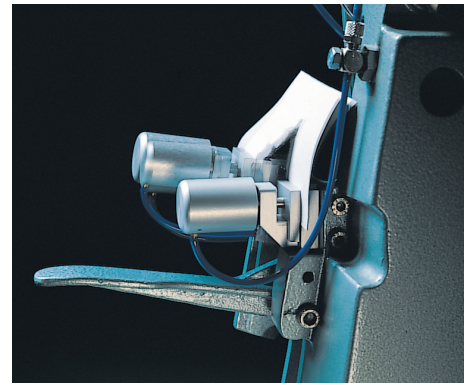
DEFINITION

The mean force required to continue the tearing of an initial cut in a single sheet of paper is expressed as the internal tearing resistance. If the initial slit is made in the machine direction, the result is given as machine direction tearing resistance and similarly for the cross machine direction (ISO 1974).

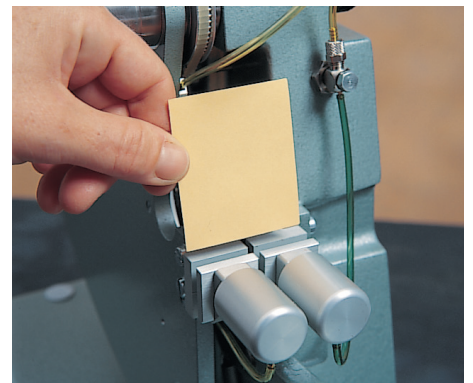


— L&W Tearing Tester measures tearing resistance in paper and is available in two different versions.

Technical specifications – L&W Tearing Tester, code 009			
Inclusive	Pendulum with two check weights		
Measurement			
Units	mN, gram force (gf) or scale parts		
Capacity	see table below		
Results			
	Measurement values - individual tearing resistance		
	Statistics - mean value - standard deviation - coefficient of variation - maximum and minimum approved values of the series		
Connections			
Data	RS232C - connectable to L&W Autoline Data Acquisition Workstation		
Installation requirements			
Power	25 W		
Instrument air	0.5–0.6MPa (70–90psi)		
Options			
	Alternative pendulum A, B or C (according to the table). Calibration weights 15–2 130 g, in 64 steps		
Dimensions	0.5 × 0.2 × 0.4 m 20 × 8 × 16 in	Volume	0.15 m ³ 5.3 ft ³
Net weight	11 kg 24 lb	Gross weight	23 kg 35 lb
Applicable standards and sample length			
APPITA/AS 1301 400S	– 62 mm		
BS 4468	– 62 mm or 63 mm		
PAPTAC D.9	– 63 mm		
DIN 53128	– 62 mm or 63 mm		
EN ISO 21974	– 62 mm or 63 mm		
NF Q 03011	– 62 mm or 63 mm		
ISO 1974	– 62 mm or 63 mm		
SCAN P11	– 62 mm		
TAPPI T414	– 63 mm		



The average amount of work consumed to tear the sheets divided by the total tearing length, is the internal tearing resistance.



One or more samples are clamped in split jaws and an initial cut is made, in the sample between the jaws, with the built-in knife.

Comparison between different standard methods

Pendulum	Light A	Medium B	Heavy C	Torn test pieces
Max. tearing capacity	8000 mN (800 gf)	16000 mN (1600 gf)	32000 mN (3200 gf)	1
SCAN P-11 APPITA/AS 1301.400S	max 1500 mN	600–3000 mN	2000–7500 mN	4
BS 4468 ISO 1974 DIN 53128	400–1600 mN	800–3200 mN	1600–6400 mN	4
PAPTAC D.9	0–1500 mN	600–3000 mN	2000–8000 mN	4
TAPPI T414	max 600 gf	max 1200 gf	max 2400 gf	1 or more

The various capacities according to the different standard methods depend on the number of test pieces to be torn simultaneously, as well as on the recommended scale range.