GenElm Series Elmendorf Tearing Tester 64N and 128N Models

Standards: ISO 6383-2, WSP 100.1, NF T54 141, APPITA P 400, BS 4468, CSA D9, JIS L0849, JIS K 7128-2, EN 21974, DIN 53128, ISO 1974, ASTM D689, ASTM D5734, ASTM D1922, NEXT 17, M&S P29, ISO 4674-2, EN ISO 13937-1, ISO 9290, DIN 53862, ASTM D1424

- ULTIMATE USER-FRIENDLINESS
- LEADING DEPENDABILITY AND RELIABILITY
- STRICT COMPLIANCE WITH INDUSTRY STANDARDS
- STOCKED CONSUMABLES AND SPARES
- TRUSTED AFTER SALES TECHNICAL SUPPORT
- LIFETIME PRODUCT SUPPORT ADVANTAGE

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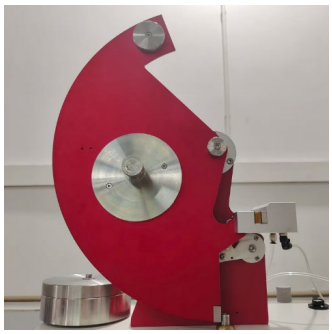
Description

The **GenElm Series Elmendorf Tearing Tester** is a professional laboratory instrument used to measure the tear resistance of different materials. It follows international standards, including ASTM, ISO, and DIN. The system is based on the pendulum method of testing, giving laboratories clear and precise data for both research and everyday quality control.



This equipment can be applied to many types of materials such as fabrics, plastic films, paper, nonwoven textiles, and thin foils. By testing how a tear develops in these materials, the GenElm Series helps evaluate strength, performance, and compliance with industry requirements. The results are especially valuable for production lines, product testing facilities, and research centers that need dependable measurements of material durability.

The GenElm Series comes with a simple touch-screen interface, automatic specimen cutting, and pneumatic clamping for stable handling of samples. Different pendulum options allow the user to cover several testing ranges, while the built-in system collects and processes the data. This combination of functions makes the instrument practical for everyday laboratory work and a reliable solution for routine testing.

Key Features

The GenElm Series Elmendorf Tearing Tester includes functions that simplify daily use and provide stable test results.

- **Automated testing and analysis** – the system performs calculations and records results without manual processing.
- **Pneumatic clamping and pendulum release** – ensures uniform sample holding and a stable start of each test.
- **Interchangeable pendulums (16 N – 128 N)** – covers different load ranges for both light and heavy materials.
- **Automatic specimen cutting** – prepares samples with consistent shape and size for repeatable results.
- **Integrated statistics** – calculates mean, minimum, maximum, standard deviation, and coefficient of variation directly on the device.
- **Data export (RS232)** – transfers results to a PC or printer for documentation and reports.
- **Multi-language interface** – supports different user needs across laboratories.
- **Calibration and certificates included** – supplied with inspection and calibration documents to confirm compliance with standards.

Compliance with International Standards

The GenElm Series Elmendorf Tearing Tester is supplied from the factory with compliance to all essential international standards. This allows laboratories worldwide to run tests under recognized procedures, compare results, and adapt reporting to regional or industry-specific requirements.

Below is the list of the main standards supported by the GenElm Series:

- **ASTM D1424** – Tearing strength of fabrics using a falling-pendulum (Elmendorf) apparatus.
- **ASTM D1922** – Tear resistance of plastic film and thin sheeting by the pendulum method.
- **ASTM D5734** – Tear strength of nonwoven fabrics using the trapezoid procedure.
- **ASTM D689** – Tearing strength of paper determined by the Elmendorf method.
- **ISO 4674-2** – Tear resistance of rubber- or plastics-coated fabrics, Part 2: Elmendorf method.
- **ISO 9290** – Tear resistance of plastic film and sheeting using the Elmendorf method.
- **ISO 6383-2** – Tear resistance of plastics, film, and sheeting, Part 2: Elmendorf method.
- **ISO 1974** – Determination of tearing resistance of paper using the Elmendorf method.
- **DIN 53862** – Tearing strength test for textiles by Elmendorf method.

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- **DIN 53128** – Tearing resistance of paper and board by Elmendorf method.
- **EN ISO 13937-1** – Tear properties of textiles, trouser-shaped test specimens.
- **EN 21974** – Tearing resistance of paper by Elmendorf method.
- **JIS K 7128-2** – Tear resistance of plastic film and sheeting by Elmendorf method.
- **JIS L0849** – Tear strength testing of woven fabrics by Elmendorf method.
- **CSA D9** – Canadian standard for paper tearing resistance, Elmendorf method.
- **BS 4468** – British method for tearing strength of paper and board by Elmendorf method.
- **APPITA P 400** – Tear resistance of paper, board, and pulps by Elmendorf method.
- **M&S P29** – Fabric tear testing standard used by Marks & Spencer.
- **NEXT 17** – Retail and apparel-specific fabric tear testing procedure.
- **NF T54 141** – Tear resistance of plastic films and sheets, Elmendorf method.
- **WSP 100.1** – Nonwoven fabric standard test methods (INDA/EDANA).

Technical Specifications

The GenElm Series is available in two versions to cover different material testing needs. The **64 N model** supports three ranges (0–16 N, 0–32 N, and 0–64 N), making it suitable for textiles, packaging films, and paper products. The **128 N high-energy model** extends the capacity up to 128 N, which is required for tougher or more technical materials. Both versions rely on the same pendulum principle, ensuring a unified approach to tear strength measurement.

Despite the difference in maximum load, both models share identical design features and geometry. Each tester is built with a clamp gap of 7.0 ± 0.25 mm, a slit length of 20 ± 0.2 mm, and a tear travel of 43 ± 0.15 mm. In this context, “N” stands for newtons, representing the pendulum capacity. This structure allows laboratories to choose the configuration that matches their materials without compromising consistency across tests.

Parameter	64 N Model	128 N Model
Measuring Range	0–16 N, 32 N, 64 N	0–16 N, 32 N, 64 N, 128 N
Measurement Accuracy	±0.2% F.S.	±0.2% F.S.
Distance Between Clamps	7.0 ± 0.25 mm	7.0 ± 0.25 mm

Parameter	64 N Model	128 N Model
Slit Size	20 ± 0.2 mm	20 ± 0.2 mm
Tearing Distance	43 ± 0.15 mm	43 ± 0.15 mm
Dimensions	19.7 × 15.7 × 24.4 in (500 × 400 × 620 mm)	19.7 × 15.7 × 24.4 in (500 × 400 × 620 mm)
Weight	110–128 lbs (50–58 kg)	110–128 lbs (50–58 kg)
Power Supply	AC220V, 50Hz, 100W	AC220V, 50Hz, 100W
Control System	LCD touch panel with microcomputer	LCD touch panel with microcomputer
Sample Clamping	Pneumatic, automatic pendulum release	Pneumatic, automatic pendulum release
Specimen Cutting	Automatic, consistent sample shape	Automatic, consistent sample shape
Data Output	RS232 port to PC and printer	RS232 port to PC and printer

Applications Across Industries and Materials

The Elmendorf tearing tester is recognized as a practical tool for laboratories and production sites that need to measure how different materials behave when subjected to tearing forces. Its ability to work with textiles, films, papers, and technical fabrics makes it suitable for both research and day-to-day quality control.

Where It Is Used

The instrument is applied in multiple industries where tear resistance is critical for safety, quality, and durability.

- Packaging industry – testing plastic films and sheets to confirm performance during storage, transport, and handling.

- Paper and cardboard – evaluating tissue, printing paper, and packaging board for strength and reliability.
- Textile and nonwoven sectors – measuring tear resistance of woven, knitted, and nonwoven fabrics used in apparel and technical textiles.
- Automotive and upholstery – assessing fabrics and interior materials such as seat covers to ensure durability in use.
- Research and quality control laboratories – providing consistent benchmarks for product development and compliance testing.

Materials Commonly Tested

The system works with a variety of materials, from thin flexible films to heavy technical textiles.

- Plastic films and sheeting
- Paper and cardboard
- Woven textiles
- Knitted fabrics
- Nonwoven fabrics
- Reinforced and industrial fabrics such as canvas

Typical Products Tested

Elmendorf tear testing is also applied to finished or semi-finished products that must meet durability requirements.

- Food, medical, and industrial packaging films
- Tissue, wrapping paper, and printed stock
- Clothing fabrics including sportswear and workwear
- Automotive upholstery and liners
- Disposable nonwoven products such as wipes and filters
- Heavy-duty textiles used in industrial and outdoor applications

Complete Set of Weights and Tools

The GenElm Series Elmendorf Tearing Tester is supplied with all the required pendulum weights and tools for accurate and repeatable tear strength measurements. Each weight corresponds to a specific test capacity, allowing laboratories to select the right load depending on the type and strength of the material being tested.

With options ranging from low-capacity weights for thin films and paper to high-capacity weights

for technical fabrics and industrial materials, the full range is available in the standard package. Alongside the weights, the system is delivered with cutting templates, cables, and adjustment tools.

Get In Touch With Us

If you require this type of equipment for specific testing needs, the GenElm Series can be adapted to meet your requirements. Whether you need clarification on technical details, additional product information, or guidance on how this tester can be integrated into your laboratory, our team is here to assist you.

Please request a quote or contact us directly with your questions. We will provide clear answers and support you in finding the right solution for your testing applications.

*** Request a formal quotation or send an e-mail to sales@nextgentest.com for the most up-to-date pricing and applicable discounts and incentives.**

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