IGT Testing Systems

www.igt.nl

AFT

Advanced Friction Tester

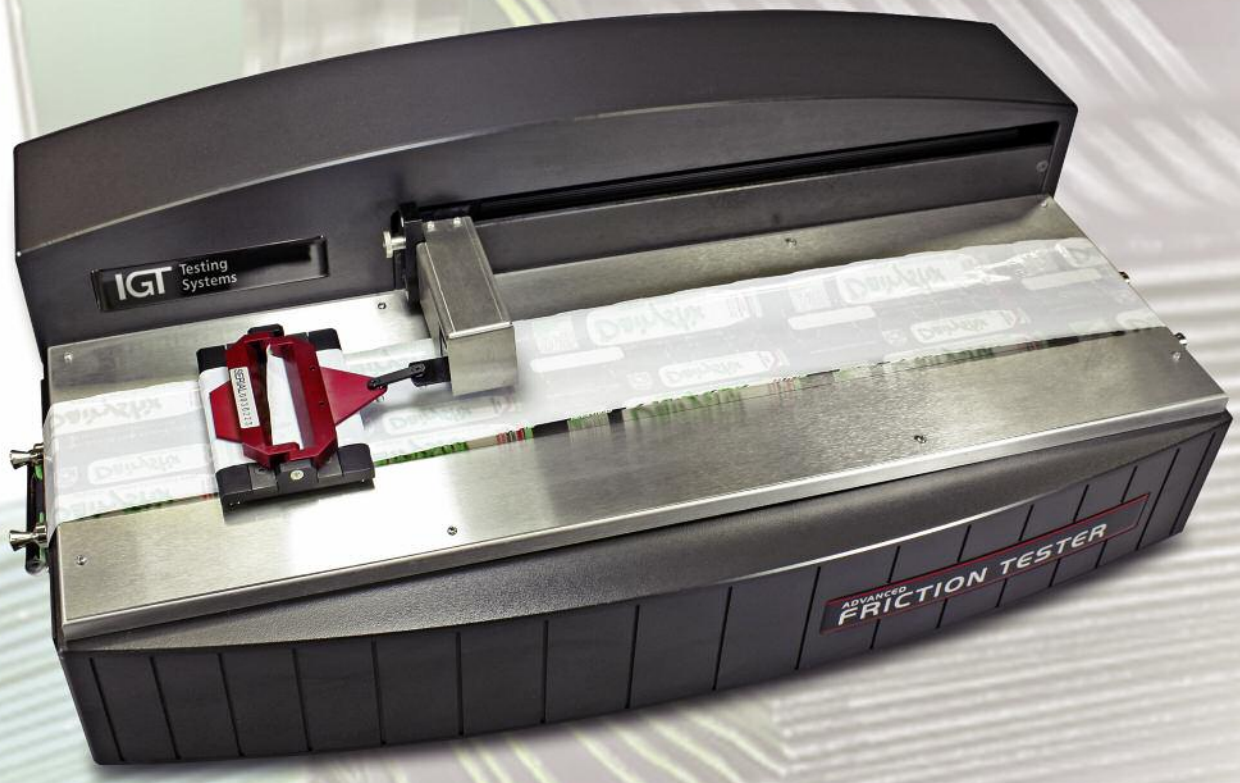
- Static and dynamic coefficient of friction
- Fast, repeatable measurements
- Compliant to multiple standards

AFT Advanced Friction Tester

VERSATILE INSTRUMENT • REPEATABLE MEASUREMENTS •

The Advanced Friction Tester produces detailed fingerprints of new substrates, coatings and production samples. These characteristics can be saved and compared at any time allowing the manufacturer to specify the optimum surface finish for any packaging process.

Surface slip is a key factor when printing, erecting or filling packaging materials on an automatic line. Friction parameters help the manufacturer understand how the finish of a blown film or printed carton can influence the feeding and running speed. In addition to these values the AFT produces detailed force graphs that can be saved and compared.



Optional attachments are available for the AFT that will measure peel strength, blocking, and tearing of packaging materials. Measuring surface friction is important in many industries, the AFT can be used to measure many materials including plastic film, carton board, textile, paper, foils and laminates.

REPEATABLE MEASUREMENTS • EASY TO USE

MEASURING FRICTION

The IGT AFT measures both static and dynamic coefficient of friction.

Static Friction: The initial force required to make two surfaces slip against each other.

Dynamic Friction: The ongoing force required to maintain movement between two surfaces.

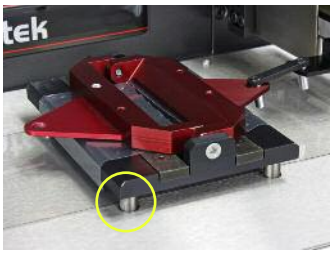
How is friction measured? A sample of 63.5mm^2 with a weight acting over the entire surface area is run over another sample at a given speed.

This is typically a face to face test.

Exact test parameters are specified in ASTM D1894, ISO 8295, ISO 15359, ASTM D2534, TAPPI T549.

FEATURES

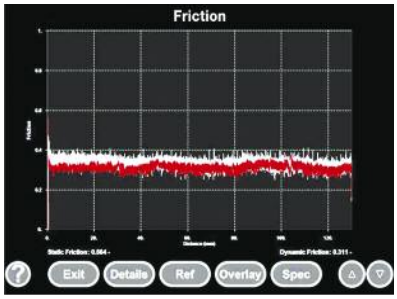
- Automatic sled placement with variable dwell times give more repeatable static slip results



Sled is positoned on lift pins

Lift pins retract into the instrument and the sled is placed in the same position each time

- Fixed link between the sled and the load cell means that there are no errors in fricton from pulley wheels or cords associated with other measuring instruments
- Full graphical & statistical analysis of test results can be printed to PDF for easy reporting

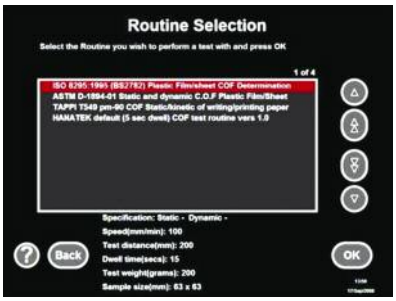


All results can be compared graphically – a previously tested reference can also be overlaid to help understand batch to batch consistency and quality

- Create & store electronic references for future comparison

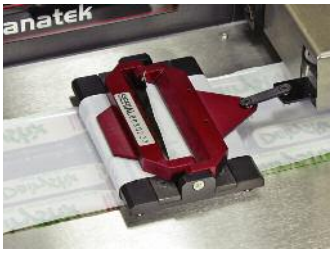
The instrument calculates detailed statistics for multiple measurements. A detailed report can be printed directly from the instrument

- Pre-loaded ISO/ASTM/TAPPI slip test methods



The instrument has pre-loaded test instructions that help ensure samples are tested to international standards

- Choice of easy-load sled for measuring films or standard sled for other materials



Easy-load friction sled

TOUCH SCREEN INTERFACE

The AFT uses an intuitive touch screen interface making it accessible and easy to use.

Development tool or Q.A. instrument

- This flexible instrument can be configured for quality or research use –

Research tool

- Create bespoke test methods
- Statistical and graphical analysis of results

Q.A. instrument

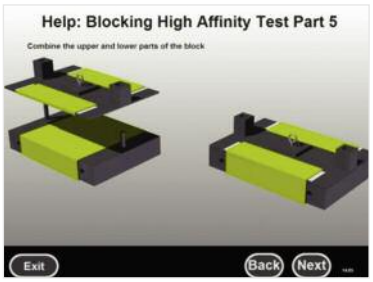
- Pre-loaded ISO/ASTM/TAPPI/FINAT test methods
- Date/operator stamped results
- User definable pass/fail criteria with optional password protection

ADDITIONAL TESTS

ON-SCREEN GRAPHICAL HELP

All operations and test methods have comprehensive graphical on-screen help.

- Intuitive and easy to use
- Easy to train new users
- Consistent results for all operators
- No need to consult complicated manuals

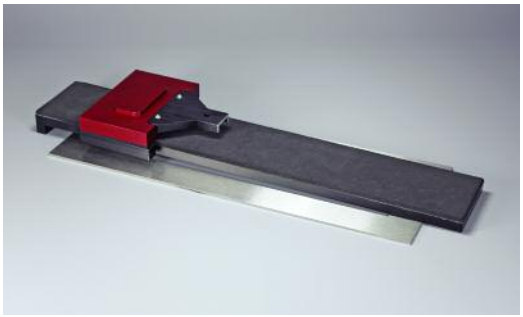


All operations have on-screen graphical help including instructions for sample preparation and testing, software navigation and instrument set-up.

PAPER & BOARD FRICTION TEST ATTACHMENT (ISO 15359)

Additional attachment to remove uncertainty in measurement of paper and board.

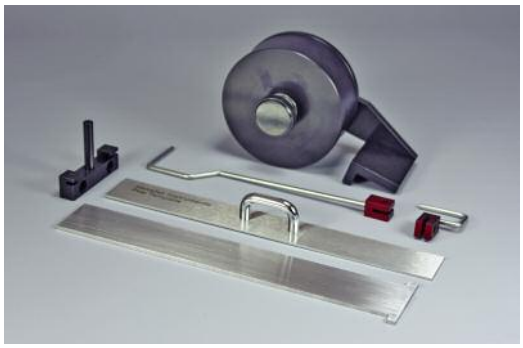
- Utilises the unique IGT sled lowering system to remove placement errors
- Guidance system ensures that the sled is kept parallel with the measuring platen
- Sample preparation system eliminates errors caused by sample contamination



PEEL TESTING

Optional attachments transform the AFT into a precision peel test instrument, accurately measuring the force required to separate glued or laminated films, tapes, labels etc.

- All tests are to FINAT international standards
- T-Peel, 180° peel or 90° peel tests
- Graphical on-screen instructions
- Force curves and statistical analysis



TEAR TESTING – SUBSTRATE STRENGTH

Optional tear strength attachment allows the user to measure and control tear strength to international standards.

- Trouser Tear method
- Full graphical instructions and sample templates

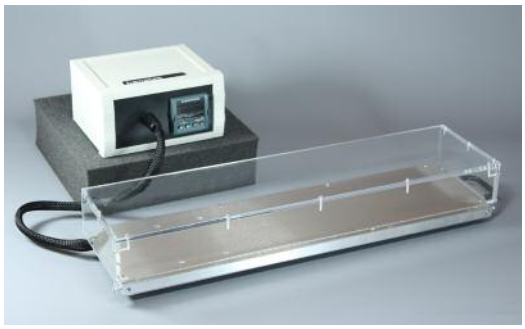
BLOCK TESTING – FILMS, LABELS & CARTONS

During storage, films, labels or cartons can inadvertently block together making them difficult to separate and feed into finishing or packing lines.

- Measure the force required to separate blocked samples
- Full testing and sample conditioning instructions
- Test to international standards

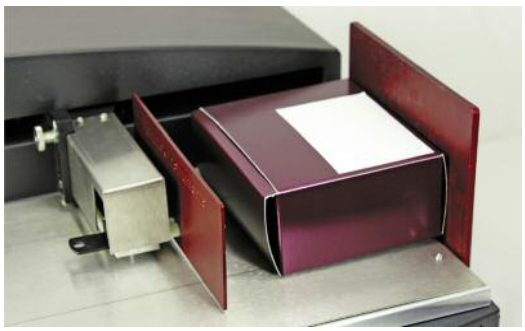
DETACHABLE HEATED BED

Detachable heated bed can be added to test frictional characteristics at elevated temperatures up to 110°C.



BOX CLOSING FORCE

Measure the forces required to close filled cartons.



This test ensures that carton based packages can be stacked and displayed correctly. Cartons must also be properly closed to ensure that any secondary process such as film wrapping can be performed.

APPLICATIONS

Plastic film

Printed packaging

Paper

Printed paper

Leather

Coatings

Cartons

Labels

Textile

Foils

UNIVERSAL SAMPLE CUTTER*

The IGT Universal Sample Cutter has been designed for the simple cutting of samples for the packaging industry. Dies can be configured to cut samples for most test types including: friction, tensile, grammage, O_2 permeability, CO_2 permeability, WVTR, rub resistance, carton crease, carton stiffness and many more.

*Optional accessory, not included in the price of the Hanatek Friction Tester.

AFT Advanced Friction Tester

PC SPECIFICATION

All in one, touch screen PC, windows operating system

INSTRUMENT SPECIFICATIONS

STANDARDS	
C.O.F.	ISO 8295, ISO 15359, BS 2782 pt 8, ASTM D1894 TAPPI 549 and T816
Peel/Adhesion	ASTM D4521, D3330 DIN 53375, FINAT 1, 2, 3, 9
Tear Strength	ISO 6383
Block Tests	ISO 11502, ASTM D3354
RESOLUTION	0.1g / 0.001 COF
ACCURACY	0.5g
SPEED	50-1200 mm/min (in 1mm/min increments)
DISTANCE OF TRAVEL	10mm - 300mm
POWER	110/240V 50/60 Hz
LOAD CELL	20N (2kg) 30N (3kg) additional cost
SLEDS	200g (film) or 200g (board) Other sled weights by request Custom sled base materials available
WEIGHT	7kg
SIZE	(H) 180mm x (W) 550mm x (D) 300mm
PACKED WEIGHT (instrument + PC)	21kg
PACKED DIMENSIONS	(H) 590mm x (W) 840mm x (D) 430mm
COMMODITY CODE	9024 8011

ORDER CODES

Description	Order code
Friction Tester (Film)*	HAN-A6040FRICTION/FILM
Friction Tester (Board)	HAN-A6040FRICTION/BOARD

* film version is also suitable for testing board

INCLUDED ACCESSORIES

- Touch screen PC
- 2 x USB data cables
- 1 x 200g sled (specify film or board)
- 1 x Friction sled template
- 4 x Sample securing magnets
- 1 x Hanatek USB drive
- 1 x Calibration pulley attachment with fixing attachments
- 1 x 100g calibration check weight

OPTIONAL TEST ATTACHMENTS

PAPER AND BOARD FRICTION TEST
Friction measurement to ISO 15359.

PEEL TEST
90˚, 180˚ and 'T' peel test attachments measure adhesive strength of tape, labels, low strength bonding agents or packaging seals.

TROUSER TEAR
Measure substrate tear strength to ISO 6383-1.

BLOCK TEST
Measure the blocking characteristics of films or coated cartons.

HEATED MEASUREMENT PLATEN
Test frictional characteristics at elevated temperatures up to 110˚C.

BOX CLOSING FORCE
Measure the force required to close a filled carton.

Certificate no: FM 29741
ISO 9001:2008

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