

# hanatek



[www.hanatekinstruments.com](http://www.hanatekinstruments.com)

## AFT Advanced Friction Tester

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

Hanatek products are exclusively  
manufactured and distributed by

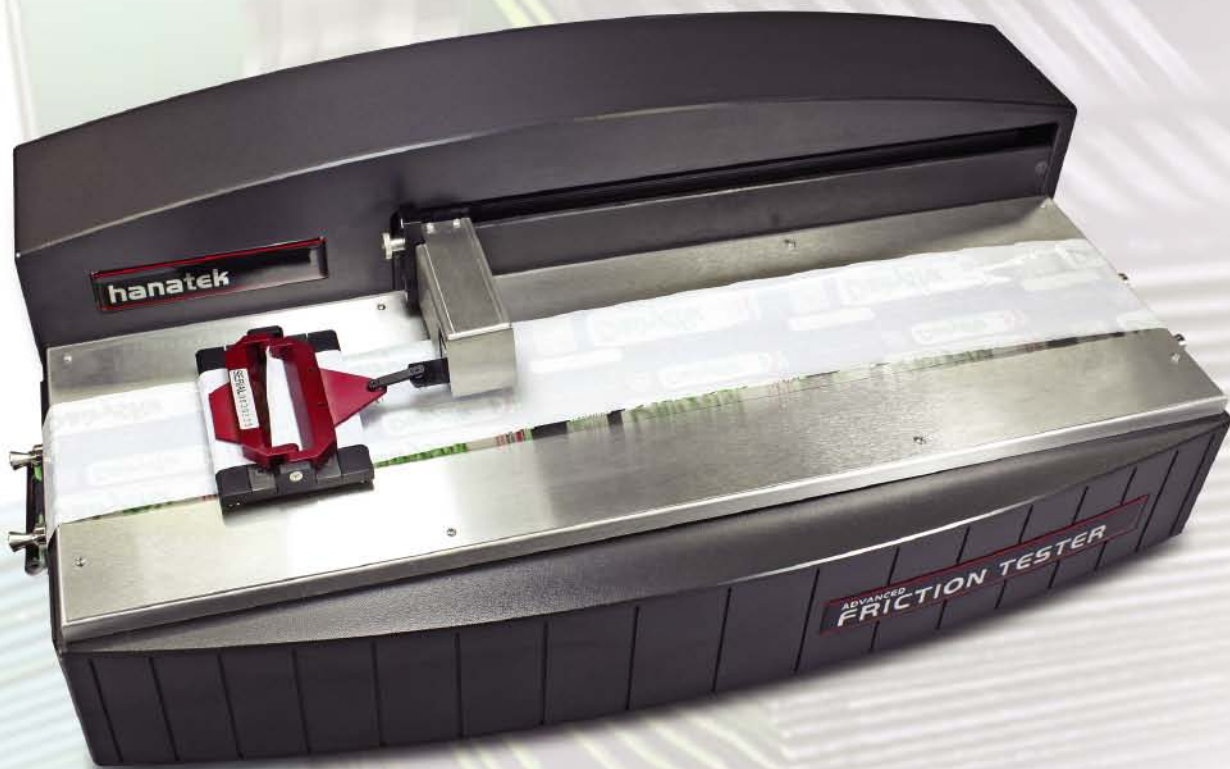
 **RHOPOINT**  
INSTRUMENTS

# 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 Hanatek 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<sup>2</sup> 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
- Fixed link between the sled and the load cell means that there are no errors in friction 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
- Create & store electronic references for future comparison
- Choice of easy-load sled for measuring films or standard sled for other materials
- Pre-loaded ISO/ASTM/TAPPI slip test methods



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

## 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

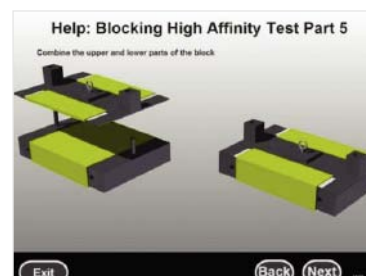
### Q.A. instrument

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

## 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.



Easy-load friction sled with auto placement system.



## PAPER & BOARD FRICTION TEST ATTACHMENT (ISO 15359)

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

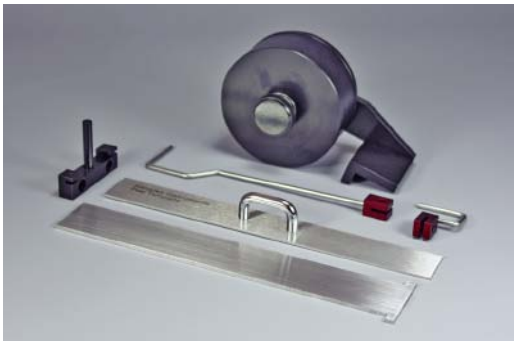
- Utilises the unique Hanatek sled lowering system to remove placement errors
- Guidance system ensures that the sled is kept parallel with the measuring platen
- Sample preparation system eliminates errors caused by sample contamination



## 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.

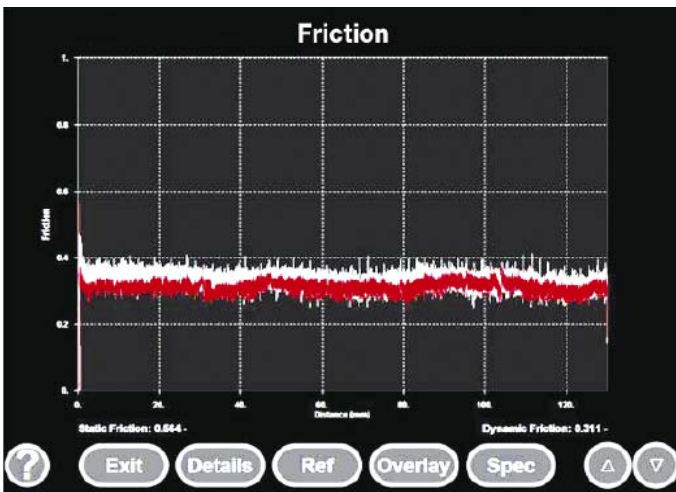


## BOX CLOSING FORCE

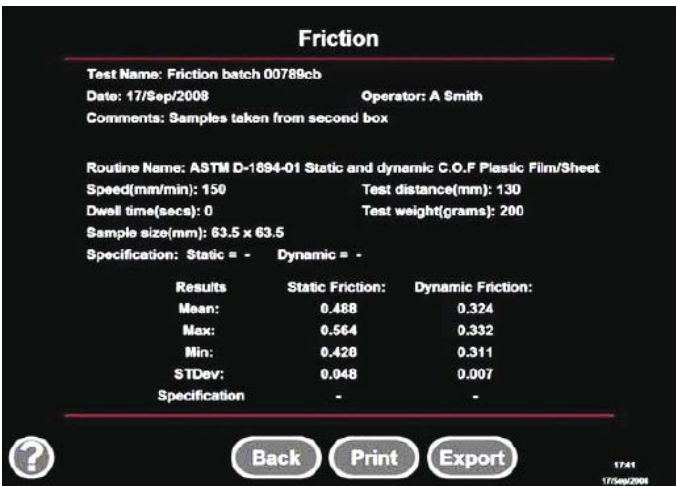
Measure the forces required to close filled cartons.



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.



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



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

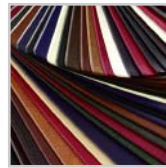
## APPLICATIONS



Plastic film



Paper



Leather



Cartons



Textile



Printed packaging



Printed paper



Coatings



Labels



Foils

# AFT Advanced Friction Tester

## PC SPECIFICATIONS

DISPLAY SIZE	15.6"
FORM FACTOR	All in One, touch screen
PROCESSOR	Intel Celeron Interface 847 - 1.1 GHz
RAM	2 GB
HARD DRIVE	320 GB
PORTS	2 x USB 3.0
OPERATING SYSTEM	Windows 7

## INSTRUMENT SPECIFICATIONS

<b>STANDARDS</b>	
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
<b>RESOLUTION</b>	0.1g / 0.001 COF
<b>ACCURACY</b>	0.5g
<b>POWER</b>	110/240V 50/60 Hz
<b>SLEDS</b>	200g (film) or 200g (board) Other sled weights by request Custom sled base materials available
<b>WEIGHT</b>	7kg
<b>PACKED WEIGHT</b> (instrument + PC)	21kg
<b>SIZE</b>	(H) 180mm x (W) 550mm x (D) 300mm
<b>COMMODITY CODE</b>	9024 8011

## 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 forces required to close a filled carton.



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LOCAL AGENT

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