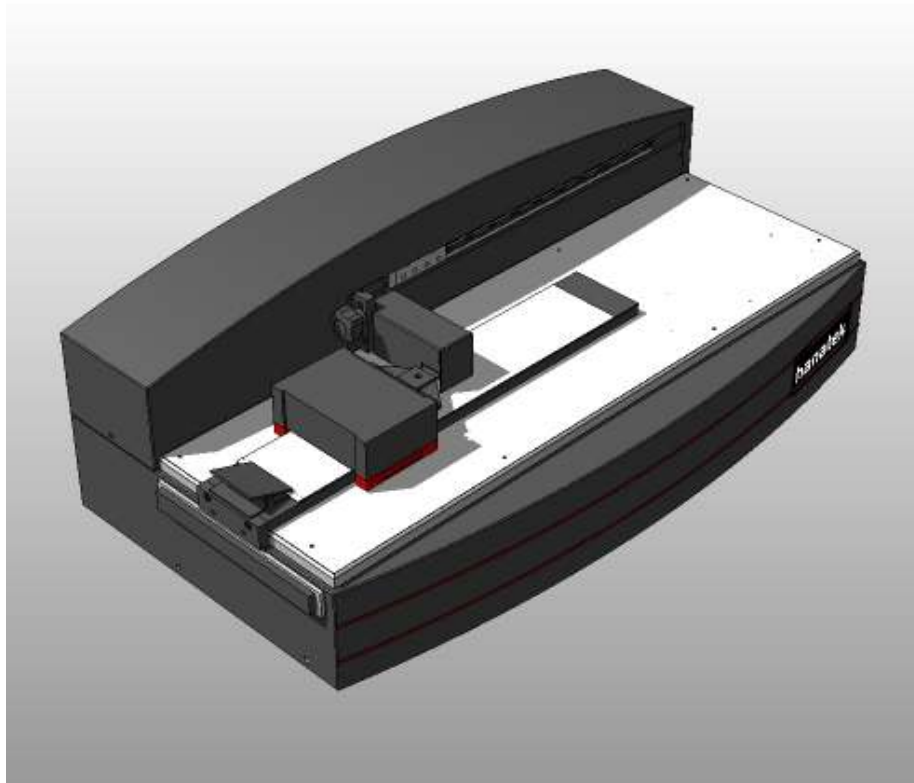


hanatek

ADVANCED FRICTION TESTER
ISO 15359- Paper and Board Friction Test Attachment



MODEL AFT-PB1

OPERATING MANUAL

**Rhopoint Instruments
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Background

ISO 15359 was created to reduce the effects of measurement conditions when assessing the friction characteristics of paper and board.

A Study* made in the 1990's concluded that practises employed in the manual measurement of static and dynamic slip introduced significant uncertainty to the results.

The study revealed that;

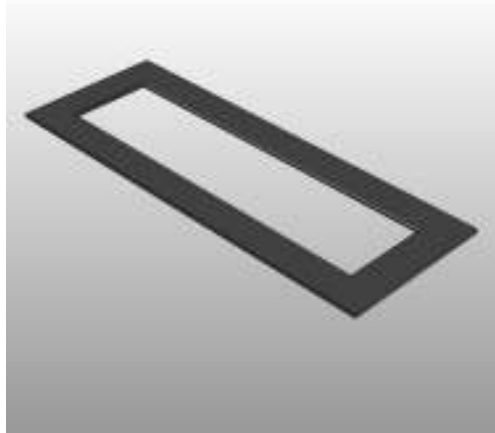
- The paper surfaces must not be touched by hand or otherwise contaminated.
- The hardness of backing foam must be specified.
- The sled must be lowered into position without any movement of the table.
- A guidance system must be used to keep the sled parallel with the table.
- Applied force must be built up slowly until the sled begins to slide, the sled should then slide at a constant speed without wobbling.
- Measurement of slip requires a rigid apparatus to avoid the stick slip phenomenon.

The AFT ISO 15359 Paper and Board Attachment enables the user to implement all the relevant findings of this study, bringing unparalleled accuracy and repeatability to paper and board friction measurement.

*A. Johansson, C.Fellars, D. Gunterson and U.Haugen, *Paper Friction-Influence of Measurement Conditions*, Tappi Journal, 8:15, 1998, 175-183

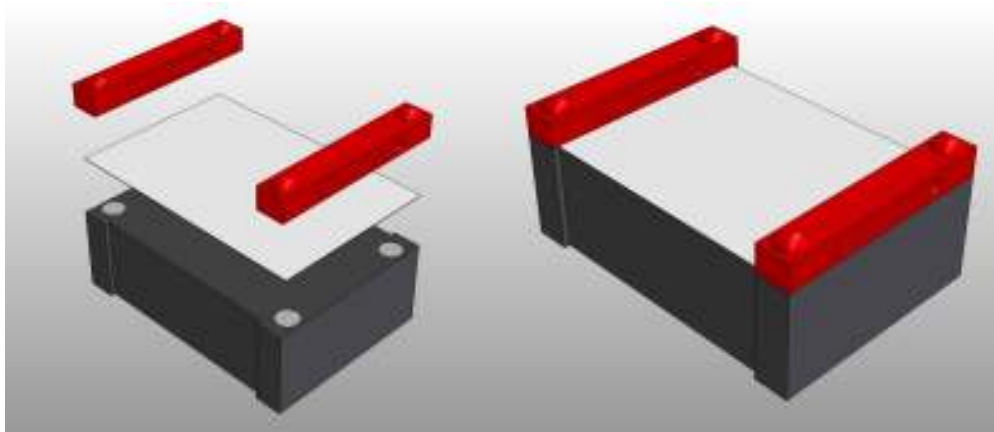
Using the ISO 15359- Paper and Board Friction Test Attachment

1. Cut two sample strips from the sample using the cutting template and a sharp knife or scalpel.-Take care not to touch or contaminate the test surfaces.



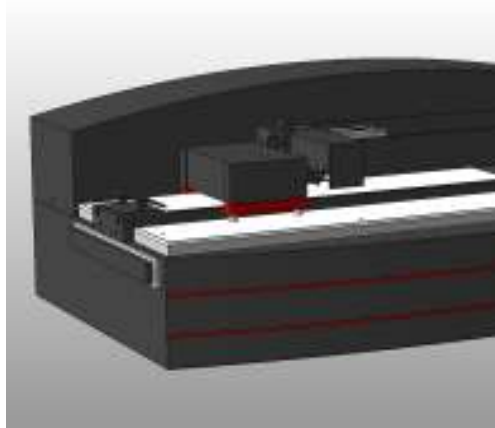
The cutting template

2. Mount the first sample on the 800g sled using the red magnet bars. Cut excess sample from the sides.



Place the sample on the sled and hold in place using the magnet bars.

3. Attach the second sample to the foam base using the clip to hold in place. For low gauge or curled samples, tape the other end in place with suitable scotch tape. Take care not to touch the sample surface.
4. Fix the sled on the lifting posts using the location holes on the bottom of the red magnet bars.



The sled located on the lifting posts.

5. Select the required test method in the instrument Friction test menu.



Select the option for ISO 15359- Paper and Board COF Determination.

6. Follow the on screen instructions- The test will begin.



**The sled will lower when the selected dwell time has passed.
Note- The fixed link stops the sled from twisting during testing.**

7. Repeat as required.

EU Directive 2002/96/EC on WEEE (Waste Electrical & Electronic Equipment) and RoHS (Restriction of the use of certain Hazardous Substances).

The European Union's Directive on Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (ROHS) defines each of 10 categories of electrical and electronic equipment in Annex I . Category 9 is defined as follows:

9. Monitoring and control instruments
 - Smoke detector
 - Heating regulators
 - Thermostats
 - Measuring, weighing, or adjusting appliances for household or as laboratory equipment
 - Other monitoring and control instruments used in industrial installations (e.g. in control panels).

The RoHS Directive defines the scope of restrictions in Article 2 as follows:

"1. Without prejudice to Article 6, this Directive shall apply to electrical and electronic equipment falling under the categories 1, 2, 3, 4, 5, 6, 7 and 10 set out in Annex IA to Directive No 2002/96/EC (WEEE) and to electric light bulbs, and luminaires in households."

This product is supplied as a Monitoring and Control instrument and as such falls within category 9 of the EU directive 2002/96/EC and so is excluded from restrictions under the scope of the RoHS Directive.

The Waste Electrical and Electronic Equipment Directive is intended to reduce the amount of harmful substances that are added to the environment by the inappropriate disposal of these products through municipal waste.

Some of the materials contained in electrical and electronic products can damage the environment and are potentially hazardous to human health; for this reason the products are marked with the crossed out wheellie bin symbol which indicates that they must not be disposed of via unsorted municipal waste.

Rhopoint Instruments Ltd have arranged a means for our customers to have products that have reached the end of their useful life safely recycled. We encourage all end users to us at the end of the product's life to return their purchase to us for recycling as per Article 9 of the WEEE Directive.

Please contact us on +44 (0) 1424-739622 and we will advise on the process for returning these waste products so we can all contribute to the safe recycling of these materials.