

Coefficient of Friction

Determine the 'slip' properties of your packaging materials with a Mecmesin testing solution



- Guarantee material integrity throughout production
- Test to the appropriate standards e.g.,
ASTM D 1894, 2001
BS EN ISO 8295:2004
- Accurately predict the optimum running speed of your packaging equipment

Materials, such as plastic film, paper, and foil are subjected to various tolerances during production as they are moved, stretched, cut, folded and fed into machinery. While some surfaces adhere easily to one another, others have a slippery texture and do not adhere as well.

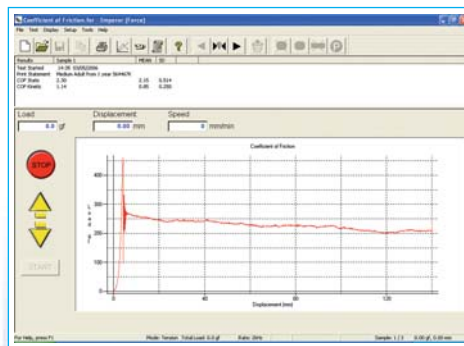
Getting maximum productivity from your machinery by adjusting the running and feeding speeds needs precise knowledge of the materials being used. By determining how the material surfaces relate to each other and how different materials, lubricants and coatings interact will help calculate the optimum rate of production and improve overall performance.

Mecmesin offers a tailor-made solution for this application.

Simple reproducible test method
Guarantees accurate results
Reduces guesswork & wastage

SOLUTION

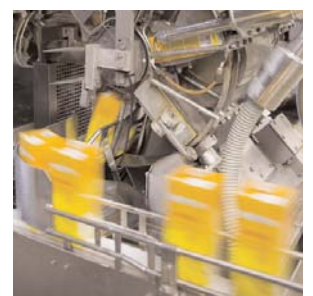
A Mecmesin COF tester can be configured to measure both the Static and Kinetic coefficient of friction of various materials. It functions on the principle of horizontally pulling a flat block of a known mass across a material located on a flat table. The peak force required to initiate movement (Static) and the average force required to maintain movement (Kinetic) are accurately and repeatably measured to determine the coefficients.



Typical graphical representation of COF test

BENEFITS

- Elimination of guesswork used to determine the best running speeds for production line equipment
- Reduction of wastage from damaged materials during processing



Mecmesin

testing to perfection

PERFORMING A TYPICAL TEST



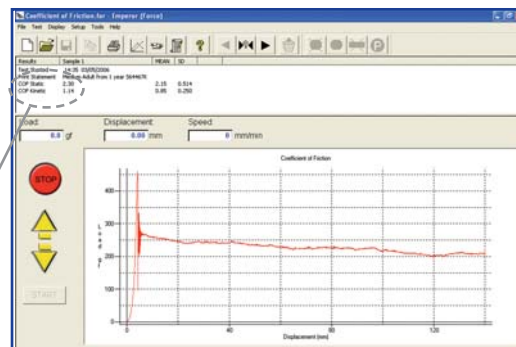
1. A horizontal test table is fixed to the stand, with one test specimen attached to the test table and another laid directly on top. A sled of known mass is positioned in the centre of the test specimen and attached to the crosshead of the stand.

2. To comply with test standards the speed is set to a constant rate of pull ($150 \pm 30\text{mm/min}$ for ASTM D1894 2001, $100 \pm 10\text{mm/min}$ for BS EN ISO 8295:2004). When the test is initiated, the sled is pulled across the surface of the top specimen, whilst the loadcell records the force, which is plotted graphically.



3. The force required to begin movement of the sled (static force), and the force used to keep the sled in motion (kinetic or dynamic force) are displayed and coefficients are automatically calculated at the end of the test. Using Emperor software, results can then be exported to a printer or a PC for further analysis.

GRAPHICAL DISPLAY



Results	Sample 1
Test Started	14:35 03/05/2006
Print Statement	Medium Adult from 1 year S64467K
COF Static	2.30
COF Kinetic	1.14

Static & dynamic frictional force values are shown automatically on screen

A graphical representation of each test offers a further opportunity to scrutinise data collected to gain a comprehensive understanding of the materials surface structure and frictional properties, including "stiction" (when the surface judders during dynamic slip).

BENEFIT

Materials and their coatings can be optimised to move more efficiently through the production line by using COF measurement to identify anomalies that could be causing poor performance and problems during processing.

BENEFITS OF CHOOSING A MECMESIN SYSTEM

- Choice of an affordable test system that suits you and your application
- All-in-one solution with fixtures & accessories included
- Automatic calculation of static & dynamic coefficient of friction
- Graphical display with option to analyse test in more detail
- Technical and after-sales support

ADDITIONAL USES - Tensile Tester



Mecmesin also offers the option to use your COF tester as a tensile testing system, which is ideal for measuring the strength of materials such as plastic film.

Forces applied during the production process can be replicated to assess stretch resistance and durability of materials.

Contact us for further information and a free demonstration

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