

Solutions@ Mecmesin

Coefficient of Friction Test

Specification

A print factory needed to test the packaging material they were using in order to improve their processes and establish optimum machinery settings. The company sought a solution, which provided consistent results and reliable performance. Mecmesin advised the company to use a coefficient of friction test to determine the 'slip' properties of the packaging.

A coefficient of friction test identifies the frictional values of materials and how different material surfaces relate to one another. For example, if the coefficient is too high, the material cannot be fed through all the machinery efficiently causing misfeeds.

Solution

Mecmesin supplied a Coefficient Of Friction (COF) test system, capable of measuring both the static and kinetic coefficient of friction values. The test is performed by pulling a flat block of known mass across the material located upon a flat table. Both the peak force required to initiate movement (static), and the average force required to maintain movement (kinetic) are accurately and repeatedly measured to determine the coefficients.

This test solution employs a MultiTest-*i* test system, which is controlled via a PC. The software enables a graphical representation of the test to be plotted on screen, with automatic calculation of static and kinetic coefficients of friction. This provides further data regarding the materials surface structure and frictional properties including 'stiction' (when the surface judders during dynamic slip).

The test provided the company with valuable information from which they could optimise their processes, such as machinery timings. Anomalies that may have caused poor performance in the past were easily identified resulting in increased production line efficiency, whilst minimising the risk of misfeeds.

System

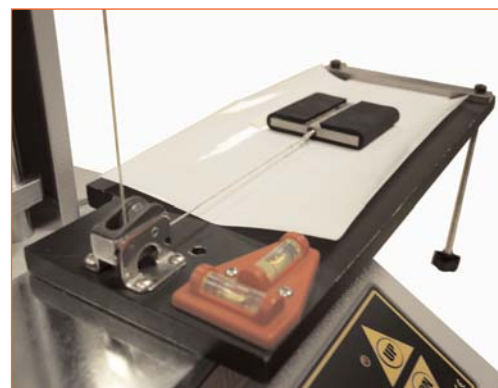
- Coefficient Of Friction Test System solution includes,
 - MultiTest-*i* computer-controlled test system
 - Horizontal test table
 - Sled of known mass
 - Test hook

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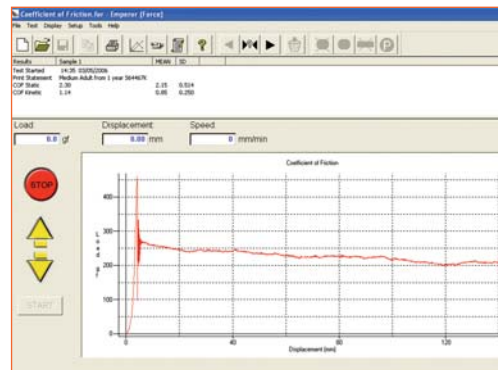
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Coefficient Of Friction Test System



Horizontal test table shown with sled weight



COF test data example

