# INCLINED PLANE FRICTION TESTER PRODUCT ST96

## GENERAL DESCRIPTION.

The inclined plane friction tester gives a quick and easy method of testing the co-efficient of static, or initial friction between two sheets of plastic film , or between one sheet of film and a metal surface. It may also be used to indicate the dynamic friction between the two surfaces.

The instrument consists of a flat metal plane, the angle of which can be adjusted in a smooth continuous manner relevant to the horizontal. The angular adjustment is carried out using a large knob. This knob has engraved around it's circumference a scale that measures the tangent of the angle of the table relative to the horizontal. The tangent of the angle of the plane is the same as the co-efficient of friction between the two surfaces as the sled starts to move, thus you get a direct reading of the co-efficient of friction.

Three sleds are provided with the instrument, one for Tappi T815, one for Tappi548/ASTM D202 and a plain aluminium version for general purpose testing. The weights and dimensions of the first two sleds are adjusted to apply the correct surface pressure for the standards involved, whereas the light aluminium sled is used for film testing. All sleds are 60mm x 60mm.

## SETTING UP THE FIXTURE

The instrument should be stood on a flat level surface. Using the two adjustable feet adjust the base plate until the spirit level bubble is in the centre of the indicator ring. Adjust the large knob until the zero is opposite the pointer, the fixture is now ready to use.

## USING THE FIXTURE

Cut a sample approximately 100mm x 310mm of the material under test and attach to the table using the clamps, underneath at either end, to secure the sample. The sample needs to be flat but not stretched in tension. It may be necessary to adjust the width/length of the sample to get a good fit. Alternatively the sample can be fixed to the table using double sided tape on the underside of the table.

Using the template provided cut a sample from the material to be tested. Attach the sample to the sled using either the clamps provided, or double sided tape. The tape should be on the upper side, which is the one with the radii.

Place the sled on the right hand end of the table in the centre with the radii uppermost. Slowly turn the large knob clockwise until the sled starts to move down the plane, stop as soon as the sled moves, and note the reading. This is the static or breakaway co-efficient of friction.

As skill is developed it is also possible to reverse the direction of rotation of the knob while the sled is sliding down the plane, this gives an indication of the dynamic co-efficient friction.

If you require the co-efficient of friction between the  plastic film and a metal surface then the film can be omitted from the table.