

# Static & dynamic Coefficient of Friction

## Model SST5



## Test procedure

The static & dynamic coefficient of friction  $\mu_s$  is determined by measuring the inclining angle  $\alpha$  of a plane when a block begins to slip on the track made from the wire specimen. The wire test specimen shall be removed from the delivery spools by de-reeling over the end flange. The top layers of the spool shall be removed before testing when the wire surface is contaminated by dust or dirt.

One part of the wire specimen is straightened and then fixed on the inclining plane using the two posts and the two clamps constituting the sliding track. The other part of the wire specimen is mounted similarly on the sliding block. The wire block with the wire specimen is then placed in the plane's track to be inclined so that the wire on the block and the wire on the plane are crossed at right angles at the point of contact.

The plane is then slowly inclined (approximately  $1^\circ/1''$ ) until the block slides down the track. At that moment, the angle of inclination  $\alpha$  is read from the scale. The static coefficient of friction is calculated as follows:  $\mu_s = \tan \alpha$ .

## Static test features

- Suitable for wire diameter range 0.05 mm to 2.00 mm
- Motorized inclined piano, inclining speed electronically regulated  $1^\circ/1''$ , angle a resolution  $0.1^\circ$
- Test management PC controlled, with parameters setting, automatic calculation of weight to be applied on sample wire, powerful database
- Automatic stopping at test block slippage

- Direct indication of tan a value, with the printout of test result with customizable printout report
- Complete two test blocks, 50 g and 500 g

## Dynamic test procedure

The coefficient of friction is defined as  $\mu = Fr/Fn$ , where  $Fr$  is the friction power and  $Fn$  is the load applied to the wire. The test wire is moved at a speed of 15m/1' between a basic plate and pre-loaded sapphires. The sapphires are mechanically connected to a load cell to detect the force of friction. The values detected shall be displayed and recorded at desired intervals.

## Dynamic test features

(IEC 60851-3.B4, NEMA MW 750, EMERSON TP-131)

- Load cell to detect the friction force, resolution 0.01 N accuracy 0.25%
- Test speed adjustable from 1 up to 30 m/1', asynchronous motor with worm gear-box
- Complete set of weights 100g, 200g, 600g, 1000g
- PC test management, setting up to 1000 measurements per test, calculation, and printout of measured values, minimum, maximum, average, and standard deviation, and graphical representation of coefficient of friction. Powerful database
- Easy calibration procedure
- Winding wheel for easy wire removal

## Specifications

Model	SST5
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Dimensions	
Dimensions (WxDxH)	520x670x600 mm
Weight	45 kg / 99.2 lb
Power supply	
Volt	230 V
Hertz	50/60 single phase
Volt-amperes	380
Standards	
IEC	60851-3.B2/B4
EMERSON	TP-131
NEMA	MW 750
Options	