



# CSI-152SK

Surface Friction Tester



LIFETIME  
TECHNICAL  
SUPPORT



## Introduction

The CSI-152SK allows for the determination of the coefficients of starting and sliding friction of materials, such as plastic film, paper, soft trim, textiles, and other sheet materials, at specified test conditions.

The apparatus consists of a moving horizontal surface plane, constant speed drive assembly, force sensor, stationary sled, and an operator-controlled touch screen panel. The Horizontal Surface Plane is designed to support the stationary sheet material (normally by means of double adhesive backing tape).

The Drive Assembly consists of an electric gear motor and transmission hardware to move the horizontal plane during the test and return cycles.

The force sensor outputs for reading the force of friction as the test is carried out. The.

The Sled is a metal block connected to the force sensor, and the second specimen is attached to its undersurface (use double adhesive backing tape). The sled is covered with medium-density foam rubber.

The Touch Screen Control Panel is conveniently located in front of the apparatus for easy use of operation. A graph displays real-time force vs distance. The user enters the stroke, test time, speed, and automatic stop test conditions. The high-frequency data acquisition system features a data collecting frequency of 500 times per second, ensuring an accurate static friction coefficient collected.

### Main Features:

- ✓ Calibration Function (requires tachometer – customer supplied)
- ✓ Automatically reports static and kinetic friction results after measurement
- ✓ Digital touchscreen display

- ✓ High-speeded data collection and analysis for precise measurement of kinetic and static COF with 500 readings during the first second
- ✓ Selectable units (gf, N, kgf, lbf,)
- ✓ Up to 5N force capacity
- ✓ Settable distance and time for static and kinetic
- ✓ Results include average, minimum, and maximum values
- ✓ Test storage, including individual results of test results.
- ✓ Direct drive arm with unique skid control.
- ✓ Sled-connecting mechanism ensures level pulling action
- ✓ Sled, of mass  $200\text{ g} \pm 2\text{ g}$ , 63.5 mm (2.5 in.) square, with neoprene cellular rubber backing of between 1.5 mm and 3.0 mm thickness.
- ✓ A horizontal test plane surface of a smooth, incompressible material
- ✓ Test system, with load cell, capable of applying a vibration-free increasing force and the capability to measure the force against time.

## Test Standards

- |              |              |
|--------------|--------------|
| ✓ ASTM D1894 | ✓ TAPPI T549 |
| ✓ ISO 8295   | ✓ TAPPI T816 |



## Technical Specifications

Number of Stations:	1
Test Orientation	Horizontal
Test Results	Max Load, Static friction, Dynamic friction, Max, Min and Average
Force Range	Up to 5 N $\pm$ 0.1% FS
Force Resolution	0.001 N
Stroke, Adjustable	Up to 6" (150 mm)
Test Speed Range, Adjustable	Up to 6 $\pm$ 0.39" (150 $\pm$ 10 mm/min)
Test Sled, ASTM D1894 and ISO 8295	Quantity: 1 Material: Steel Dimensions: 0.25 x 2.5 x 2.5" (6 x 63.5 x 63.5 mm) Weight: 200 g $\pm$ 2 g Sponge Rubber: 1/8 x 2.5 x 2.5" (3.2 x 63.5 x 63.5 mm) Sponge Density: 0.25 g/cm <sup>3</sup>
Test/Plane Area	7-7/8 x 18.5" (200 x 470 mm)
Operator Console	HMI, touchscreen display
Selectable Units	Kgf, N, lbf, gf
Thermal Printer	Included
Printer Paper	Included x1
Documentation:	NIST Calibration Certificate, Conformance Certificate, Operator's Manual
Warranty:	12 months
Technical Support:	Lifetime

## Optional Features

Test Sleds	Configured to different weight, material and dimensions
Force Capacity	Increased force capacity

## Dimensions and Weights

Approx. Physical Weight:	40 lbs
Approx. Physical Dimensions:	16" x 12" x 8"
Approx. Shipping Weight:	100 lbs
Approx. Shipping Dimensions:	22" x 18" x 20"

## Installation Requirements

Electrical Specification:	115/220VAC, 50/60Hz, 1Ph
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