

## FEATURES

- ✓ *Measurement of dynamic coefficient of friction,  $\mu$*
- ✓ *Microprocessor controlled*
- ✓ *Digital readout*
- ✓ *Integral printer*
- ✓ *Mains and battery operation*
- ✓ *Portable*
- ✓ *Adjustable measurement length*
- ✓ *Meets ISO & EU testing requirements*
- ✓ *Easy to operate*
- ✓ *Simple and unique calibration method*

## APPLICATIONS

- ✓ *Assessing floor safety*
- ✓ *Evaluation of floor cleaning materials*
- ✓ *Checking effectiveness of maintenance procedures*
- ✓ *Accident investigations*
- ✓ *Evidence for litigation purposes*

## BACKGROUND

Slipping, Tripping and Falling (STF) accidents account for a significant proportion of the accidents that occur at work, in public places and in the home. Various guidelines have been produced for assessing the slip resistance of pedestrian surfaces and detailed testing requirements have been specified recently by the European Union, the International Standards Organisation and in a new Australian/New Zealand standard. Tortus II meets the requirements of the test methods specified and is able to provide valuable data for determining whether a particular flooring material is safe and fit for purpose.

## DESCRIPTION

Tortus II is a microprocessor controlled precision instrument, which measures directly the dynamic coefficient of friction,  $\mu$ , as it traverses a surface or flooring material to be used by pedestrians. It provides an instantaneous reading of  $\mu$  on a digital display as it moves across the surface and displays the average value of  $\mu$  at the completion of the test. A hard copy of the measurements made during the traverse is also available from an integral printer. The unit can be mains or battery operated.

Tortus II has been developed by Severn Science from the earlier Tortus floor friction testers which were originally designed by British Ceramic Research Limited (Ceram Research).

## SCIENTIFIC BASIS OF MEASUREMENT

A friction slider mounted on a leaf spring assembly is held in contact with the surface under a fixed load. As the instrument moves forward at a constant velocity, the friction force deflects the slider and this is measured by a strain gauge attached to the spring assembly.

The slider area, loading and standard friction material were chosen following observations obtained by filming people walking and run-



ning; it was shown that the most dangerous type of slip occurs when the heel slides forward on making contact with the ground. Tortus II reproduces the conditions under the heel when it first touches the ground during straight walking.

### CALIBRATION

Tortus II has a simple and unique method which allows the instrument to be calibrated by the operator within a few minutes. This has considerable advantages over other similar devices, which have to be factory calibrated at regular intervals.

### SAFETY IMPLICATIONS

Accurate measurements indicate when remedial action is needed to help reduce the probability of a STF accident. Tortus II can be used for :-

- ✓ regular checking on all floors
- ✓ more frequent checking of potential and known trouble spots, e.g. kitchens, wet floor areas, industrial process areas where frequent cleaning is needed etc.
- ✓ checking after receiving complaints

- ✓ investigation after accidents to help determine their cause
- ✓ monitoring changes in floor condition during service
- ✓ training staff in floor safety
- ✓ establishing appropriate standards for the application

### COST SAVINGS

Cost savings result from achieving and maintaining good floor safety standards by:-

- ✓ reducing the working days lost due to STF accidents
- ✓ preventing expensive damages claims
- ✓ avoiding production stoppages
- ✓ assessing floor cleaning treatments to determine cost effective solutions

