



Page 1 / 4



Increasing Safety by Reducing Risk

BS7976 -2 Pendulum Slip Test

Customer: Dr Schutz UK

Test Number: FS10186

Operator: Glenn MacLaughlan

Date of Test: 20th April 2015

On Site: Sample sent to office

Pendulum Calibration Number: C2674

Pendulum serial number: SK1595

Slider Type : FourS 96

Contaminate Description: Water

Surface: Dr Schutz PU Sealer Satin



Calibration Checks Done:

lapping accepted 65+/-3	64	63	63	63	62
Glass accepted:7+/-3	9	8	8	8	8

Theory

A site assessment is an important component in determining the slip risk of any given floor. The HSE's pedestrian slip potential model highlights important environmental factors in a slip. Contaminating substances, frequency and methods of cleaning, types of footwear and likely pedestrian behaviour all affect the potential for a slip incident and are given due consideration.

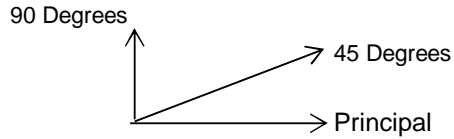
Research carried out by the Health and Safety Laboratory, in conjunction with the UK Slip Resistance Group (UKSRG), has shown that it is possible to assess the characteristics of floor surface materials needed for satisfactory slip resistance. The Health and Safety Laboratory has developed a "reliable and robust" test method that forms the basis of Floor Safes assessment procedure.

The pendulum skid test forms the basis of the coefficient of dynamic friction measurement of a floor. A calibrated 'foot' swings from a horizontal point of release, strikes the flooring surface for a known distance, then reads the "pendulum test value" on its over swing. The rubber slider that contacts the floor is constructed of '4S' rubber (Standard Simulated Shoe Sole) and is designed to replicate the most common slipping motion experienced by pedestrians wearing shoes. A softer, more malleable, rubber (TRL rubber) may be used to simulate a barefoot or casual shoe slip. Pendulum testing is one of the few methods that models the formation of a hydrodynamic squeeze film between the floor and shoe sole, a major factor in a wet slip.

Test surfaces are subject to eight measurements of the PTV with the first three being discounted from calculations of the mean.

A prepared standard rubber slider attached to a weighted 'shoe' is allowed to swing from a horizontal point of release. The slider is mounted on a spring loaded bracket and makes contact with the floor for a known distance. The height to which the shoe travels after contacting the floor gives a reading of the Pendulum Test Value (PTV, formally known as SRV Slip Resistance Value). The dynamic coefficient of friction of a test surface has a direct and measurable effect on the PTV reading obtained.

Condition of floors and traffic routes. 12. Every floor ... and the surface of every traffic route in a workplace shall be ... suitable for the purpose for which it is used [and] shall [not] be ... slippery so as ... to expose any person to a risk to his health or safety. EXTRACT FROM: Workplace (Health, Safety and Welfare) Regulations 1992.



HSE Guidelines for pedestrian slip 96 Slider

0 – 24 High Risk for Slip potential
25 – 35 Moderate Risk for Slip Potential
36+ Low Risk for slip potential.

Test Swings **1** **2** **3** **4** **5** **6** **7** **8** **Result** **Risk level of slip potential**

Dry 96 Slider - Shod Foot (Leather Heel)

Dry Principal	92	90	91	90	90	90	90	90	90	Low	<p>The pu sealer was applied to a smooth un-profiled surface (other more profiled surfaces may differ). When tested dry the sealer had a superb slip resistance and would be seen as fit for a dry environment. When tested wet the pu sealer was high risk for slip potential.</p> <p>The HSE suggest that where surface can become predominantly wet the slip resistance should be >35ptv (low risk). If the end user in unable to put control measures in to keep the floor dry then surface improvement is recommended.</p> <p>Dr Schutz anti slip additive can be added to create a greater slip resistance when wet. If applied correctly previous testing had recorded the ptv value when wet at >48ptv</p>
Dry 45 degree	89	88	87	87	87	87	87	87	87	Low	
Dry 90 degree	90	89	88	88	88	88	88	88	88	Low	
									Result	88ptv	Very Low Risk

Wet

Wet principal	19	17	16	15	15	15	15	14	15	High	
Wet 45 degrees	17	16	15	14	14	14	14	14	14	High	
Wet 90 Degrees	17	16	15	15	15	14	15	15	15	High	
									Result	14 ptv	High Risk

Glenn MacLaughlan is the Director of Floor Safe Ltd. The company was started in 2007 and over the last 7 years has provided pendulum slip testing for many major UK businesses. Clients : NHS - Lend lease - M.O.D - Nandos - The O2 - London Olympics - David Lloyd Leisure - British Gas and more.

The Pendulum Slip Value Readings were correct at the time of test. However this does not indicate the readings will remain the same this can be due to the installation, daily maintenance and the volume of foot falls.

If a sample has been sent for lab testing we highly recommend a re-test in situ.

Anti slip stone treatments applied by Floor Safe will rapidly diminish if not maintained as directed by Floor Safe Ltd on a daily basis.

Reported results in no way imply that the flooring under test is approved or endorsed by Floor Safe Ltd

Floor Safe Ltd do not give or assume warranty or condition, express or implied, statutory or otherwise, as to condition, quality, performance, merchantability or fitness for the purpose of the test subject and all such warranties and conditions are hereby excluded save to the extent that such exclusion is absolutely prohibited by law. Floor Safe Ltd shall not be liable for any subsequent loss or damage incurred by the client as a result of information contained within this report. **Results given herein refer only to areas or sample tested by Floor Safe Ltd**

Calibration Certificate

Manufacturer's Machine ID Number **SK1595**
Item Tested **TRRL Type Skid Tester**
Calibration Certificate Number **C2674**
Customer Name **Floor Safe Ltd**
Date Calibrated **28/10/2014**
Expiry Date **27/10/2015**

We certify that this machine has been calibrated in accordance with BS EN 1097-8 : 2009, BS EN 13036:part 4:2003 and BS7976:Part 3:2002

The procedures used are contained in the company's Quality Manual, which has been accredited under ISO 9001:2000

Findings and adjustments are recorded in the Customer Report Form supplied with this Certificate.

The instrument should be re-calibrated within one year of the calibration date. (BS EN 1097-8:2009 Clause D.1.1 & BS7976 -3 2002 Clause 4 note 2)

Authorised by



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1/1