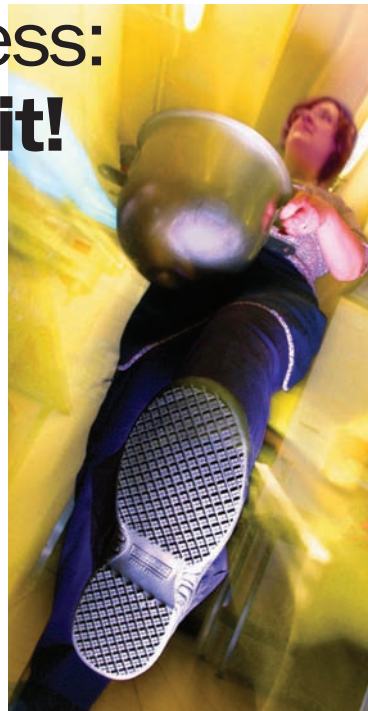


Dr Paul Lemon and John Worth on specifying floors to prevent slips and falls

Assessing slipperiness: How inspectors do it!



IN the second of a new series of articles, we discuss the methods developed to allow regulatory inspectors to assess floor surface slipperiness. These methods are widely available.

SINCE it was established in 1974, the Health & Safety Executive (HSE) has been committed to ensuring that risks to people's health and safety from work activities are properly controlled.

Although HSE is well known to have responsibility for enforcing health and safety in workplace environments such as nuclear installations, mines and offshore oil installations, they also enforce in a wide variety of other workplace areas, including farms, factories, and even hospitals and schools.

Local Authorities are responsible for health and safety enforcement in other areas, such as shopping centres, restaurants and offices.

Inspectors have strong legal powers, and have the right to enter premises without warning.

If they are not satisfied with the standards of health and safety they come across, they can issue Improvement Notices, which require problems to be put right within a set time. More serious problems can result in the issue of a Prohibition Notice, which can prevent the use of a piece of machinery or plant (for instance).

This prohibition could include the prevention of work in an area where the flooring is dangerously slippery, and prohibition notices can take effect immediately.

The most serious failings can, and do, result in criminal prosecution.

Inspectors have a number of tools available to them for assessing floor slipperiness.

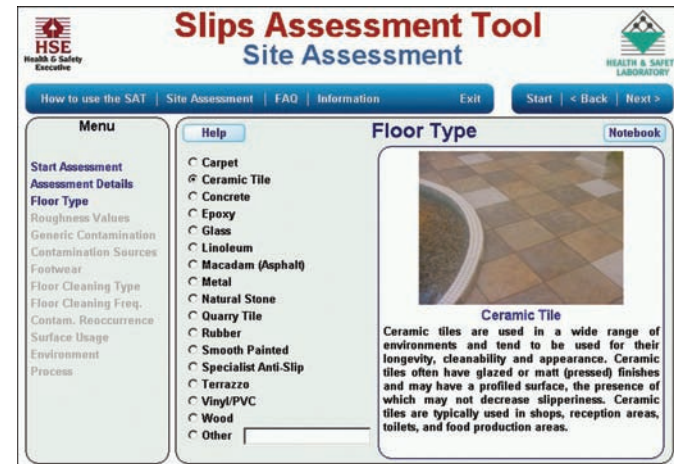
They can use a straightforward on-site test to allow the risk of slipping to be estimated, and they can call on state-of-the-art test methods used by specialists at HSL (The Health and Safety Laboratory, HSE's in-house research and testing lab), including the Pendulum, HSE's preferred method of slipperiness assessment.

If inspectors identify a floor which they believe to be slippery, or if an accident has occurred, they can use a simple tool (developed by HSL) that allows slipperiness assessments to be made.

This tool (known as the 'HSE Slips Assessment Tool' or 'SAT') is based on a straightforward yet robust measurement of surface roughness.

Readings from a small meter which is placed on the floor are taken and fed into a laptop running the appropriate SAT software.

The software then prompts the inspector to answer a series of multiple-choice questions, and



quickly generates a "Slip Risk Classification".

The questions cover all the factors that might cause someone to slip, and are based on the 'Slip Potential Model' described in last month's **CFJ**.

Although it should not be used as the sole basis for enforcement, this value (which generally runs from 0, a very low risk of slipping, to 40, a high risk of slipping) allows the inspector to make logical decisions about the potential action to be taken.

The SAT software also generates simple charts which clearly illustrate why the floor under test is slippery, e.g. from the use of inadequate cleaning regimes or unsuitable flooring.

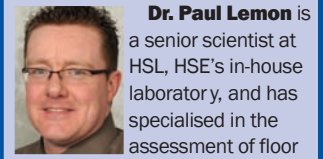
In cases where serious action is being considered, such as requiring flooring to be replaced,

inspectors have access to specialist assistance from HSL scientists.

Such assistance normally involves a site visit in order to undertake a formal assessment of the floor surface slipperiness by measuring the 'PTV' (the Pendulum Test Value).

This value, which is closely related to Coefficient of Friction, is generated using a Pendulum Slip Resistance Tester, as described in British Standard BS7976-1:2002. Slipperiness data is normally generated in line with this Standard, and is classified using the UK Slip Resistance Group Guidelines (see link below).

These Guidelines were written in order to expand on the information contained in the Standard, and to encourage



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surface slipperiness for over a decade. He is a member of a number of BSI Committees concerning floor surface slipperiness and founder member of the UK Slip Resistance Group. Paul is a trained expert witness, and has represented HSE and local authorities during numerous criminal proceedings involving pedestrian slips. He was responsible for the production of the HSE Slips Assessment Tool.



John Worth is a safety policy advisor working for HSE. Since 2001 John has been part of HSE's Slips and

Trips Programme developing HSE/local authority inspection initiatives, guidance, research projects and campaigns - to reduce the incidence of slips and trips. John was involved in developing the HSE Slips Assessment Tool (SAT) for public use and in establishing an ongoing programme of testing of slip-resistant footwear.

specialists to undertake slipperiness assessments in a standardised, reproducible way.

The test methods described above are not restricted to inspectors.

The SAT is available as a free download from www.hsesat.info, and can be used by site managers or safety personnel (for instance) after a short period of familiarisation.

The Pendulum test is now widely available, and commonly used. However, it is strongly advised that it be used by an experienced operator, as mistakes are easily made.

The UK Slip Resistance Group (www.ukslipresistance.org.uk) can provide details of a number of experienced pendulum operators; this is also a service offered on a commercial basis by HSL.

The next in this series will explain how use of the Pendulum friction test and other appropriate tests can help to reduce the likelihood of the misspecification of floor surfaces. **CFJ**

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