

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

It pays to remember the 'slip potential'

OFTEN too little attention is paid to how slippery the installed floor will be during use, especially in areas where floors may become wet or contaminated with oil, grease or dust. This can result in the specification and installation of floor materials which quickly become slippery, leading to the high numbers of slip accidents reported to enforcing authorities every year. When buying new floors, clients normally take advice from the flooring supplier. The information provided by the supplier can be crucial to ensuring that the flooring is suitable for the intended use.

■ **Background:** Since 2001, the Health and Safety Commission (HSC) has made slips and trips a priority for action to reduce the high toll of injuries at work.

To prevent slips at work employers must consider a number of risk factors, all of which combine to govern the likelihood of a slip (the 'slip potential'). These factors are shown in the diagram above. They include the choice of flooring, how it is installed, used, cleaned and maintained.

Limited information exists regarding the slipperiness of commercially available flooring materials; information that does exist is often generated using inappropriate test methods. This problem will be discussed in future articles in *CFJ*.

It is therefore often difficult for floor specifiers to select a floor with sufficient slip resistance. Slipperiness information that does exist tends to be aimed at specialists, which limits its practical use.

■ **Legal duties:** Employers have a legal duty [under the Workplace (Health, Safety and Welfare) Regulations 1992, known as 'The Workplace Regulations'] to make sure that their floors are suitable for their intended purpose.

This 'duty' concerns both the construction and the physical characteristics of the floor, including that it should not be slippery. 'Suitability' also has to take account of the circumstances of use, such as the likelihood of fluids or dusts contaminating the walking surface of the floor. The employer also has a duty to take reasonable steps to keep floors free from substances which could cause a slip.

For new build and refurbishment projects, clients and designers also have duties under the CDM Regulations [The Construction

(Design and Management) Regulations 2007], which refer to the Workplace Regulations, to consider the intended use of buildings, including floors.

Installed flooring has to be suitably slip resistant to enable the client to comply with these statutory duties.

To enable employers to comply with the law, manufacturers and suppliers of flooring should take reasonable steps to ensure that pedestrians will not be exposed to risks due to the properties of the flooring. This requires the supplier to provide information regarding the areas and environments for which their flooring is designed to be used, e.g. bathrooms, kitchens or corridors.

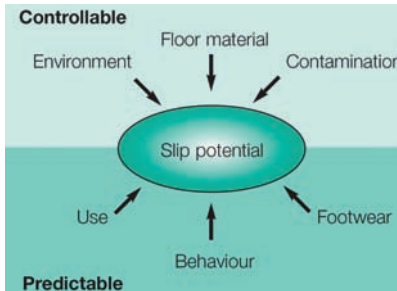
■ **Typical information provided by suppliers of workplace flooring:**

Where a product is marketed or sold as being 'slip-resistant' or 'safety' flooring, test data should be made available by the manufacturer to support these claims. The data given must be presented clearly and should be easily understood by the user.

Flooring suppliers often supply a variety of technical data to describe the performance of their products. This data is commonly generated using a number of different test methods, many of which may produce contradictory information.

Work by HSE (Health & Safety Executive) technical specialists at the Health and Safety Laboratory (HSL, based in Buxton) has shown that some of these test methods can be used inappropriately, or even misleadingly. This could give a false picture of the suitability of a flooring product.

On behalf of HSE, HSL has developed a reliable and robust test method which allows the accurate prediction and classification of floor surface slipperiness.



This method (which will be described in future *CFJ* articles) is routinely used by HSL on behalf of HSE and Local Authority Inspectors. The results of tests carried out on site (during investigations) and / or in the laboratory have been used as the basis of significant HSE and Local Authority action.

Such action frequently involves the issue of formal advice or an Improvement Notice (a formal instruction by an Inspector to remedy a problem), and can result in criminal prosecution.

■ **HSE has published guidance on the use of test methods. Our latest guidance document ('Assessing the slip resistance of flooring – a technical information sheet') can be downloaded free:** www.hse.gov.uk/pubns/web/slips01.pdf

Future articles from HSL will describe the common test methods and discuss their advantages and disadvantages.

■ Where possible, suppliers should provide an indication of the stability of the slip resistance of the flooring, i.e. how the slip resistance changes over time. This is often affected by installation, degradation, wear, maintenance and use.

Full installation instructions should be given to enable the floor to be laid correctly, without affecting its intended surface properties.

■ Where appropriate, safety warnings should also be supplied regarding the effects of the use of waxes, polishes and other finishes. If a floor requires a particular maintenance regime in order to retain its surface properties, such as reapplication of a sealant finish, the supplier should provide details of the correct procedure.

Use of the right cleaning procedures is crucial to maintaining the surface properties



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He 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.



Dr Paul Lemon is a senior scientist at HSL, HSE's in-house laboratory and has specialised in the assessment of floor surface slipperiness for over a decade. He is a member of a number of BSI Committees concerning floor surface slipperiness and a 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.

of the flooring, this is particularly true of safety flooring. Information should be provided by the manufacturer regarding the appropriate cleaning method and frequency, including use of cleaning equipment and substances.

■ **Summary:** The provision of accurate and user-friendly information by flooring manufacturers and suppliers to specifiers is essential to enable employers to comply with the law. This is particularly important in relation to workplaces where floors are more likely to be contaminated by substances which could make them slippery.

■ **Specifiers of flooring should look carefully at manufacturers' claims for their products and query how manufacturers expect floors to change on installation and over their life expectancy given foreseeable use.**

Details of common slipperiness tests will be given in the next of this series of articles in *CFJ*, along with a straightforward guide to allow easy translation of the technical data produced by flooring manufacturers.