



Slip Risk Assessment Report for: Kleen-Tex Mats Solution dyed nylon – IRON HORSE

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20th October 2016

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Slips: framing the issue

35,000

Serious slips per year

(That's one every 3 minutes in workplaces alone)



95%

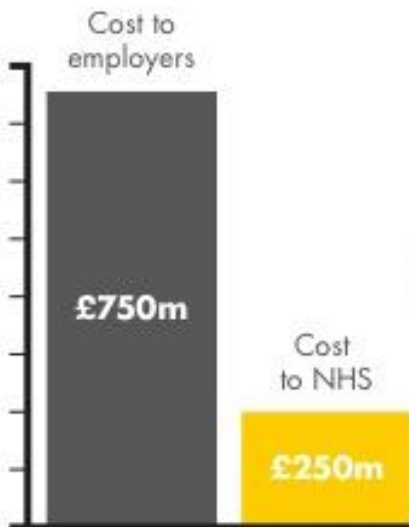
of major slips result in broken bones

Average cost of a slip claim

£14k



Estimated cost of slips per annum (£m)



50+%

of reported accidents to members of the public that occur in workplaces

33%

by volume and value of personal injury claims



£10m

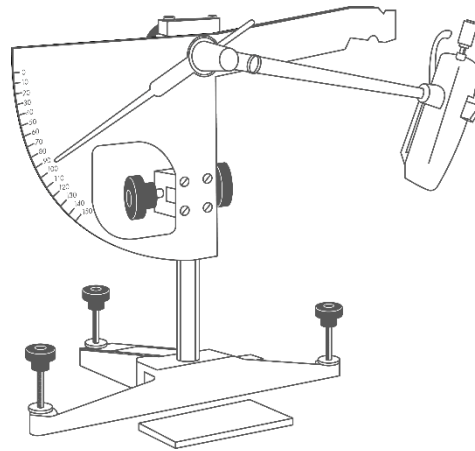
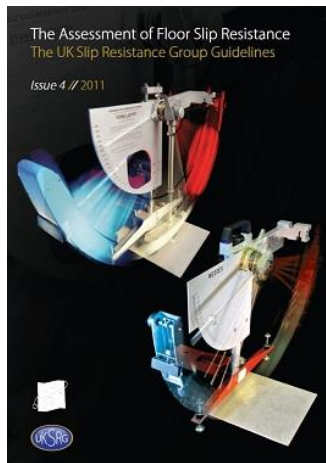
potential fines with changes to HSE sentencing guidelines



Sources: HSE, Aviva, CSSA

Slips: testing and quantification, 1

- The pendulum test is the recognised method for measuring slip resistance in the UK. It is used by the Health and Safety Executive (HSE) and members of the United Kingdom Slip Resistance Group (UKSRG). If a slipping accident is investigated by the HSE it is the pendulum test that will be used to assess the floor.
- The detailed use of the pendulum test is described in a British Standard (BS 7976) and in the UKSRG Guidelines.



- The Pendulum determines the dynamic coefficient of friction.
- A spring-loaded foot fitted with either a 96 (hard rubber) or 55 (soft rubber) slider is attached to a pendulum arm of a specified length. The pendulum arm is released, the slider contacts a set length of the floor and a pendulum test value (PTV) is read off the scale.
- In areas where pedestrians are wearing shoes slider 96 is used to assess the floor. In barefoot areas slider 55 is used. In areas where there are both barefoot and shod pedestrians, for example a changing room in a leisure centre, both the sliders should be used. The same classifications are used for both sliders.

Slips: testing and quantification, 2

- The PTV recorded in the pendulum test equates to a category of slip potential:

PTV	Slip potential
0 – 24	High
25 – 35	Moderate
36+	Low

- HSE quotes the following correlation of PTV to accident probability:

PTV	Accident probability: 1 in	Slip potential
19	2	High
24	20	High
27	200	Moderate
29	10,000	Moderate
34	100,000	Moderate
36	1,000,000	Low

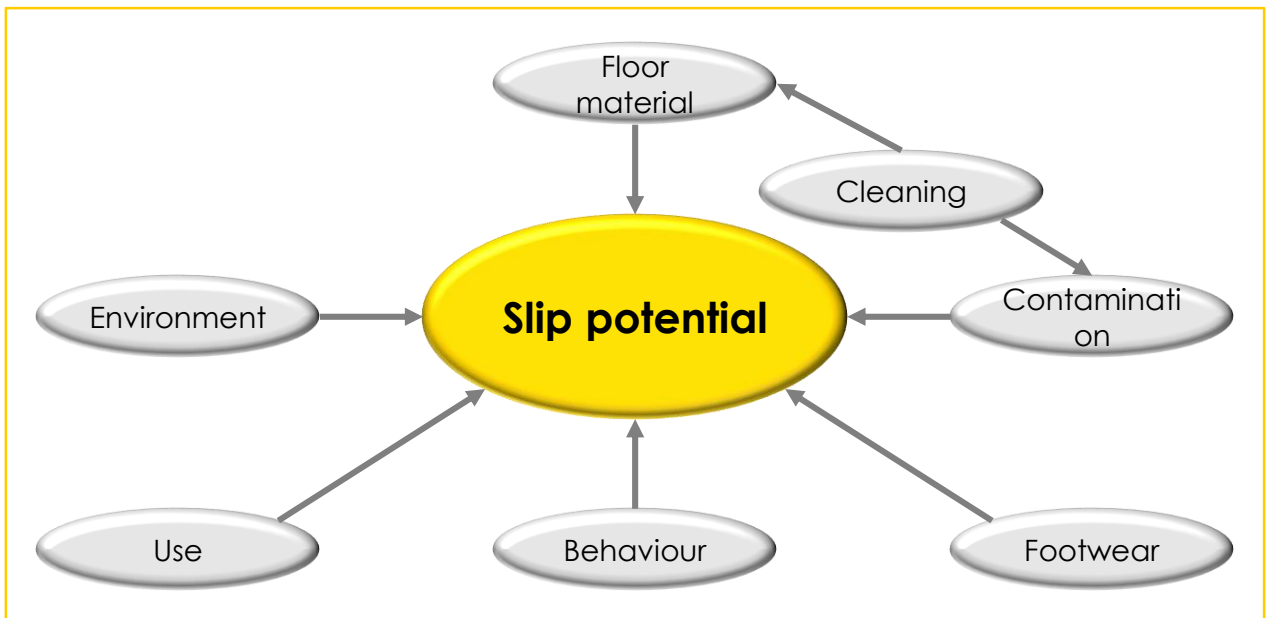
- You are 50,000 times less likely to suffer a slip on a surface with a PTV of 36 than on a surface with a PTV of 24**
- If there is a slope to the surface, for example a fall to drain in a shower room or ramp to access to a building, then a higher level of slip resistance is required to achieve the same level of risk. The additional friction required is determined by the angle of the slope. This is illustrated in the tables below:

Surface gradient	Pendulum Test Value	Slip potential
2°	0 – 27	High
2°	28 – 38	Moderate
2°	39+	Low

Surface gradient	Pendulum Test Value	Slip potential
5°	0 – 33	High
5°	34 – 44	Moderate
5°	45+	Low

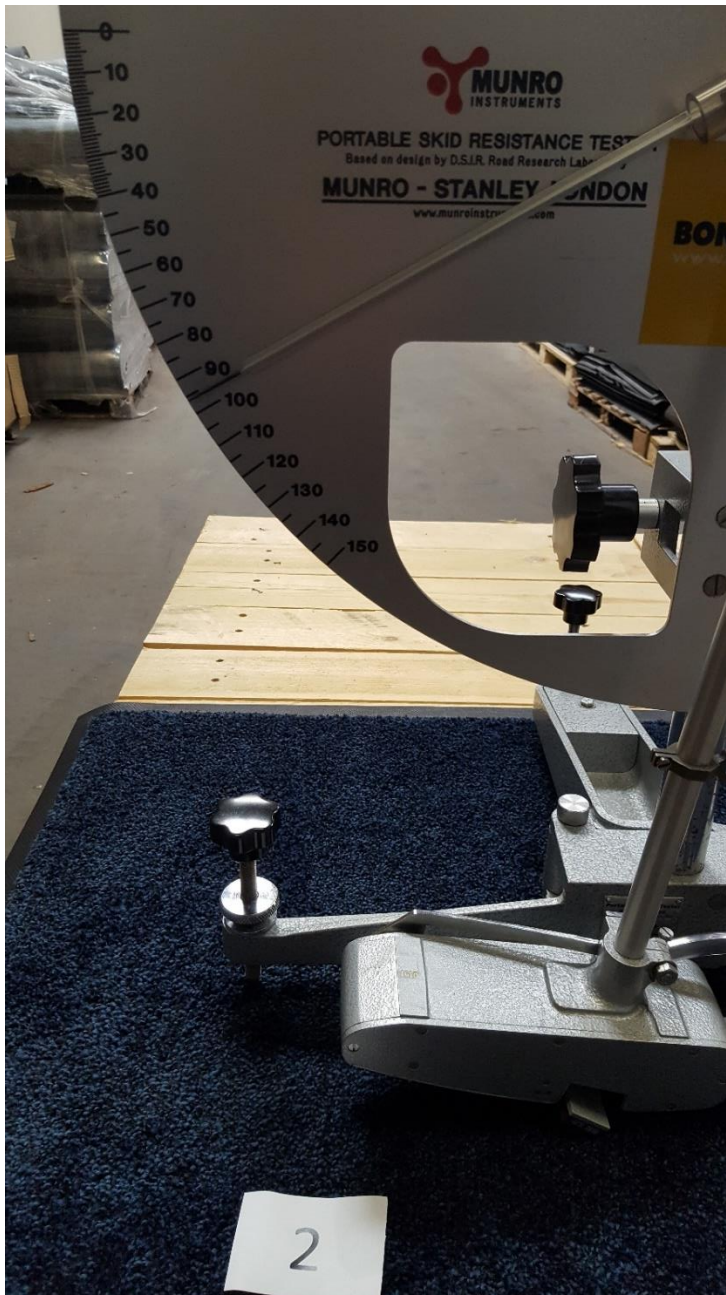
Causes of slips

- The pendulum test data helps us understand how the floor behaves in terms of slip resistance and to ascertain the likely cause of slip accidents.
- The test can be carried out in the dry, in the wet and with other types of contamination that might be found in the location being tested for example, oil or grease that might be found in a commercial kitchen.
- The pendulum test can be used on site to check the slip resistance of the flooring in service and that the cleaning regimes in place are effective in maintaining the slip resistance of the floor.
- It is also important to consider other factors that might influence the levels of risk.
- For example in some workplaces it may be possible to control the footwear worn by the staff and good slip resistant footwear (seek expert advice) can be an effective control against slipping accidents. In a building where there is access to the general public footwear cannot be controlled and more weight should be given to the other factors.
- Only limited control measures can be put into place for many of the factors which contribute to a slip.
- However, the correct specification, and effective cleaning and maintenance, of flooring are some of the best controls available in the majority of situations.



Summary

Kleen-Tex Mat surface type	Slider	Condition	Wet / dry	PTV	Slip potential
Solution dyed nylon – Iron Horse	96	As Found	Dry	98	Very Low
Solution dyed nylon - Iron Horse	96	As Found	Wet	76	Very Low



Recommendations

Area	Recommendations
N / A	▪ N / A

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