Risk control

Slips, Trips and Falls Toolkit: Footwear

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Introduction

Footwear can have a major influence on the risk of slipping and, when ill-fitting or in poor condition, can cause people to trip.

Footwear may be the most practical and cost-effective way to combat slip accidents, and many organisations can dramatically reduce the number of slips their staff suffer by providing their employees with suitable, slip resistant footwear.

Not all footwear provides the same level of slip resistance.

Manufacturers test to ensure a minimum level of slip resistance is achieved, but both the best and the poorest 'safety' footwear available achieve this basic requirement, so the information from this test does not help to make an informed choice when selecting footwear and prevent slips.

Selecting the correct footwear also requires the employer to consider the working environment and activities involving the person. The properties of the chosen footwear will reflect the variety of hazards associated with the task which, in addition to slip resistance, may include requirements such as ankle support or toe protection.

The Environment

There are two environmental factors that influence the level of slip resistance that is required from footwear. One is the walking surface, and the other is floor surface contamination. If the floor surface is not contaminated it will, in all likelihood, not be particularly slippery and most footwear will provide adequate slip resistance.

In environments where floor surface contamination is likely, there is a need to select footwear that provides adequate slip resistance. On smooth floors, liquids cannot easily disperse from under the shoe, so they prevent footwear contacting the floor, a similar condition to aquaplaning tyres on a car. Appropriately designed footwear with an appropriate tread pattern creates space to squeeze out the liquid, allowing a secure grip with a smooth floor even when the floor is contaminated.

More viscous contaminants are harder to disperse and will be more of a challenge for footwear, hence oils are more slippery than water. Sticky or solid contaminants can clog up the footwear treads, reducing their effectiveness.

If slipping accidents occur seek to provide staff with footwear that can properly reduce the slip risk through careful selection. If you already provide staff with safety footwear and you are still seeing slips in the workplace review the specification using the information in this guide.

Footwear Slip Resistance

Since January 2021 there have been requirements for UKCA[1] marking of safety equipment sold on the UK market which includes footwear. Older imported CE marked footwear will comply with the slip resistance requirements set out in EN ISO 20344:2004 and is marked with one of the following codes:

- SRA - Tested on ceramic tile wetted with sodium lauryl sulphate (a diluted soap solution).
- SRB - Tested on steel floor with glycerol
- SRC - Tested under SRA and SRB conditions

The hierarchy of control for managing risks expects other actions such as eliminating the risk to be attempted before resorting to safety footwear. In situations where this is necessary, an informed assessment of footwear slip resistance is required to control slip risk. An informed assessment can be made using the Health and Safety Laboratory's GRIP scheme[2].

The GRIP scheme allows footwear manufacturers to volunteer their footwear for assessment. The slip resistance of the footwear is scientifically assessed on a challenging surface contaminated with water and then with glycerol.

Star ratings are assigned to the footwear to reflect the coefficient of friction (CoF) achieved in different conditions; the higher the CoF, the more slip resistant it is. The table below shows the GRIP rating classifications.

	CoF ≥0.19 Water
	CoF ≥0.27 Water

	CoF ≥0.36 Water
	CoF ≥0.36 Water & CoF ≥0.19 Glycerol (75%)
	CoF ≥0.36 Water & CoF ≥0.27 Glycerol (75%)

Not all workplaces will require 5-Star footwear to prevent slips. For environments where water is the only likely contaminant, 2- or 3-Star footwear should significantly reduce slip risk. 4- and 5-Star footwear is only needed where more viscous contaminants, such as oil, are present (e.g. in kitchens).

Setting an appropriate GRIP rating as part of a footwear specification is a sensible way to prevent slips.

References

1. UKCA marking: conformity assessment and documentation. Available here: https://www.gov.uk/guidance/ukca-marking-conformity-assessment-and-documentation
2. GRIP Ratings. Available here: https://www.hsl.gov.uk/publications-and-products/grip/grip-ratings

Risk Management Partners and Gallagher Bassett would like to thank QBE European Operations for the material used to shape this toolkit segment.

Further information

For access to further RMP Resources you may find helpful in reducing your organisation's cost of risk, please access the RMP Resources or RMP Articles pages on our website. To join the debate follow us on our LinkedIn page.

Get in touch

For more information, please contact your broker, RMP risk control consultant or account director.

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FP370-2025