UK SLIP RESISTANCE GROUP

The UK's independent authority on slip resistance

Footwear Guidance Document

A guide for selecting footwear to help reduce the risk of slipping

JUNE 2024

www.ukslipresistance.org.uk

The facts

- Slips trips and falls are the number 1 cause of occupational injuries.
- Cost to industry exceeds £1 Billion per year.
- Huge cost to the health service.
- A typical single slip could cost in excess of £10,000.

Did you know?

- Around 30% of non-fatal injuries at work are slips trips and fall related.
- **A significant percentage** of fall-from-height accidents at work (sometimes fatal) involve a slip occurrence.
- Employers have a legal responsibility to assess and manage risks. **Failure to do so could result in a custodial sentence for those responsible.**

More information can be found at

www.hse.gov.uk/statistics/causinj/index.htm

Hierarchy of Controls

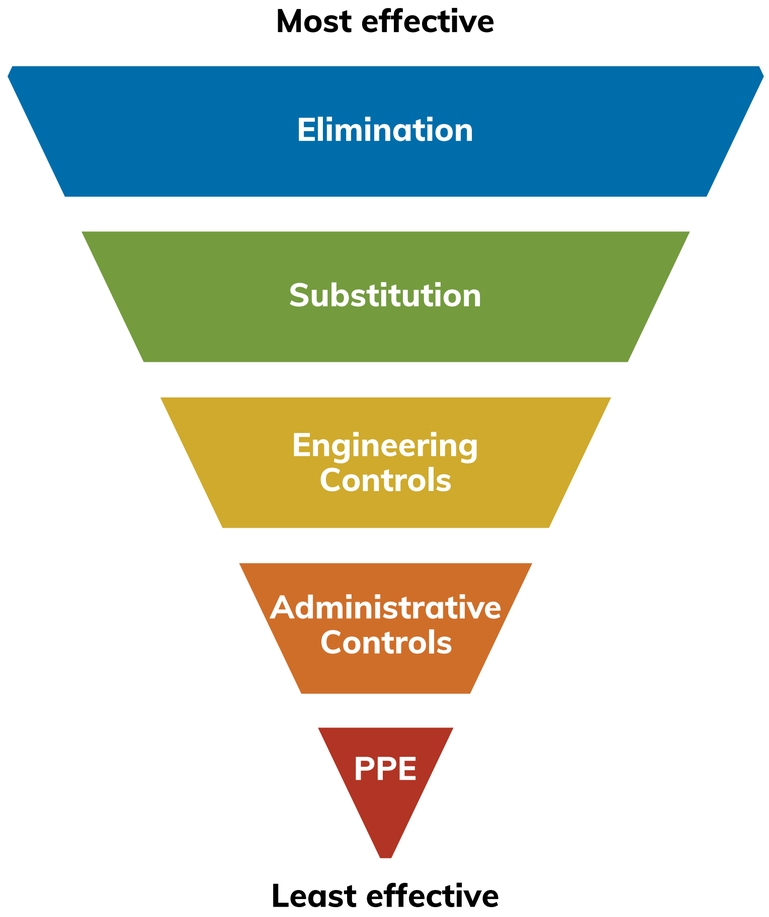
Physically remove the hazard

Adapt process and controls

Isolate people from hazard

Change the way people work

If the risk remains, protect the worker with PPE



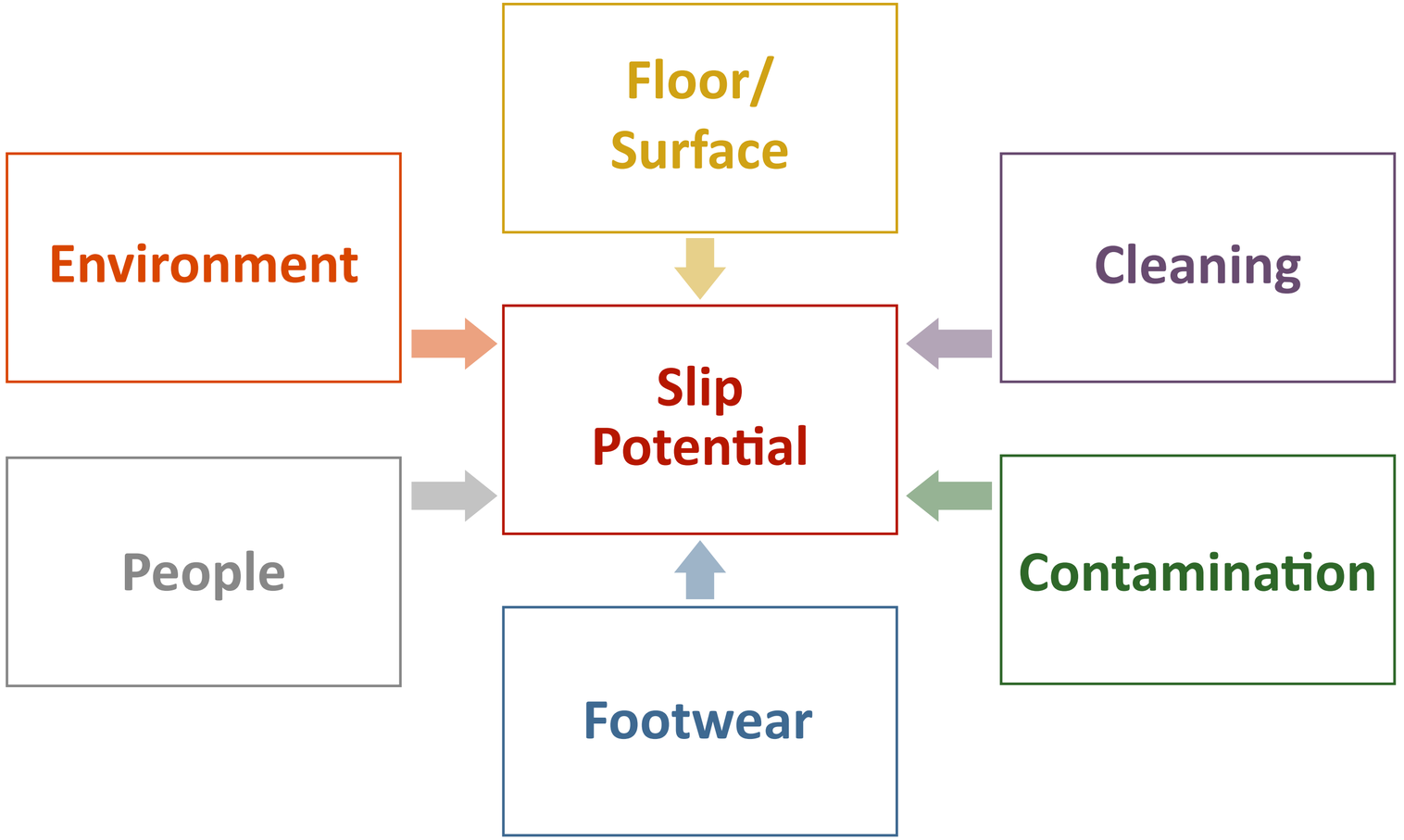
Risk Management

- It is a legal requirement to regularly carry out a risk assessment of every work place.
- This must include the risk of slipping.
- HSE guidance on risk management can be reviewed here: www.hse.gov.uk/risk/
- Case studies considering aspects of footwear can be found here: http://www.hse.gov.uk/slips/casestudies.htm#footwear

More information can be found at **www.hse.gov.uk/risk/**

Risk Assessment

All aspects must be managed.

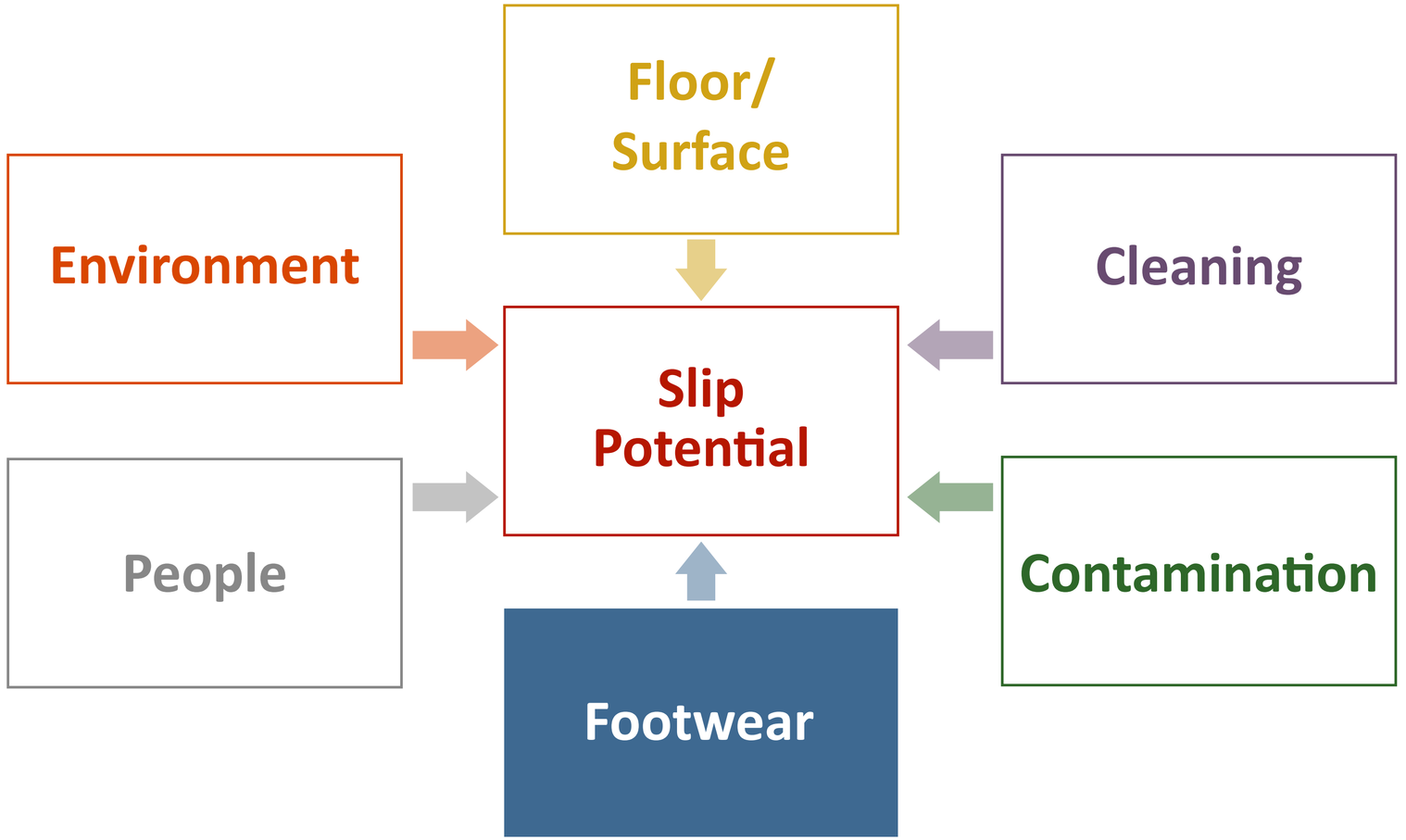


Slip Potential Model, adapted from the HSE model.

Risk Assessment

All aspects must be managed.

This guidance document focuses on footwear selection and use.



Slip Potential Model, adapted from the HSE model.

Finding the right footwear

If all control measures have been taken and a slip risk still exists, PPE Footwear (personal protective equipment) can help to control this risk.

- PPE footwear, whether with a toecap or not, should be selected by all protective features including the outsole's slip resistance and it's compatibility with your workplace.
- PPE footwear can be bought with different degrees of slip resistance, **choose carefully….**
- **The tread design and outsole material both strongly influence the slip resistance of the footwear.**
- Slip resistant footwear may be slightly more expensive but consider the **true cost.** (personal injury, lost time, compensation, insurance premiums….)

Selecting PPE footwear, consider...

- ALL protective features required in your workplace
  (e.g. toe protection, penetration, slip resistance etc.)
- The floor surface and any contamination likely to be present.
- Suitability of the tread pattern.
- Work processes and ergonomic factors.
- Consult the supplier/manufacturer and request slip test data.
  (e.g. Margin of pass)
- Seek out user and peer group experience and additional test data.
  (e.g.extra surfaces, lubricants and complementary test methods.)
- Consult your workforce.

Are shoes like car tyres?

YES

The tread **design** and **material** compound makes all the difference!

Slicks

- A slick tyre only works on dry surfaces and not in the rain as it will aquaplane.
- Footwear with a smooth sole may be suitable only on clean dry surfaces where risk of slipping is very low.

Treaded tyre

- A conventional treaded tyre is a good solution for a variety of conditions.
- Many edges and channels to help disperse liquids from the surface.
- Similarly, many edges and channels on a sole can help to disperse liquids and reduce aquaplaning.
- This may significantly reduce the risk of slipping.

Large open treads

- A deep, wide spaced treaded tyre is ideally suited to soft or loose ground surfaces.
- A deep, wide spaced tread can provide stability on soft or loose ground, but may be less effective on smooth surfaces as typically found indoors.

Cleaning

- It is critical to keep the treads clean and free from debris.
- Clogging will compromise grip.
- Clogged tread may also may lead to contamination being trafficked into other areas.
- **Consider the use of sole cleaning protocols, mats, brushes, water.**

Shoe treads wear, just like tyres

- Like on a car tyre, the tread should be regularly checked for signs of wear and tear.
- Inspect and replace the footwear before the tread wears smooth.
- Remember, test data only relates to new unused product.

ILLEGAL

DANGEROUS

PPE Footwear

PPE Footwear is made to strict standards and shall carry a mark which includes:

- The CE and/or UKCA compliance mark. (As at 2023 these are equivalent)
- Reference to an EN ISO standard.
- The types of protection provided.
- All these standards include slip resistance performance testing.
- NB: **Common claims including “oil resistance” or “fuel oil resistance” only refers to a specific test of resistance to swelling and hardening of the sole material and does not mean that it will resist slipping on oil.**
- Further information on these standards can be found on the UKSRG website: https://ukslipresistance.org.uk/

Footwear Testing And Slip Markings (current)

There are 3 current ratings for slip performance:

- “SRA” Tested on ceramic tiles with dilute soap solution.
- “SRB” Tested on stainless steel with glycerol solution.
- “SRC” Both the above tests have been met.

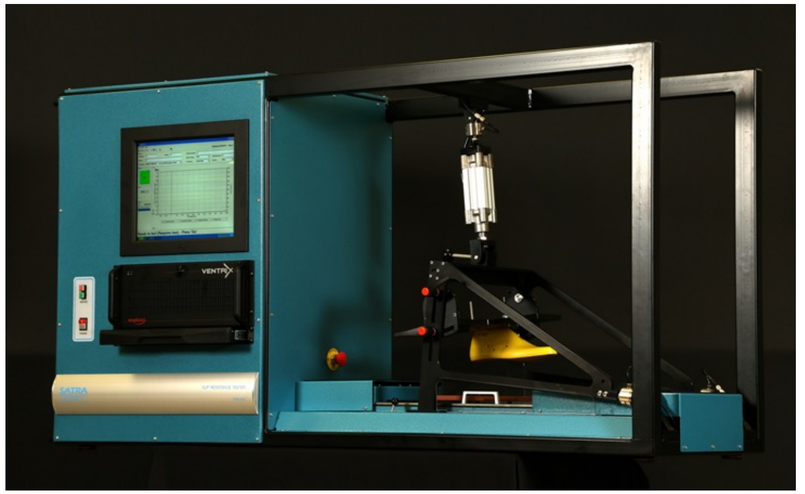
You may see these performance markings on established models of PPE footwear. (as at 2023)

There is no implication that any one of these classifications is better than the other, they relate to specific surfaces and contaminants.

Footwear Slip Test Rig

Footwear testing and slip markings (new)

- Changes will be phased in from 2023.
- New standards are intended to ensure continuity of the same levels of performance **to previous standards.**
- Basic mandatory test for all conventionally soled footwear tested on ceramic tiles with dilute soap solution.
- “SR” Additionally tested and passes on ceramic tiles with glycerol solution.
- “Ø” Has not been tested for slip resistance but **may contain** spikes, metal studs or similar designed to enhance grip in specific conditions. (e.g. forestry, soil etc.)



Footwear Slip Test Rig

Typical footwear labelling (current & new)

CURRENT MARKING

NEW MARKING

Product size

Date of manufacture

Compliance marks (CE and UKCA)

Purchase order number (optional)

Number and date of the standards

Slip performance marking

Category of protection

Product name/style code

Name and address of the manufacturer

Additional Information

- Request PPE Footwear supplier to demonstrate efficacy of footwear representative of your environment(s) bearing in mind different departments may require different tread types.
- Compare the candidate footwear with the established footwear. For example, wear one of each product on a walk around comparing the level of grip.
- Use standard mechanical methodology related to your workplace.

- Use human based methadology (e.g. Inclined Ramp Test) related to your workplace.
- Having made an informed choice, move on to conduct full wear trials.

Conduct wear trials

- It will give you a realistic indication if the footwear is suitable for your environment. (fit for purpose)
- Record all incidents including near misses (opportunity for early intervention).
- Does the footwear continue to perform after a period of wear?
- Highlight high risk areas.
- Gain wearer feedback on acceptability, comfort and suitability.
- Highlight possible problems – keep footwear clean and avoid cross contamination.
- Does the footwear actually reduce slips?

Don’t get caught out in the wrong shoes!

- Remember, slips are commonplace and often go unreported until there is a serious accident.
- Many people regard a slip as embarrassing or even funny.
- Several brands of footwear providing enhanced slip resistance have been developed in recent years.
- Appropriate slip resistant footwear can play a significant role in reducing slipping accidents.

Bibliography & Further Reading

How to manage workplace risks with PPE	https://www.hse.gov.uk/ppe/managing-risk-using-ppe.htm
Do employers have to provide personal protective equipment (PPE)?	https://www.hse.gov.uk/contact/faqs/ppe.htm
Sourcing and supply of compliant PPE	https://www.hse.gov.uk/ppe/product-safety-and-supply.htm

Several product standards include advice on aspects of cleaning.

Bibliography & Further Reading

https://www.hse.gov.uk/pubns/indg225.pdf
https://www.hse.gov.uk/pubns/ck4.pdf
https://www.hse.gov.uk/slips/assets/docs/mappingtool.pdf
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https://kite-uhn.com/rmt/en
https://www.sjweh.fi/show_abstract.php

All links last visited 02/06/2024

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