

# Dairy UK

## DAIRY UK GUIDANCE ON THE PREVENTION OF SLIPS AND TRIPS IN THE DAIRY INDUSTRY

<b>VERY POOR</b> Slip Injuries certain to occur	<b>POOR</b> Slip Injuries likely to occur	<b>BETTER</b> But can still fail Pendulum Tests	<b>GOOD</b> minimum recommended	<b>BEST</b> especially on slopes
<b>R9</b>	<b>R10</b>	<b>R11</b>	<b>R12</b>	<b>R13</b>

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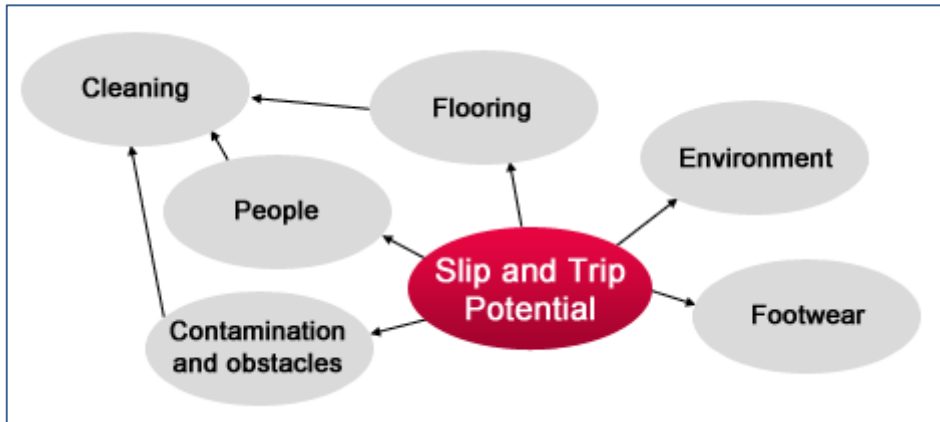
## Legal Liability

**The possession of this guidance does not absolve companies from the requirement to create their own risk assessment approach document for the prevention of slips and trips tailored to their own specific circumstances. This guidance is solely intended to give assistance in the creation of such a document and is not a training manual.**

**Dairy UK does not accept any legal liability for any injuries of harm arising from the interpretation given by companies to this guidance.**

**The references to products shown in the case studies do not indicate any endorsement, or otherwise, of these products by Dairy UK.**

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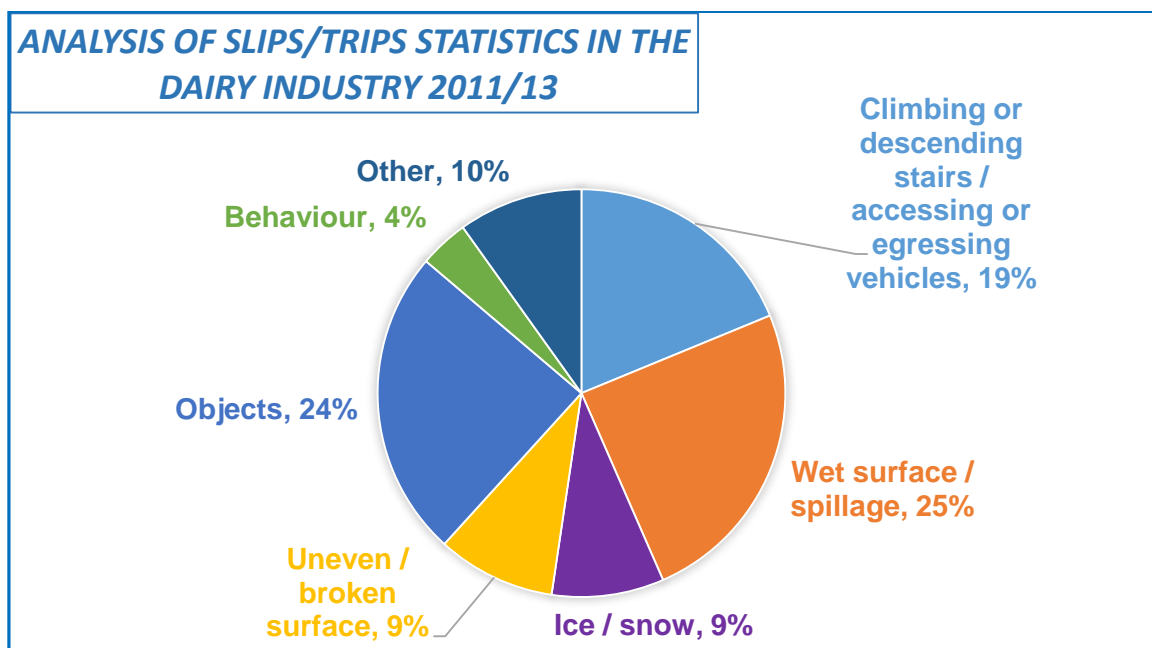
## INTRODUCTION: WHY IS IT IMPORTANT THAT WE CONSIDER SLIPS AND TRIPS?

Slips and Trips injuries account for 35% of 'major' injuries in the food and drink industries. In the dairy industry, of those accidents reported to Dairy UK, 74% were slips and 26% trips. Of the slip accidents 66% happened on site and 34% off site, whilst 48% of trips occurred on site and 52% off site.

The top causes of the accidents in the food and drink industry are:

- Wet floors
- Contaminated floors from spillages of ingredients, milk, chemicals or oil from machinery
- Damaged or uneven floor surfaces
- Incorrect footwear
- Equipment, objects, materials causing obstructions.

A more detailed analysis of the Dairy UK figures showed that:



## WHAT IS A SLIP / TRIP?

A **SLIP** is where there is too little friction or traction between a person's feet and the walking surface.

A **TRIP** is when a person's foot (or lower leg) hits an object causing them to lose their balance.

### CASE STUDY: Consequences of a trip accident

John was a 61 year old Site Services Operative. One of his tasks was to take bins of waste from the factory to the compactor in the yard, a job he had done daily for the past 12 years. As John was walking between the wall and the compactor he tripped on the compactor cable, which was trailing across the ground, falling and fracturing his hip. The cable had been there for the past 18 months but, on this occasion, John caught his foot in it, tripped and fell.

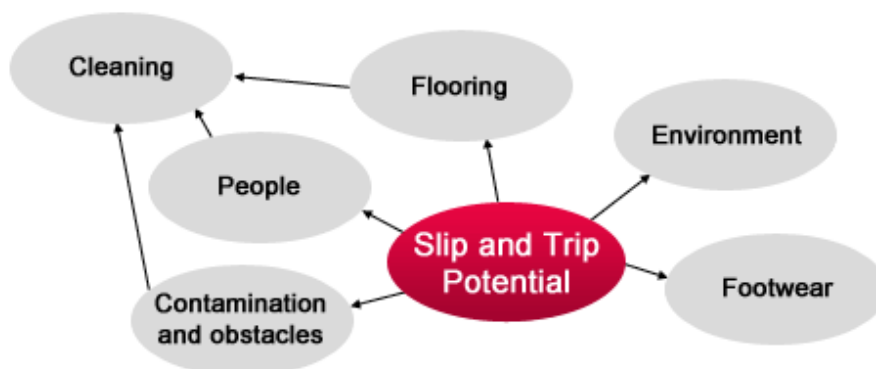
John never returned to work and suffered months of pain, operations, limited mobility and strain on his family life.

The company received an expensive civil claim and a visit from the HSE.

A suitable risk assessment and workplace inspection would have identified the cable. After the accident the company put in some trunking so that the cable was routed up the wall and overhead. **A simple low cost solution!**

**DO YOU KNOW WHERE YOUR COMPANY'S SLIP / TRIP POTENTIAL AREAS ARE?**

A starting point should be to carry out a survey and risk assessment to determine where your hazardous areas are and what level of risk they pose. This should consider all the elements below:



Possible methodologies for doing this could include:

**A 'hot spot map'.** Obtain a map or draw a sketch of your site or the area being looked at. Mark where the slips and trips accidents, near misses and hazard spots have occurred, during the last 12 months or longer if you have the data, using different colour spots to represent the different types. This can help to indicate trends and areas where there may be issues (see *Further Information* Section for details of the HSE Slips and Trips mapping tool and *appendix 1*).

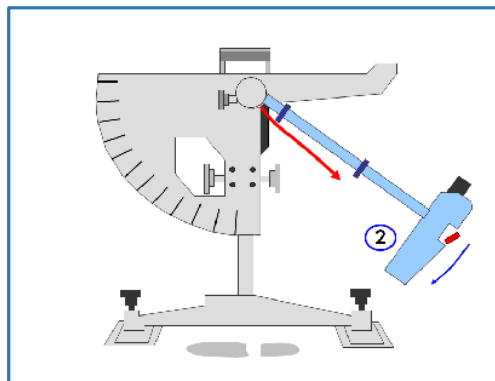
**Survey.** Carry out a site tour of the different areas noting down the key factors that could cause /contribute to a slip or trip accident. Involve those who work in the area. An example of a template that could be used is included in *appendix 2*.

For those that work off site, involve them in the process and ask them to complete a survey of hazards. An example of a guide and template that could be used in is shown in *appendix 3*.

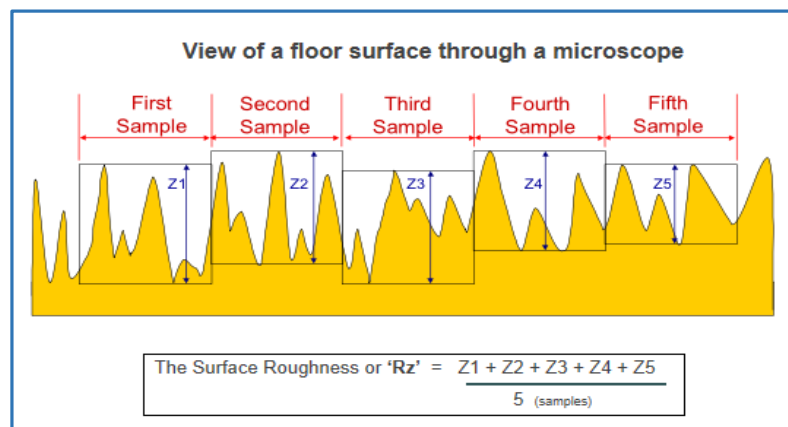
## SLIP ASSESSMENT TOOLS

Your survey may indicate that more information and a more detailed assessment is needed. If this is the case then there are tools available for assessing the slip resistance of flooring.

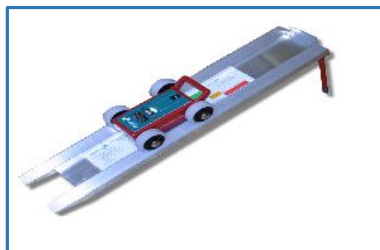
A pendulum and surface microroughness meter is the methodology used by HSL. It uses a swinging heel which sweeps over the area of flooring and gives a measurement of slip potential. It needs to be operated and interpreted by a suitably trained and competent person and is also quite large and heavy to transport.



Surface microroughness can give an indication of slipperiness and can be used in conjunction with the pendulum test, or on its own with the HSE Slip Assessment Tool (SAT) tool. The meters can be purchased and the SAT tool is free to download or use on the HSE website. These meters can only be used on dry, clean surfaces and not in extremes of temperature or on very rough surfaces. The user then identifies the contamination and inputs this into the SAT software, the effect of this is then included in the output/risk level.



Another tool is the SlipAlert™ tester, this involves a trolley rolling down a ramp. The results from this show good agreement with the pendulum test and can be used on dry or contaminated floors of all kinds.



These testers can be purchased or hired or there are consultant companies that will do the testing and produce a report. More detail on these testers is available on the HSE website.

### ***CASE STUDY: SlipAlert™ Tester***

A new butter plant was being built and the company wanted to know what type of flooring they should use to give the best hygiene and slip resistance properties. Different food grade tiles were short listed based on the manufacturers literature. Samples of these tiles were made into one meter square sections and the SlipAlert™ tool used to test them when dry, wet and with butter contamination. All samples had the same slip resistance when dry and wet but, when contaminated with butter, there was a very clear winner. This tile was subsequently used for the floor.

The tester can then be periodically used, to ensure that the ongoing cleaning regime for the floor keeps it at its optimum slip resistance.

## ***KEY FACTORS AND POSSIBLE SOLUTIONS***

### ***Footwear***

Within the Dairy Industry there are a wide variety of tasks and situations ranging from:

- 12 hour shifts on factory floors, where there could be water, chemical, milk and milk product contamination
- warehouses where pallets and trolleys are moved
- chill stores and freezers where there could be ice
- workers who drive and work remotely collecting at farms and delivering to shops and homes in all weathers.

It is, therefore, important that your policy and footwear is carefully selected to give the optimum protection for each situation.

Just because a brochure says that footwear has a particular slip resistance, does not mean that it will perform that way in your situation. Safety footwear will often be marked with the following:

**SRA** - tested on ceramic tile wetted with dilute soap solution

**SRB** - tested on smooth steel with glycerol

**SRC** - tested under both conditions.

The pass rate on these is not very high and, therefore, not that reliable. A better measurement to ask for is CoF test value (Coefficient of Friction). The higher the value the better the slip resistance, ideally you should be looking for a minimum of 0.27.

The HSL has launched a new GRIP footwear rating scheme to measure the slip resistance of footwear. More information on this can be found on their website (see *further information* for website)

Hence, selection and trialling of footwear with those that will wear it, and in the areas that it is intended for, is key.

Suppliers, particularly those that supply a range of different brands, often have specialists that can assist with a survey to make initial recommendations on suitable footwear that can then be trialled. It may be that different types are required for different jobs and consideration needs to be given to slip resistance, water and chemical resistance and whether toe, midsole and ankle protection are needed.

Comfort and good fit is important, as is ensuring that staff are trained to regularly check their footwear to ensure that it is in good condition.

The sole, tread pattern and compound that it is made from is important for slip resistance as is matching it to the type of work and likely contamination.

The SlipAlert tool mentioned previously, can also be used to give an indication of slip resistance of footwear with different floor surfaces. A 'slider' can be made using a sample of the material from the sole of the footwear, this is then used on the trolley to test the floor using different contaminants to see how it performs.

### **CASE STUDY: New Ice Boot**

A company was looking for some boots for its rounds staff (milkmen) that would give slip protection, even in snow and icy conditions. They found the ICE Boot, which states that it can actually grip the ice, due to a new tread and patented ice grip insert, and is self-cleaning. The boots were successfully trialled by the staff in some harsh conditions and are now being used to good effect.



## Environment

The internal and external environment have an impact on slips and trips potential. Due to the British climate, outdoor surfaces may be routinely wet, in winter snowy and icy and in autumn covered in leaves and mud. Where you are in control of the premises, ensuring suitable drainage and having appropriate cleaning and snow clearing and gritting regimes is key. However, when you have staff making deliveries and collections to other people's premises this is harder to achieve. In this case selection and use of suitable footwear is important as is involving staff in hazard spotting and dynamic risk assessments. The example in *appendix 3* shows how this can be done.

Shorter daylight hours in the autumn and winter months can also increase the likelihood of slips or trips due to inadequate lighting. Make sure that outside areas at dairies and depots have adequate lighting and that there is an inspection regime, and reporting process, for picking up lights that are out, so that this can be dealt with without delay.

At outside premises it may be necessary to provide staff with torches and lights in and around the parts of the vehicles where they are working, such as tail lifts. Again, staff should be trained and encouraged to report hazards that they encounter so that suitable solutions can be sought.

Internally, lighting can also be an issue making it harder to see hazards and can create shadows, glare, flicker or reflections. An assessment should be carried out to ensure these factors aren't present. More information on this can be found in HSG38 Lighting at Work (downloadable on the HSE website).

Humidity from steam processes and low temperatures from chiller fans and freezers can cause slips hazards. Catchment trays, maintenance and inspection regimes to minimise build-up of water and ice, along with suitable footwear and cleaning programmes with suitable de-icer (such as ice melt), should be in place.

Noise can also be a distraction drawing people's attention away from a potential hazard.

### CASE STUDY: LED caps

A company noted that a number of its staff were having a number of slip and trip accidents whilst carrying out their doorstep and shop deliveries, due to issues with poor lighting. It trialled and introduced a new LED cap for its staff. This cap is a low weight baseball hat and has a high, low and power beam light in the brim of the cap available at the push of a button. This gives hands free light in the direction the wearer is looking. The cap was a big hit with the staff and the company started to see a reduction in injuries straight away.





## Flooring

### New Floors

When selecting new floors, it is important to consider a number of factors.

In dairies floors need to be hygienic and easy to clean as well as providing a good level of slip resistance. What amount of foot fall will the floor need to take, what type of contaminants will be on it (food, liquids, oils, chemicals) also need to be considered. What is the floor's slip resistance, coefficient of friction and how does this change when it has the various contaminants on it?

There are many different materials that floors can be made from, including tiles, resins and metal flooring. Floors should also be designed with suitable camber and drainage and consideration be given to the location of key pieces of equipment and machinery that will need to be regularly cleaned and washed down.

Beware, just because a manufacturer describes their product as 'non slip' does not mean that it is or it will be suitable for your application and types of contaminants. Ask for a sample and ask for its safety specifications when it is dry and with the contaminants you are expecting. You could also check yourself with a meter or have it tested by a third party, who should be a member of the UK Slip Resistance Group (UKSRG).

### What should you be looking for in floor specifications?

#### Manufacturers may refer to any of the following of their specifications:

- **A DIN 'R' Rating.**

This is a classification system.

Floors should be a minimum of R11, ideally R12 or R13 for slopes.

Floors achieving R12 and R13 are often profiled and could behave very differently with different footwear. The installed flooring product may be different from the flooring product used to generate the classification system so take care on using and relying on these values when installing new flooring.

#### *R Ratings for floor surfaces*

<b>VERY POOR</b> Slip Injuries certain to occur	<b>POOR</b> Slip Injuries likely to occur	<b>BETTER</b> But can still fail Pendulum Tests	<b>GOOD</b> minimum recommended	<b>BEST</b> especially on slopes
<b>R9</b>	<b>R10</b>	<b>R11</b>	<b>R12</b>	<b>R13</b>

- **PTV (Pendulum Test Value).**

Rating of 36 *when wet*.

(Also referred to as SRV Slip Resistant Value) - the most accurate value and best one to look for and use when specifying floors.

<b>PTV 24</b>	<b>PTV 27</b>	<b>PTV 29</b>	<b>PTV 34</b>	<b>PTV 36</b>
<b>1 in 20</b>	<b>1 in 200</b>	<b>1 in 10,000</b>	<b>1 in 100,000</b>	<b>1 in 1 million</b>
<b>Probability of Slip</b>				

- **Roughness measurement (Rz)**

Note that these measurements have to be taken on a dry, clean floor. The data can then be input into the HSE SAT tool, with other information, such as contaminants, cleaning process etc. to give a slip rating.

The table is the potential slip in the wet, with clean water as the contaminant.

<b>Surface Roughness</b>	<b>Below 10</b>	<b>Between 10 to 20</b>	<b>Above 20</b>
<b>Rz ( µm)</b>			
<b>Potential for Slip</b>	<b>High</b>	<b>Moderate</b>	<b>Low</b>

**CASE STUDY: *New floor in cream cold store***

A company had a hygienic floor in a cream cold store that had holes and was breaking up, exacerbated by the use of electric pallet truck in the area. The holes were creating trip hazards and making it difficult to move product around.

The floor was replaced using a polyurethane resin, which is designed to withstand the fatty milk products, chemicals and hot liquids that would be used on it. The result was a hygienic floor with good slip resistance and high mechanical strength and impact resistance.



## Existing Floors

Where existing floors are in good condition but a 'slip hot spot' or low slip resistance has been identified, then there are measures that can be taken.

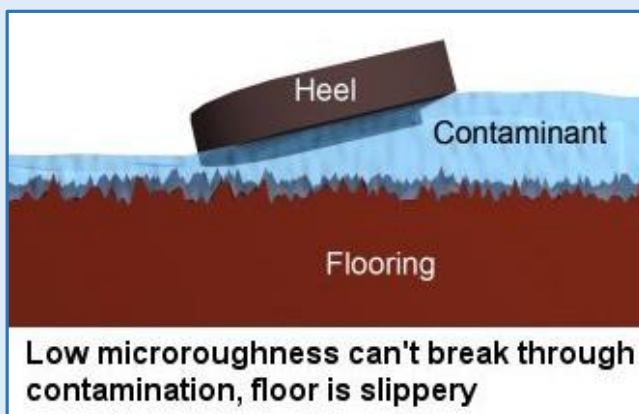
Start by looking at your cleaning regime, to see if frequency, types of chemicals and method of cleaning are sufficient (see section below on *cleaning*). If the programme is to be changed, it can help to take measurements, using one of the meters described above, before and after the changes are made. This can form part of the risk assessment and it is also useful to involve staff who clean the floors, so that they get an appreciation of why the new cleaning regime is important.

If the existing cleaning regime is satisfactory, then consideration can be given to using floor treatments to improve slip resistance. Acid/chemical etching can be used on tile surfaces to increase the surface roughness by chemically changing the structure of the tile surface. The effectiveness of this will be dependent on the chemical resistance of the surface along with its porosity, the strength of chemical applied and for how long. Companies offering this treatment should be able to advise and carry out a patch test to see what the resultant benefits of the treatment will be. **NOTE-** always check with the manufacturer of the floor tiles before carrying out any such treatment as they may not be suitable and may invalidate any warranty on the floor.

### CASE STUDY: Chemical etching

A company had a tiled area in the process area that was subject to lots of pallet truck and euro bin movements and was also where fatty ingredients were handled and was constantly being washed down. There were a high number of slip accidents and near misses in the area. The company used a substance called Posigrip that was applied by an approved contractor. The slip resistance of the floor was increased and slip accidents in the area were virtually eliminated.

**Note-** following such treatments it is important to apply a suitable cleaning programme. Failure to do this means that fats or chemicals will put a thin film over the surface and reduce the roughness and efficacy of the surface.



The correct chemical/detergent ensures that the film of grease or contaminant is broken down, maintaining the micro roughness and the floors slip resistance.

Other treatments that can also be considered are:

- Abrasive tapes and surfaces
- Coatings of paint or epoxy with grit
- Shot blasting or grinding to provide a rough texture to the surface

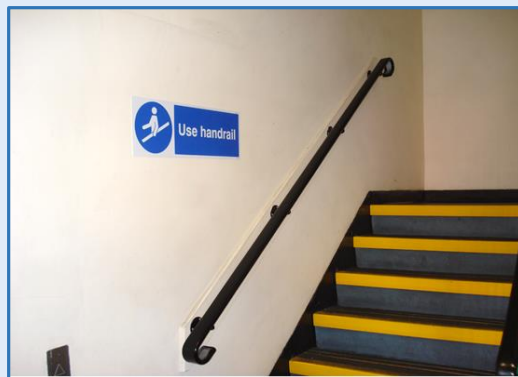
Always check the suitability of the floor for receiving such treatments and that hygiene requirements will not be compromised. Whenever installing new floors or carrying out treatments, remember to ask the supplier for details of the results and specification of slip resistance that the floor will provide.

### ***CASE STUDY: Anti slip stair tread***

A company had an issue with a stair case which was constantly having to be repaired due to loose, falling off or worn treads. The stairs were in an area that made them very slippery due to fatty cream residues.

The company applied ROCOL PROTREAD anti slip stair tread, which is an interlocking modular anti slip renovation system for worn and dangerous stairways and are ideal for heavy duty pedestrian traffic and long lasting.

The company reports that since fitting the product they have had no more maintenance requests or slip/ trip near misses or accidents on the stairs.



***Ongoing Checks and Maintenance of Floors*** - once you have a non-slip floor in good condition, it is important to keep it this way. Correct cleaning (see below) and regular inspections and audits to check condition and encouraging staff to report damage or hazardous conditions will keep your floor at its optimum.

## Contamination/Obstacles

The Dairy Statistics show that 37% of slip/trip accidents are due to wet or contaminated floors and 20% due to objects. Often there is a perception that slips/trips are outside the company's control, inevitable or the employee's fault, however this is only the case if hazards are allowed to remain uncontrolled.

The first thing to consider is what type of contamination do you have and where does it come from? If the contaminant can be eliminated or reduced then this should be the first consideration. Use the assessment sheet in *appendix 2* or *appendix 3* to help identify these. Other issues to consider are:

- If it is water, is it due to leaking, dripping taps or hoses? If so, get them repaired or replaced and then include these on regular area audit inspection sheets and also encourage staff to report them.
- Is it due to areas being washed down? If so, are the right chemicals / cleaning regime being used (see *cleaning* below)?
- Are areas suitable segregated whilst this is being done and until the floors are properly dry? Just because a floor has been squeegeed doesn't make it safe to walk on, if it is a smooth floor and is still damp, it can still have a low slip resistance. If machines/equipment are regularly CIP'd are the outlets piped direct to drains or allowed to run across the floors?
- If a machine or line is leaking or overflowing product or oil, can this be fixed or can catch trays or absorbent mats be used to contain it and stop it going onto the floor?
- Do operators need to be trained in not overfilling reservoirs or hoppers or more routinely emptying catch trays?
- Do valves or joints leak product? If so, getting this repaired will not only prevent floor contamination but also prevent waste and save money.
- Do people spread spills / contamination on their shoes or boots to other areas? If so, can more mats be used at entrances or boot / shoe scrubbers be placed at entrances / exits.



Boot scrubber can be used on entering and leaving areas, to keep footwear clean and prevent spreading contaminants.

- What about waste bins and product reject bins? Are these suitable and capture all the waste without spilling or overflowing? Do staff empty them regularly? Remember card, shrink wrap and bands used to secure the contents of a pallet, can all provide trip hazards if not cleared away.

## CASE STUDY: Shrink wrap trip hazard

An operative had gone to a pallet to collect a roll of labels for his machine, the rolls were at the back of the pallet, so he stood on the pallet so that he could reach. As he stepped back his foot caught in some loose shrink wrap and he fell to the floor landing awkwardly on his knee. The operative had several weeks off work and has undergone an operation on his knee. He has since returned to work but still has problems with his knee. The company received an expensive claim.

The solution was to ensure pallets were stored far enough apart, so that operatives can get all around them without having to step on them and to brief and train staff on the importance of good housekeeping and ensuring that shrink wrap is removed from pallets and placed in the bins.



## Obstacles

Anything that is in a person's path or thoroughfare can present a trip hazard. This can include cables, hosepipes, tools, equipment, waste such as cardboard, shrink wrap, banding, pallets, hand pallet trucks, drain covers left off, differences in levels and uneven surfaces. A difference of as little as 5mm in adjacent surfaces can cause a person to stub their toe and trip forwards.

Simple solutions include:

- Ensuring that cables are routed under, behind or up and over machines and equipment or use cable tidy carriers.
- Think about where hosepipes are sited and using retractable hosepipes, minimise the distances they have to be pulled, and help avoid running them across main thoroughfares.
- Tape or painted edges can be used to mark changes in levels and shadow boards are useful for storing and keeping tools tidy.
- Consider the layout of equipment and mark designated areas for it, this not only helps with safety but can also help with efficiency.
- Ensure that there are sufficient bins for waste and that they are emptied regularly.
- Carry out regular workplace inspections to identify issues with floors and encourage staff to report any hazards that they see.
- Train staff so that good housekeeping practices are part of their everyday tasks and system of work.
- Remind them of the importance of this through regular toolbox talks (example in *appendix 4*).
- This is more difficult with remote workers on other people's premises, so training and hazard awareness and spotting as per the template in *appendix 3* are key factors.

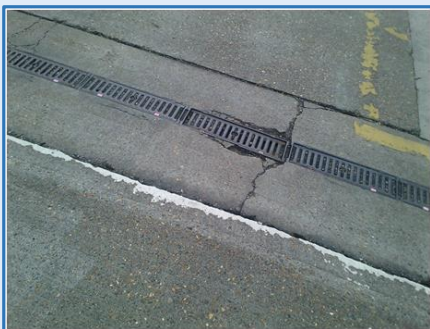


Shadow Board for storing tools

## CASE STUDY: Drainage channels

A company identified that the drainage channels in the yard were a regular source of near miss and hazard reports, due to the covers not being replaced properly after cleaning and vehicle movements over them causing them to move and drop into the channels. This led to missing grid sections. Also, the channels were not a good design, being too shallow for the volume they had to take, silting up quickly and also the edges being weak and cracking and breaking away.

The solution was to install an ACO slot drainage system which had no grids, a greater capacity and a design and installation that offered a greater depth of concrete around the channel, preventing damage. Rodding/cleaning covers were provided every 10 to 15 metres.



## Cleaning

Floor cleaning is key to preventing many slip/trip accidents and is one of the *best* controls available. When cleaning is effective, it can make the difference between a floor being an unacceptable high slip risk or an acceptable low slip risk. As we have seen from the statistics, the majority of slips occur when floors are wet or contaminated. Establishing the correct cleaning regime is a key control in managing slips and trips. This needs to be properly assessed and planned, taking into account the type of floor surface, the type of contaminant and the types of work and foot fall/traffic in the area. Poor or incorrect cleaning methods can contribute to the slip/trip risk.

The first consideration needs to be preventing the contamination in the first place (see *contamination/obstacles* section), Where spills and leaks do occur, however, these need to be correctly dealt with.

## Spot cleaning

- Where there is a spillage or leak of an oil, fat based liquid such as milk, cream or yogurt, try to contain the leak and stop it spreading across a larger area by using spill kit booms, absorbent matting or granules or use absorbent towel or rags to soak up the excess.
- The matting, towel or granules should then be carefully collected or shovelled up and placed into containers or doubled bagged to prevent dripping when being removed for the area for disposal. Squeegees or mops should not be used as they will just spread the contamination to a larger area leaving an invisible film creating a high slip risk.
- Once most of the spillage has been soaked/shovelled up, spot cleaning using a suitable detergent that will break down the fat/oil should be used.
- Consult your chemical supplier to make sure that you have the right one and, importantly, that you know what concentration to use it in. If too dilute the fat/oil will not be properly broken down, too concentrated and a film of chemical could be left behind, again creating a slip risk.
- Ensure that the correct contact time for the detergent to work is allowed, your chemical supplier should be able to advise on what this is. Once this has been done the area can then be rinsed using clean water, **note:** never put water (either hot or cold) directly onto a fatty contamination it will just spread the problem and make the slip risk higher. Hoses and power washers can be used, but will then leave the surface wet, so surfaces should have a good slip resistance when wet and the area squeegeed and dried (see below, *dealing with water*)

**Spillages involving fatty solids**, such as butter or cheese, should be dealt with in a similar way, though there won't be the need to contain using booms or granules, by shovelling up as much of the excess as possible and then spot cleaning as above.

Note that it is also important to ensure that the area around any spillage is cordoned off and signed to stop people walking through and either slipping and/or spreading the contamination on their footwear.

In order to assist with obtaining the correct concentration of detergents/chemicals, and to speed up their application, consider having cleaning stations sited at convenient easily accessible locations, with the correct tools (on shadow boards), barriers, signs and automatic dosers or pumps that deliver the right amount of detergent or that can deliver it at the right concentration.

### **CASE STUDY: Incorrect use of chemical during cleaning**

Steve had been asked to do some extra cleaning around his line as there was an important visit taking place. Steve decided that he would clean the nearby drain using a hypochlorite/bleach solution and that, in order to make the floors really clean, he would also use this on the floors. Thinking it would do a better job, he decided to make it a bit stronger. Two hours later a colleague was walking through the area and slipped injuring his wrist, hand and elbow. The hypochlorite solution had made the floors look clean, but had left an invisible film, increasing the slipperiness of the floor.

Better training, instruction and supervision of operatives around cleaning methods and use of chemicals could have prevented this from happening.

**Water leaks/spillages/ excess-** provided that there is no other contaminant, then water can be squeegeed or mopped up using clean uncontaminated tools. The area should be cordoned off to stop people entering the area until it is dry, as even a damp floor can have a high slip risk, particularly if it is a smooth, shiny floor. Following mopping or squeegeeing, a dry, clean mop could be used to help dry the floor.



**Dry Contaminants**- such as milk powders, sugar, starches can be brushed up, though care must be taken not to create air borne dusts, so dry vacuuming may be more appropriate and effective. Ensure that the vacuum is suitable for the area it is to be used in, i.e. electrically has the right Ingress Protection (IP) rating.

If the area is one which has a hazardous classification under The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) this will also need to be considered. See the HSE DSEAR website and ACOP L138 for more information.

Dry contaminant can also include waste such as card, plastic, banding which, on a floor, can provide a real slip or trip risk. Consider all your processes, what waste and where is this produced? Is it adequately contained and disposed of?

### **CASE STUDY: Waste plastic**

A company was carrying out some routine testing using the SlipAlert™ and found that the waste plastic strips and shapes generated from the plastic webbing created the highest slip risk of all when spilt on the floor. This was due to the fact that they could slide along the floor if stood on. Raising awareness of this and ensuring that waste baskets were effective at capturing the waste and were regularly emptied, helped to significantly reduce the risk.

### **Routine cleaning**

- Consider when this is done. Can it be done when there are fewest people in the area or can it be done in sections, leaving a clear route through the area?
- Consider the use of floor scrubbers, these can be used to good effect, though there are different designs so make sure that you get the right one for your application and that it is maintained in good condition to avoid leaks and water trails.
- The correct detergents and concentration will need to be used to ensure that it is effective, and that sufficient contact time for the chemical to work is given. If machines pass over the area too quickly contaminants will be moved around and not removed. The manufacturer and your chemical supplier should be able to provide advice on this.
- Make sure that whenever there is a spill or routine cleaning that the area is properly cordoned off and signs put out. Equally important, ensure that signs are removed after the spill or cleaning has been completed, otherwise they lose their effectiveness.
- Consider if the frequency of cleaning is correct, are the chemicals and concentrations right? Involve your chemical supplier, talk to people who work in the area, what accidents near miss or hazard spots are you getting.
- If you have a slip meter/tool, use it pre and post cleaning to see how effective your cleaning regime is.
- Monitor chemical use, this may highlight if incorrect concentrations are being used.
- Ensure operatives/cleaners understand what volumes of water are needed to achieve the desired concentration or use automatic dosers.

### **Training and Knowledge**

A key factor is ensuring that staff are trained and instructed on how to effectively and correctly deal with any spillages or floor contamination and are trained on the chemicals that they will be using or are used in the area.

Those responsible for routine cleaning should also be adequately trained on cleaning techniques and chemicals and supervised to ensure that the correct procedures are followed.

## People

How people act and behave in their work place can affect slips and trips accidents. Analysis of accidents has shown that, for the majority of accidents, human failure is a contributing factor.

Developing a culture of collective ownership for health and safety where everyone is empowered to raise and have hazards tackled is key. Robust 'clean as you go' regimes, where everyone will deal with a spillage or trip hazard, rather than leaving someone else to do it.

Ensuring that everyone wears and understands the importance of wearing their slip resistant footwear and keeping it clean and checking its condition on a regular basis is also fundamental.

Simple procedures, such as not rushing around can also contribute to accidents. The faster a person moves, the harder their feet land and the greater amount of friction required to prevent slipping. Carrying large objects that obscure their view, talking on phones or reading whilst walking can be distracting and not holding handrails whilst climbing up/down stairs can all be factors in accidents.

## Some Solutions

Implement a programme of training, tool box talks, posters and campaigns to raise awareness amongst operatives and cleaners. Involve operatives and safety representatives or champions in identifying issues and coming up with solutions. This will help create ownership. If you have a slip meter involve them with the testing, this gives them a better appreciation of the effects of good and poor cleaning and contamination. Promote hazard spotting and put the outcomes of the work done on local notice boards. If people see their concerns and ideas are being acted upon, they will continue to be proactive. Remember those colleagues whose first language may not be English, or who are temporary workers, do they understand?

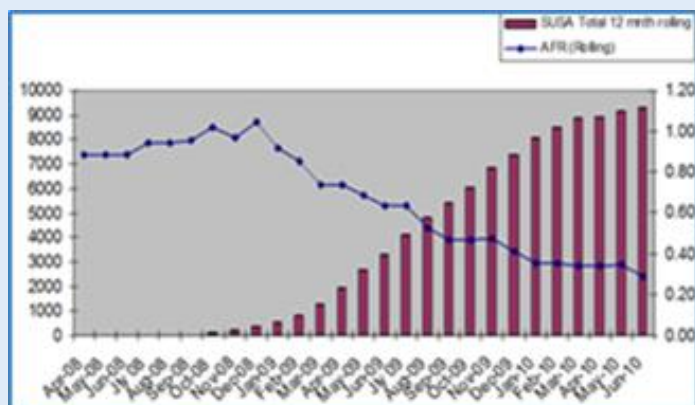
Above all promote a culture of 'everything in its place and a place for everything' and 'See It, Sort It or Report It' way of working.

Regular workplace inspections and audits, should be undertaken to ensure that housekeeping standards are being maintained and that behaviours are consistent with those required.

If an accident or near miss does happen, then ensuring that it is fully and robustly investigated, getting to the route cause and coming up with appropriate actions and cascading the learnings to other areas of the business, should help ensure that it doesn't occur again.

## CASE STUDY: Behavioural safety

A company had seen its accident rates plateau, so decided to implement a behavioural safety programme. This involved cultural workshops for the whole workforce, including managers, which engaged and empowered them to take ownership for safety. It also included implementation of a system of safety conversations and campaigns, posters and worker involvement. In a 9 month period the accident rate (AFR) fell from 1.1 to 0.28 as shown on the right.



## FUTHER INFORMATION

### *HSE Website links:*

Food & Drink manufacture <http://www.hse.gov.uk/food/>

Slips and trips <http://www.hse.gov.uk/slips/index.htm>

Slips on wet and contaminated floors <http://www.hse.gov.uk/food/slips.htm>

Causes and prevention <http://www.hse.gov.uk/slips/preventing.htm>

Slips and trips Hazard spotting checklist <http://www.hse.gov.uk/pubns/ck4.pdf>

Preventing slips and trips at work <http://www.hse.gov.uk/pubns/indg225.pdf>

Shattered Lives campaign <http://www.hse.gov.uk/shatteredlives/index.htm>

Resources for slips <http://www.hse.gov.uk/slips/information.htm>

Slips assessment tool (SAT) <http://www.hse.gov.uk/slips/sat/index.htm>

Slips and trips eLearning package (STEP) <http://www.hse.gov.uk/slips/step/index.htm>

Slips and trips mapping tool <http://www.hse.gov.uk/slips/mappingtool.pdf>

Slips and trips: The importance of floor cleaning <http://www.hse.gov.uk/pubns/web/slips02.pdf>

Assessing the slip resistance of flooring <http://www.hse.gov.uk/pubns/geis2.htm>

Lighting at Work <http://www.hse.gov.uk/pubns/books/hsg38.htm>

Statistics <http://www.hse.gov.uk/Statistics/causini/slips-trips-and-falls.pdf>

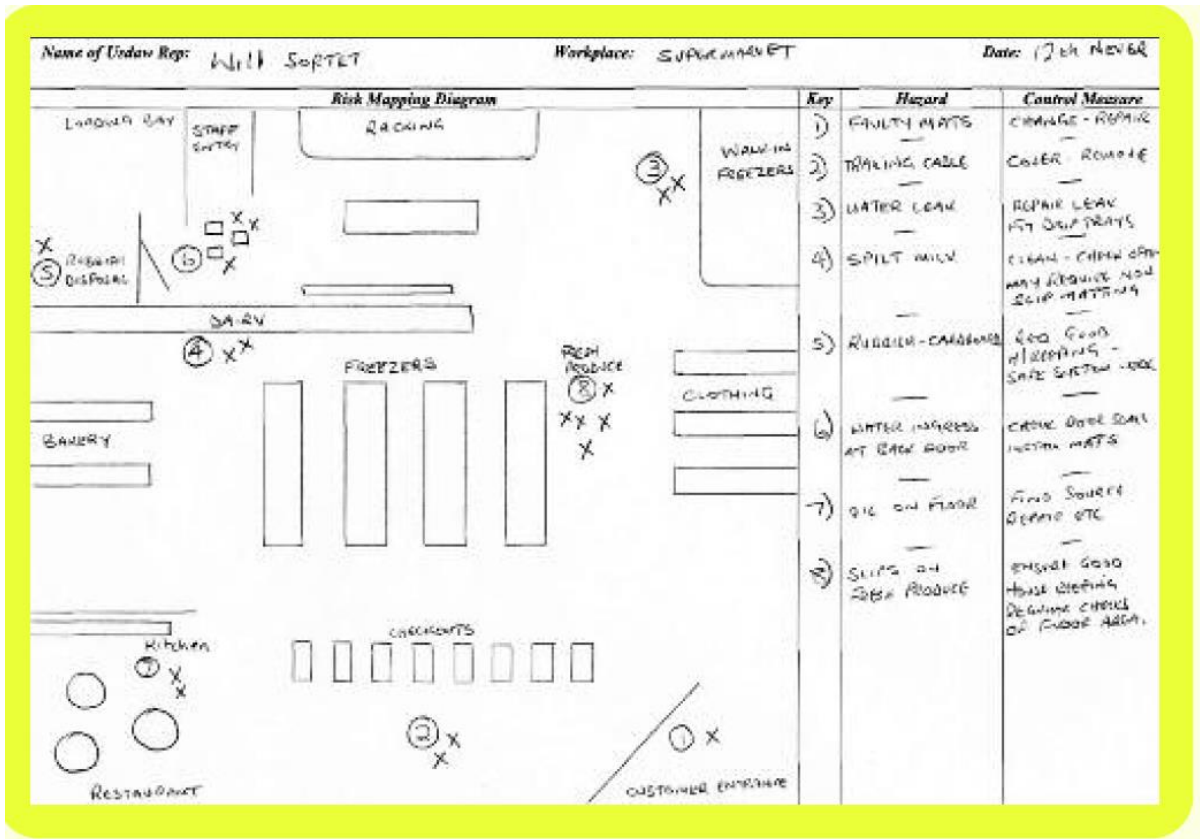
### *Other links:*

Ciria Safer surfaces to walk on - reducing the risk of slipping <http://www.ciria.org/>

HSL Grip rating scheme <http://www.hsl.gov.uk/products/grip>



# APPENDIX 1: USDAW RISK MAPPING EXAMPLE



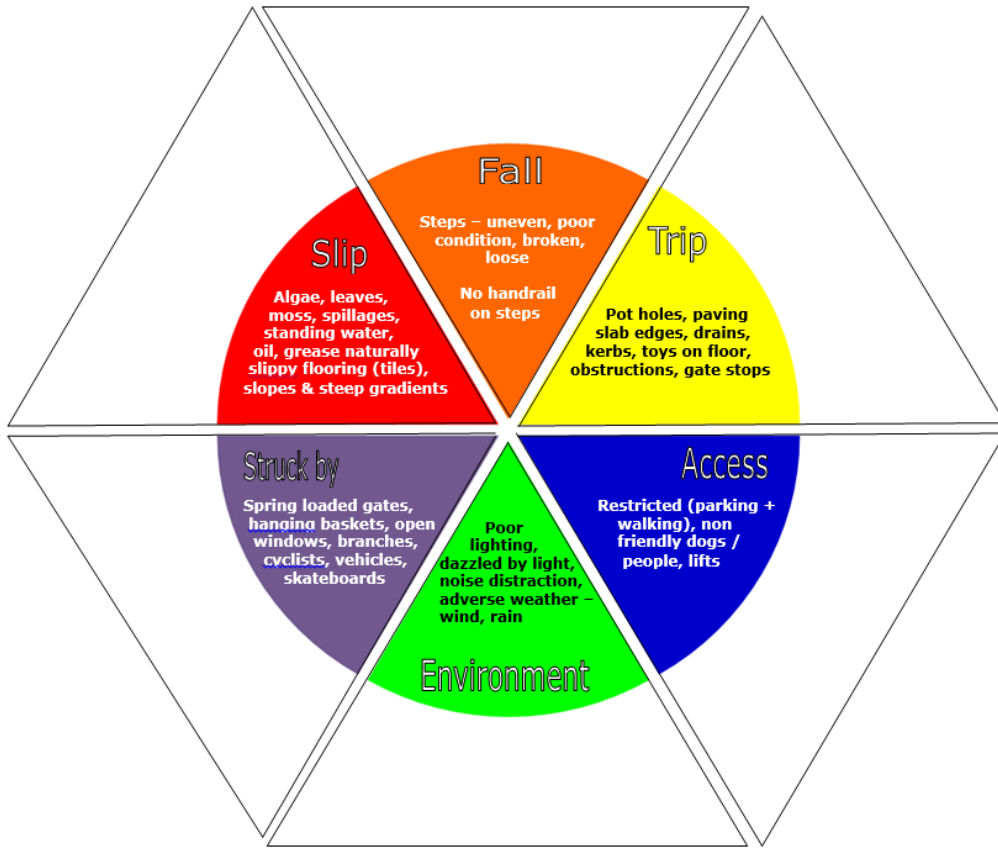
Source: USDAW Risk Mapping for Slips and Trips

## APPENDIX 2: EXAMPLE OF SLIPS / TRIPS SURVEY TEMPLATE

Slip/Trip Survey									Date:	Conducted By:
Area	Floor surface type	Flat, gradient, drained	Contamination	Safety footwear	Environment	People	Accident/near miss's	Obstacles	**Risk Rating= Outcome (3) X likelihood= High (9) Medium(6) Low (3)	Further Invetigation and solutions required
	e.g tiles, concrete, chequer plate)		e.g dry, clean, wet, milk, powder, leaves, grease, oil	Shoes, boots, wellingtons, make & model	e.g Lighting, noise, weather, temperature	e.g Trained, Clean as you go, supervised, SSOW	Slip/trips have happened here ?	e.g Tools, Equipment, kerbs, potholes, uneven surfaces, shrik wrap, hoses	Outcome (3) X 1= Unlikely 2= Possible 3= Probable = risk rating	Y/N
Production hall	terazzo tiles	flat & well drained	milk, oil, CIP from lines	Safety shoes - UVEX	Well lit	CAYG policy in place- not always followed	yes- 2 slips by line 1	hosepipes, cleaning tools	3 X 2 = 6 medium	yes
**Risk Rating = Outcome ( set at 3, major as large % of slips trips result in major accident) multiply by likelihood. Choose from: Unlikely 1, 2 possible or 3 Probable. Score of 3 = low risk, 6 medium and 9 high.										

**APPENDIX 3: EXAMPLES OF HAZARD IDENTIFICATION FOR ROUND STAFF / DELIVERY DRIVERS**

**What hazards can you see?**



**Which hazards do we need to sort / report?**

Rounds person..... Date completed..... Joint visit with  
 Depot + Round No. .... Page ..... of .....

Address	Issue	Have Sorted already	Action Required - tick		
			Info for others who cover my round	Have contacted customer	Need help from depot

## **Toolbox Talk Slips and Trips**



*This presentation can be downloaded from [here](#)*