



SLIPS AND TRIPS AT THE WORKPLACE FACT SHEET

Overview

This fact sheet provides general guidance for persons conducting a business or undertaking (PCBUs) and workers on managing risks to health and safety from slips and trips.



The information in this fact sheet applies to falls that result from a slip or trip but it does not apply to falls from a height for example, falls from one level to another. For guidance on falls from height, refer to the [Code of Practice: Managing the Risk of Falls at Workplaces](#).

Slips and trips

Slips and trips result in thousands of injuries every year. The most common ones are musculoskeletal injuries, cuts, bruises, fractures and dislocations but more serious injuries can also occur.

Slips occur when a person's foot loses traction with the ground surface due to wearing inappropriate footwear or when walking on slippery floor surfaces such as those that are highly polished, wet or greasy.

Trips occur when a person unexpectedly catches their foot on an object or surface. In most cases people trip on low obstacles that are not easily noticed such as uneven edges in flooring, loose mats, opened drawers, untidy tools or cables from electrical equipment.

Falls can result from a slip or trip but many also occur during falls from low heights such as steps, stairs and curbs, falling into a hole or a ditch or into a body of water.

The role of PCBU's

PCBU's must manage the health and safety risks associated with slips and trips by eliminating the risk so far as is reasonably practicable, and if that is not reasonably practicable, minimising the risk so far as is reasonably practicable.

This involves a systematic approach to:

- identify hazards
- if necessary, assess the risks associated with these hazards
- implement and maintain risk control measures
- review risk control measures.

There are various ways to control the risk of slips and trips, listed below in order of their effectiveness (known as the hierarchy of controls):

Hierarchy of control	Examples
Eliminate the hazard	Remove slip and trip hazards at the design stage such as eliminating changes in floor levels and installing more power outlets to avoid trailing cords.
Substitution	Replace flooring with a more slip-resistant surface.
Isolation	Prevent access to high risk areas, for example cordon off wet floor areas while cleaning is in progress.
Engineering controls (redesign)	<ul style="list-style-type: none"> • Apply floor treatments to increase slip resistance • Improve lighting • Stop leaks from equipment or pipes • Provide adequate drainage • Clearly mark edges of steps and any changes in floor height.
Administrative controls	<ul style="list-style-type: none"> • Implement good housekeeping practices including keeping access ways clear and cleaning up spills immediately • Use signage to warn of wet or slippery areas • Provide training and supervision.
Personal protective equipment	<ul style="list-style-type: none"> • Wear slip-resistant footwear.

More than one control measure may be needed to provide the best protection. A checklist to assist with the identification of slip and trip hazards and the selection of appropriate control measures is on page 7 of this fact sheet.

Identifying slip and trip hazards

Common slip hazards include:

- spills of liquid or solid material
- wet cleaning methods
- wind-driven rain or snow through doorways
- a sudden change in floor surface, for example joins between carpet and polished timber
- change from wet to dry surface
- dusty and sandy surfaces
- the incline of a ramp
- loose or bumpy flooring
- low light levels
- use of unsuitable footwear.

Common trip hazards include:

- ridges in floors or carpets
- worn floor coverings or broken tiles
- potholes and cracks in floors
- changes in floor level
- thresholds and doorstops
- floor sockets and phone jacks
- cables from power extension units
- loads that obstruct vision
- obstacles in traffic areas.

Selecting control measures—design of facilities

The best way to eliminate slips and trips is to build and design facilities with safety in mind. The following are some general matters which should be considered during the design stage.

For floor design:

- Minimise any changes in the floor level. If levels must change, use ramps rather than steps when connecting pedestrian pathways.
- Ensure the maximum ramp slope does not exceed 1:12.
- Use slip-resistant floor tiles.
- Avoid sudden transitions in floor surface texture if possible. If such transitions occur, ensure good lighting and visual cues highlight the change.

For the design of stairs:

- All risers and treads should be uniform throughout a flight of stairs.
- Variations in the riser and tread should be reasonable—the riser ranges from 150 – 175mm and the tread ranges from 225 – 320mm, trips can easily occur for risers less than 75mm.
- The elevation of any flight of stairs should be designed between 15° and 55°.
- A landing should be introduced every 16 steps in a flight of stairs.
- Consider whether handrails are required, including if it is not reasonably practicable to implement the above controls.

For lighting design:

- Ensure both internal and external stairways are well lit.
- Areas such as corridors, walkways, staircases and lifts, should have an illuminance of at least 100 lux, so far as is reasonably practicable.

For the design of drainage:

- Provide means of containing and draining fluids at machines or processes.
- Provide drains as close as possible to any source of water or liquid that is frequently generated.
- Use floor grates where work tasks generate a lot of water or liquid.
- Ensure grates in walkways or aisles are slip resistant.

When designing storage:

- Provide ample storage space to avoid materials being placed in aisles.
- Ensure procedures for the return of tools to designated areas are in place.

When designing work procedures:

- Develop procedures that avoid the build-up of rubbish throughout a production process, for example using pre-cast units instead of formwork and bar-bending construction methods in construction work.
- Choose or replace machinery that frequently generates noise, dust, fumes or smoke.

Selecting control measures—housekeeping

Good housekeeping helps prevent slips and trips. Examples of control measures include:

- training staff to recognise slip and trip hazards and the importance of good housekeeping
- setting up standards and procedures for storage and cleaning
- checking and storing usable inventories, discarding any unwanted items
- implementing safe systems of work and any relevant signage for timely and efficient reporting and clean up of spills
- providing sufficient rubbish or recycling bins
- using appropriate containers for rubbish if it is likely to contain sharp objects
- developing a cleaning schedule that assigns workers to take charge of cleaning workplaces, and
- encouraging workers to clean their workplaces daily before they leave, so far as is reasonably practicable.

Selecting control measures—safety training

All workers share responsibility for housekeeping and cleanliness at the workplace. Work health and safety training not only assists workers to become more aware of slip and trip hazards and the relevant control measures, but also helps to prevent injuries. Training should include:

- awareness of slip and trip hazards
- identifying effective control measures
- duties of workers.

Selecting control measures—personal protective equipment

Personal protection equipment (PPE) including slip resistant footwear should only be used:

- when there are no other practical control measures available (as a last resort)
- as an interim measure until a more effective way of controlling the risk can be used
- to supplement higher level control measures (as a backup).

When selecting and purchasing footwear consider whether it has good slip resistance properties, in addition to any other required safety features. For example:

- in wet conditions—the shoe sole tread pattern should be deep enough to help penetrate the surface water and make direct contact with the floor
- in dry conditions—the shoe sole tread pattern should be flat bottom construction which grips the floor with maximum contact area, and
- urethane and rubber soles are more effective than vinyl and leather soles for slip resistance. Sole materials that exhibit tiny cell like features will provide the added benefit of slip resistance.

Controlling the risks of slipping

Floor treatments that improve slip resistance are those which increase the surface roughness of the flooring. The main floor treatments are sand blasting or grinding, chemical etching, coating with resins, and using floor mats or adhesive anti-slip strips.

Examples of different floor types are:

FLOOR TYPE	CHARACTERISTICS
Concrete	Rounded aggregate can be slippery when concrete wears. Interior surface is often sealed to prevent dusting and absorption of liquids - this can increase slipperiness.
Terrazzo	Gives good appearance and wears well but can be slippery when wet, when excess polish is used or when dusty.
Quarry tiles, ceramic tiles	Low water absorption and good resistance to chemicals. Slippery in wet conditions if smooth, but can be moulded with aggregate or profiles to improve slip resistance - special cleaning equipment may then be required.
Glazed ceramic tiles	Slippery when wet, particularly with soapy water. Some slip resistance treatments available, but preferable not to install these tiles on floors.
Vinyl tiles and sheet	Easy to clean. Use sheet form where frequent washing is required to avoid water getting under tiles. Slippery when wet, particularly if polished, however slip resistant vinyls are available. These have aggregates moulded in. Thicker and softer vinyls are more slip resistant than hard ones.
Cork	Must be sealed to prevent absorption of oil and water, but may then be slippery when wet.
Steel plate	Tends to be slippery when wet or oily, particularly when worn.
Rubber	Less effective in wet conditions. Must be fixed down well at the edges and joints or will cause a trip hazard.
Plastic matting	Interlocking PVC extrusions give good drainage and slip resistance. Hose down or steam clean.
Carpet	Carpet has a shorter life than hard floor surfaces, but it can be a cost-effective solution. Installations should be wall to wall, to avoid the hazard of a trip on edges. When used in small local areas, such as at entrances, it should be installed in a recess in the floor. Alternatively, it should be rubber-backed and with hardwearing tapered edges. Trolleys can be harder to push on carpet, but if larger wheels are fitted and the carpet does not have a deep pile, this is not a serious problem.
Fibreglass gratings	This product can have grit particles moulded into upper surface to provide very good slip resistance. Fluids are quickly drained away.

Ways to eliminate or minimise slipping hazards due to liquid and waste from machinery include:

- modify the machinery to prevent leakage
- install exhaust systems to remove dusts or that would otherwise settle on floors
- use a tray to collect liquid and waste.

Ways to eliminate or minimise slipping hazards due to rainy days include:

- have absorbent flooring materials at entrances
- provide facilities for leaving umbrellas at entrances
- provide easy access to equipment and materials for cleaning up water on the floor.

Ways to eliminate or minimise slipping hazards due to accidental spills include:

- clean up water or oily spills immediately – use absorbent paper or powder for cleaning up any oily residues
- thoroughly dry floors after cleaning
- erect warning signs at areas with a high risk of spills.

Controlling the risks of tripping

Ways to eliminating tripping hazards include:

- provide storage areas separate to work areas
- provide sufficient storage systems to keep materials out of aisles
- provide sufficient power sockets and computer service jacks to minimise or remove the requirement for cords on the floor (where possible)
- remove or cover protruding sockets on the floor
- securely stack goods and avoiding single towering stacks
- hang power cords over work areas rather than on the floor
- clean up workplaces and remove rubbish or obstructions regularly
- display visual cues, such as warning strips and signs to alert pedestrians about changed or uneven surfaces.

Shared workplaces

In shared workplaces PCBUs must consult, cooperate and coordinate activities with all other persons who have a work health or safety duty in relation to the same matter, so far as is reasonably practicable.

In shared workplaces PCBUs may have varying degrees of control over the physical workplace, for example, flooring, lighting and cleaning. They must do what is reasonably practicable in the circumstances to prevent slips and trips at the workplace. They can do so by consulting each other and working together to implement appropriate control measures.

For example:

- At a shopping centre, the centre management is responsible for ensuring common access floor surfaces are well maintained and kept free of obstructions.
- Where shop owners need to move stock in and out of stores or if they wish to display goods outside of the store, they must consult, cooperate and coordinate with the centre management to avoid injuries from occurring.
- Where spills have occurred in the main access areas, the centre management must make arrangements to ensure the spill is cleaned up in a timely way.

Further guidance is available in the [Code of Practice: Work Health and Safety Consultation, Cooperation and Coordination](#).

More information

More work health and safety resources are available on the [Safe Work Australia](#) website.

Disclaimer

Note: this fact sheet provides general information only and should not be used as a substitute for seeking professional legal advice for your specific circumstances. The contents of this fact sheet are correct and based on available information at the time of writing. However, there may be subsequent decisions of courts or tribunals on the matter covered by this fact sheet which mean that the contents are no longer accurate.



PREVENTING SLIPS AND TRIPS AT WORK

This checklist may be used to identify hazards and control slips and trips in the workplace. It is not an exhaustive list of all the items you may need to consider. You should keep a copy of your records.

Assessment completed by:	
Who was consulted?	
Workplace:	
Location:	
Date checklist completed	

If you answer "yes" to any of the questions below you must ensure controls are implemented to eliminate or minimise the risk of slips and trips.

	Yes	No	Controls (incl. date)
Floors			
Can water be walked onto smooth floors (e.g. foyers) on rainy days?			
Are there any hard, smooth floors in wet or oily areas?			
Are there any leaks of fluids onto the floor from processes or machines?			
Are there any floor surface transitions not easily noticed (any ridge that is as high as a footwear sole or higher)?			
Is there any ice or water on cold room floors?			
Is the floor slippery when wet?			
Is there poor drainage causing pooling of fluids?			
Are any anti-slip paint, coating profiles or tapes worn smooth or damaged?			
Are there any isolated low steps (commonly at doorways)?			
Are there any trip hazards due to equipment and other objects left on the floor?			
Are there any raised carpet edges or holes worn in carpets?			
Are there any tiles becoming unstuck or curling at the edges?			
Are there any holes or unevenness in the floor surface?			
Stairs and ramps			
Is the lighting insufficient for ramps or steps to be seen clearly?			
Is the lighting for ramps or steps creating glare?			
Do any steps have too small a rise or tread or an excessive step edge (nosing)?			
Are any step edges (nosings) slippery or hard to see?			
Are the steps uneven or are there excessive variations in step dimensions?			
Are handrails inadequate on stairs?			
Are ramps too steep or too slippery?			

	Yes	No	Controls (incl. date)
Lighting			
Is there insufficient lighting in passageways, at flooring transitions, ramps or stairs?			
Does the lighting throw distracting shadows or produce excessive glare?			
Outdoor areas			
Is there a build up of moss or other vegetation on pathways?			
Are there any surface transitions not easily noticed (any ridge that is as high as a sole of a shoe / footwear or higher)?			
Are there potholes in footpaths or walkways?			
Housekeeping			
Is there a build-up of polish on floors?			
Is there an excessive residue of detergent?			
Do workers have to walk on floors wet from washing?			
Are wet floor signs not available or not used correctly?			
Do you need to provide information / training / advice to contractors regarding cleaning procedures?			
Are paper, rubbish, dirt, or spills left on the floor?			
Are aisles poorly marked?			
Are aisles cluttered?			
Are there any trip hazards due to equipment and other movable objects left lying on the ground?			
Do spills (wet or dry) occur regularly during work processes?			
Is the cleaning method appropriate for the floor surface?			
Tasks			
Do workers have to walk or work on greasy, oily or wet floors that are not adequately slip resistant?			
Do loads that are carried or pushed interfere with vision?			
Are the loads to be carried excessive or likely to upset a person's balance?			
Do heavy trolleys have to be pushed up ramps?			
Are workers hurried due to time constraints?			
Do workers require training in the procedures for dealing with slips and trips hazards?			
Footwear			
Do the workers' safety shoes lack grip?			
Do workers require slip resistant footwear?			
Are the tread patterns on footwear clogged with dirt?			