Preventing falls from height in the food and drink industries

Food Information Sheet No 30

Introduction

This guidance gives information specific to the food and drink industries on the causes of falling from a height (as opposed to falling over on the level) and how such accidents can be prevented. In particular, the information sheet:

- analyses where employees fall from;
- indicates why these falls occur;
- gives guidance on how falls from height can be prevented;
- presents examples of actual high fall accidents from which lessons can be learned; and
- provides sources of further advice in a 'Further reading' section.

Analysis of falls from height injuries

General

Food and drink manufacturers report around 750 falls from height to HSE each year, comprising 8% of all injuries in the food and drink industries. Some 15% of these falls are over 2 m.

Severity of injury

Falls from height in the food and drink industries:

- comprise about a quarter of total fatal and major injuries (ie broken bones etc);
- are the second highest cause of fatal injury, comprising 21% of fatal accidents;
- are the second highest cause of major injuries, comprising 17% of this category of accidents;
- result in about one major injury for every over-three-day absence injury; and
- can result in serious or even fatal injury even when the fall is less than 2 m.

Analysis shows that the frequency of falls from height and pattern of injury severity in the food and drink industries is similar to manufacturing industries in general. However, analysis of many case studies demonstrates there are industry-specific aspects from which lessons can be learned.

Places from where falls occur

A detailed analysis of nearly 150 falls from height accidents investigated by HSE over three years (1996/7-1998/9) indicated places from which food/drink industry workers fell:

Fell from	Number of falls
Ladders	40%
Vehicles/FLTs	17%
Machinery/plant	10%
Platforms	10%
Stairs	8%
Roof/false ceiling	7%
Scaffold/gantry	4%
Warehouse racking	4%

A further breakdown of injuries in the falls from vehicles category indicated parts of vehicles from which workers fell:

On vehicle, fell from	Number of falls
Back of lorry (eg off flat bed)	35%
FLT forks	31%
Cab steps	13%
Top of vehicle	9%
Tanker steps	4%
Other	8%

Activity being undertaken at time of fall

The activity being undertaken at the time of fall varied depending on the place from which the person fell.

Predictably, cleaning or maintenance was usually being undertaken where falls from scaffolding/gantries, ladders, roofs or through false ceilings etc occurred.

Where falls were from vehicles, the activity being carried out was usually part of the normal loading/unloading procedure. The main exception was falls from fork-lift truck (FLT) forks where workers were either standing on the forks or on a pallet mounted on the forks in order to gain access to high areas, eg to change light fittings or maintain/clean plant.

Where the fall was from machinery/plant:

- in a third of cases cleaning was being carried out;
- in a third of cases checking or sampling was being carried out;

- in a third of cases maintenance was being carried out.

Falls from storage racking occurred when workers were retrieving stored goods at high level by climbing up the racking - rather than using wheeled steps etc, which were usually provided.

Preventing falls from height

In many cases where a person falls from height, safe access has not been provided. In an HSE survey of 64 meat processing premises, 50% of firms did not have safe means of access for all the tasks they carried out at height.

Risk assessments for both capital and project plans should consider the risk of falls from height and suitable permanent or portable equipment. Retrospective provision of access systems, even portable ones, is more difficult to achieve.

When carrying out work at height with portable equipment, it is important not to be restricted to equipment which happens to be at hand. Consider buying or hiring equipment, such as a power-operated mobile work platform (eg scissor lift or cherry picker), where this can be used to improve safety.

Fatalities and many serious injuries have occurred when workers have fallen from pallets mounted on FLT forks to gain access at height. This practice should be prohibited and safe access provided, eg a suitable fork-mounted cage properly used or a proprietary mobile work platform.

Safe methods of working at height on roof edges, fragile roofs, ladders, scaffolds, mobile scaffolds, cages on FLT forks etc are covered in various HSE publications (see 'Further reading').

Specifically in the food and drink industries, the following additional precautions should be taken:

Cleaning

- Reduce cleaning at high level by alteration, modification or maintenance of plant, for example by ensuring effective extraction of dust and fume.
- Modify high structures to reduce ledges and surfaces where dust etc can accumulate.
- Clean high structures from ground level, for example with a foam jet cleaner.
- Where high access is required, ensure a safe system of work is used. This will include provision of safe access systems, such as mobile scaffolds which are constructed and used properly.
- Consider less common types of proprietary access equipment, such as inflatable platforms for silo cleaning.

Sampling or checking

- Change sampling or checking procedures so they can be carried out remotely from floor level.
- Relocate gauges and other equipment for measuring/monitoring/control at ground level.
- Sampling or checking is likely to be a regular feature of production. As such, where high access is required, permanent access steps/platforms should be provided, along with adequate handrails.

Maintenance

- Where frequent access is required to the top or high places of plant, equipment or machinery, ensure permanent access steps, ladders, handrails etc are provided.
- Where access onto plant, equipment or machinery is only required occasionally, ensure safe access systems are used, eg properly constructed and used mobile scaffolds.
- Ensure workers do not use FLT forks, or a pallet mounted on the forks, as a quick lift. Only properly constructed, fork-mounted cages should be used, as described in the HSE publication *Working platforms on fork-lift trucks* (see 'Further reading').

Falls caused by slipping

Slips accidents on the level cause a quarter of all food and drink industries injuries. Slipping is also one of the causal factors of falls from heights where ladders, footwear, platforms etc become contaminated with food product, water etc.

A good cleaning regime is therefore essential on surfaces and equipment from which people might fall. Appropriate slip-resistant footwear is also required. Heeled footwear should be used on ladders. Sources of further guidance on slips prevention are provided in 'Further reading'.

Falls on stairs

One third of over-three-day absence injuries caused by falling in the food and drink industries occur on stairs. As described in the previous paragraphs, this is often due to stairs becoming contaminated with food product or water, or the use of inappropriate footwear.

A proper stair-cleaning regime, provision of handrails and suitable footwear are essential to reduce these injuries.

Falls from warehouse racking

Unnecessary injuries occur when workers fall when climbing warehouse racking to retrieve or check items stored at high level. Safe access, such as wheeled steps, should be provided and used at all times.

Examples of actual high fall accidents

Falls from ladders/steps

- A night-shift hygiene operative was cleaning the walls of a chiller using a 5 m aluminium ladder that contractors had left against a wall. He lost his balance and fell 3.5 m to the floor, fracturing his arm. The work should have been carried out from ground level using a foam jet cleaner.

- An employee washing a food machine at the end of a shift climbed a ladder and crossed onto the top of the plant to get a better angle from which to hose the plant down. She slipped and fell 2 m, breaking her arm. Standing on the plant for cleaning had been condoned within the factory. Safe access arrangements are now provided.

- A cleaner in a meat processing plant died while helping with a deep clean. He used a stepladder (left by contractors) to clean a bowl chopper. The floor was slippery. He was found lying with head injuries by the bowl chopper with the ladder on top of him. A safe system of work had not been devised or followed.

Falls from vehicles/FLTs

- A worker fell over 2 m after standing on a pallet balanced on the forks of an FLT while attempting to retrieve dislodged tea sacks. Pallets of sacks were stored three-high and, due to the nature of the sack contents, they settled unevenly - making retrieval of the top-loaded pallet impossible on occasions. Pallet racking should have been provided.

- A driver was on top of his open-topped, box-type tipper, which had several transverse bulkheads and a longitudinal central catwalk. The lorry was fully laden with animal feed, which the driver was levelling with a broom prior to sheeting. However, the loading chutes were located above the centreline of the lorry, blocking the catwalk. The driver was going around the chutes by standing on the bulkheads, but slipped and fell 5 m to the ground. Lorries now draw clear of the loading bay before levelling load.

- A lorry driver was hinging flaps on the rear of a tail-lift onto a loading bay at night. While lowering the offside flap, he thought he had put the near-side flap down and stepped into the gap between the tail-lift and loading bay edge. He suffered fractured ribs and vertebrae. The company now provide better lighting, extended handrails and painted edge markings.

Falls from plant/equipment

- While crouching to service a motor on top of a large chiller, a plant manager lost his balance and fell backwards and over the edge to the ground, a fall of 3.5 m. No guardrail had been provided.

- A worker was cleaning the top of a chip-making machine when he fell 2 m to the ground. A fixed ladder and platform are now provided.

Falls from platforms

- A worker fractured his skull after falling 4 m onto a concrete floor from a poorly fenced mezzanine floor in a box store. He had been throwing empty boxes down. The company had identified the need for better fencing in a risk assessment but this had not been acted upon. Better fencing is now installed and boxes are passed down a chute.

Falls on stairs

- A maintenance worker was descending a stone staircase when he slipped and fell, sustaining a snapped Achilles tendon. The steps were worn and smooth. Epoxy resin repairs to the stairs have now levelled them and provided a non-slip surface.

Falls through false ceilings

- A cold store manager climbed into an unlit roof space. He stepped off the boarded area and fell between the ceiling joists, through the fragile panels of a ceiling, into a battery-charging room below. Proper flooring and lighting are now provided.

Falls from scaffolds

- A fitter was removing a ceiling suspended pipe in a disused cheese department while standing on a 2.5 m-high scaffold that had no handrails. The pipe dropped, knocking him off the scaffold. He sustained broken ribs and a broken collarbone. The job had not been risk-assessed or adequate instructions given.

Falls from warehouse racking

- A cold store operative fell 2 m after climbing the racking system in a bulk cold store. He sustained fatal head injuries. This activity was routinely carried out as no safe system of work was provided by the employer.

- A worker fell 5 m to the ground from warehouse racking while checking articles on a pallet. The set procedure was either for the pallet to be brought down or for an access cage fitted to the FLT to be used. However, these were not used as the aisle had been blocked with stored goods preventing FLT access.

Further reading

Health and safety in roofwork HSG33 (Second edition) HSE Books 1998 ISBN 0 7176 1425 5

Tower scaffolds Construction Information Sheet CIS10 HSE Books 1997

General access scaffolds and towers Construction Information Sheet CIS49 HSE Books 1997

Working on roofs INDG284 HSE Books 1999 Free leaflet

Working platforms on fork-lift trucks PM28 HSE Books 2000 ISBN 0 7176 1233 3

Sheeting and unsheeting of tipper lorries HSG148 HSE Books 1996 ISBN 0 7176 0888 3

Slips and trips: Guidance for the food processing industry HSG156 HSE Books 1996 ISBN 0 7176 0832 8

Slips and trips: Summary guidance for the food industry Food Information Sheet FIS6 HSE Books 1996

Preventing slips, trips and falls at work INDG225 HSE Books 1996 Single copies free, also available in priced packs ISBN 0 7176 1183 3

A recipe for safety: Health and safety in the food and drink industries TOP05(rev1) HSE Books 1999 Single copies free, also available in priced packs ISBN 0 7176 2432 3

Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice and guidance L24 HSE Books 1992 ISBN 0 7176 0413 6

While every effort has been made to ensure the accuracy of the references listed in this publication, their future availability cannot be guaranteed.

Further information

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops.)

For information about health and safety ring HSE's InfoLine Tel: 08701 545500 Fax: 02920 859260 e-mail: hseinformationservices@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG. You can also visit HSE's website: www.hse.gov.uk

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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