

This leaflet gives advice on how to avoid slips and falls in cattle and sheep during unloading and movement on concrete floors.

A recent study by the Royal Veterinary College, showed that 4.3% of cattle experienced slips during unloading at UK livestock markets. A further 1.4% fell during unloading. These problems were not widespread, they occurred at particular sites where concrete was worn and polished through long-term use. It was found the risk was greatest when the stock ran off the trucks too quickly. In abattoirs, slippery concrete floors in the unloading area presents a high risk for cattle. About 12% of cattle experience slips in this area, and 1.3% fall.

Any person driving animals at markets and abattoirs has a legal duty to ensure they minimise the chances of slips and falls. Lairages should have floors that reduce the risk of slipping and hence injury to either stock or handlers.

## UNLOADING CATTLE AND SHEEP FROM LORRIES AND TRAILERS AT MARKETS AND ABATTOIRS

**Cattle:** The frequency of serious slips rises with the steepness of ramp, beyond a 20° angle. Falls are rare, except at very steep angles. Slipping is mainly a problem on internal ramps inside the vehicles, which, in cattle trucks are usually set at a 28° angle. Those slips can be reduced by using internal ramps which have a batten spacing that is less than 15cm. On most trucks batten spacing is presently 20cm.

**Recommendation:** *Where possible, ramp angle in cattle lorries should be no more than 26°. Batten spacing on steep internal ramps in cattle lorries should be 15cm. Give cattle time to unload, particularly if one is down, or if an animal is facing the wrong way.*



**Sheep:** Tend to be less prone to slipping than cattle. However, more slipping is seen when the ramp angle is between 15 and 25°. When the internal ramp angle is steeper than this, they tend to stop at the top of the ramp and focus on where to place their feet instead of following-on rapidly as a group. The best approach with steep ramps is to avoid rushing the sheep once they have started to move off the vehicle. The optimum batten spacing for sheep ramps is 15 to 30cm.

**Recommendation:** *Do not rush sheep when unloading down steep internal ramps. Batten spacing on ramps in sheep lorries and trailers should be between 15cm and 30cm.*

## FLOOR SURFACES IN UNLOADING AND CATTLE HANDLING AREAS

### RESIN SCREEDS

Slips and falls in high risk areas such as unloading bays, lairages, raceways, sale-rings and cattle crushes, can be greatly reduced by installing resin screeds.

- Resin screeds are expensive, but would be justified where the frequency of slips is usually more than 5%.
- The resin screed is up to 1cm thick and it has to be laid by contractors.
- The size of aggregate in the screed needs to be appropriate for the type of stock.  
Take advice from the contractor who will lay the floor, or from the Resin Flooring Association (FeRFA).
- At busy markets the screed can last for 8 or more years, but this will depend on how well it has been laid.
- Epoxy-aggregate paints will reduce slips, but they are not as long lasting as resin screeds.

**Recommendation: Install a resin screed over slippery concrete floors.**

### NEW CONCRETE FLOORS

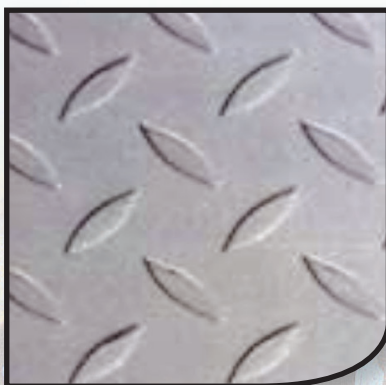
- Specify the grip that is needed when using professional contractors to install new concrete floors.
- When skid resistance of concrete is below 40 BPN units, the risk of serious slips in cattle increases. For sheep, the equivalent value is 50 BPN units. Specifying a skid resistance value of 65 to 70 BPN units should ensure a long working life for the floor before it becomes slippery from wear.
- New concrete can be very corrosive to animals' feet. When installing a new concrete floor at a farm it is advisable to minimise livestock movement over the yard for at least one month, and not hold animals on the wet floor for long periods. If this is unavoidable, the feet of the stock should be treated with a formalin footbath before exposing them to the new concrete.

**Recommendation: When laying a new concrete floor, give it time to cure before introducing livestock, otherwise there is a risk of feet degradation. Pre-treating with a formalin footbath will reduce the foot degradation.**

### METAL FLOORS

Metal floors used in stunning pens, weigh-platforms and cattle crushes can be made less slippery by using a new type of plate metal in place of traditional durbar. The new type of floor has laser inserted metal studs which provide better grip. It has the same durability as durbar, but the studs make it more abrasive. In controlled trials this has been shown to reduce slips in heifers from 5% to 0%, and in ewes from 3.5% to 0%. Epoxy-coated durbar also helps reduce slips, but it is not as effective as the new metal floor.

**Recommendation: Slippery metal plate floors should be replaced with metal floors that have laser inserted studs.**



Traditional durbar



Metal floor with laser inserted studs



**Further advice can be obtained from:** BRMCA, British Ready-Mixed Concrete Association, 38-44 Gillingham Street, London SW1V 1HU; FeRFA, The Resin Floor Association, 16, Edward Road, Farnham, Surrey, GU9 8NP; Dr K Klinglmair, Schickgasse 25/5/32, A1220 Wien, Austria; HSA, Humane Slaughter Association, The Old School, Wheathampstead, Hertfordshire, AL4 8AN; Ross Technology Corporation, PO Box 646, Leola, PA 17540, USA.

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