

LKL Safety Note

Silage Clamp Safety and Work at Height



With the silage making season around the corner and the work that **Farm Safety Partnership** has been doing in raising awareness about Safe Working at Height, here at LKL we thought we would look at what information is out there about the best clamp designs and methods of working safely at height when accessing silage clamps for lining and sheeting up.

The biggest issue with silage pits is the chance of slips and trips and falls from heights. Hazards to think about include how you gain access to the top of your silage clamp, maybe to remove plastic sheeting and tyres, and what work you do close to the edge. A fall off the open edge of the clamp can often be in excess of 3 metres and you may land directly onto concrete.

The purpose of the Work at Height Regulations is to prevent death and serious injury from falls from height. The Regulations require a hierarchy of control measures: -

- **Avoid work at height** where it is reasonably practicable to do so;
- Where work at height cannot be avoided, **prevent falls** using either an existing place of work that is already safe or the right type of equipment;
- **Minimise the distance and consequences of a fall**, by using the right type of equipment where the risk cannot be eliminated.

<https://www.hse.gov.uk/pubns/indg401.pdf>

There are little specific guidelines as to how this might be achieved for different scenarios, it will come down to **risk assessment and planning the work in relation to your site**.

There are many types of silage clamps and options can include; hillside pits, above ground bunkers, in ground pits or trenches and stack and bale silage. The most common is the traditional narrow concrete block style bunker, which is easy to build, and takes up little space. However the disadvantage with vertical wall clamps is safety as there is little space for people working on top of the clamp and vertical drops for people and vehicles of up to 4m. The concrete blocks should have guide rails along the edge, however these are not safety barriers, but effectively guide rails giving an indication of where the edge is when in a vehicle cab filling and rolling the clamp.

There are some more innovative designs out there, which make sheeting up the clamp easier, and the best ones have certainly reduced the risk of falls for people and vehicles.



One of the major benefits of a sloping walled clamp is safety. They are safer to operate off, with banks providing an exit route in case of emergency and tractors are able to drive off the side banks if required. Another advantage is the ability to ensure consistent compaction throughout the clamp.

Other options include a U shaped Agri -wall which can be the perimeter, or between silage clamps. They are designed to be filled with soil or gravel to form a safe working platform for staff when working at height. The fitting of additional handrails provides additional protection to staff also from any vertical drop at the perimeter. The channel can also be used to store the gravel bags, saving time and reducing manual handling.



For indoor silage clamps, here at LKL we like this innovative solution to safer access to the side with fixed stairs and protecting the open cutting edge of the clamp when pulling back the sheet with taught webbing restraints, which you can work behind, or use harness and short work restrain lanyard.

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Remember that the edges of silage can be crumbling; plastic sheeting may be damp or icy. Consider removing the tyres and pulling back the sheeting by using a long handled tool, which allows you to stand well back.

Each and every year a number of farms report problems with their silage slippage, which is when a vertical split develops in the stored silage and the front portion slips forward. This often results in splitting the silage sheet and introduces significant oxygen into the stored silage and increasing aerobic deterioration of the silage. It has the potential to increase health and safety risk to both animals and staff in the farm environment. Remember that packing silage too high in the pit can lead to a front end loader overturning or being buried when removing silage for day-to-day feeding, no more than 3m high is recommended. No persons/animals should be in the vicinity when silage is cut.



Reporting on a recent prosecution, where an employee fell from a clamp wall whilst lining it and suffered life changing injuries, the HSE stated that "Employers should always ensure that there is an adequate risk assessment or safe system of work in place for working at height." They recommended safer working methods such as using an intergrated work at height platform for a telehandler . Do not be tempted to use a telehandler bucket

as this is very dangerous.

If you must use ladders for clamp lining, look at alternatives such as podium steps or mobile working platforms which provide a safer more stable option for work at height. Ensure you train staff on how to set them up correctly. If you use a leaning ladder ensure you secure it in a safe place to stop it slipping.



The legislation requires you to mitigate injury if you cannot design it out in otherways. The construction industry uses fall arrest inflatable safety mats as an option particularly for work on walls or for inspection.

Remember : No lone working for work at height. Remember also PPE; such as Hi vis jackets/gilets to ensure you can be seen by vehicles. Think about hard hats with chin straps if working in confined spaces/risk of head injury.



Other things to consider for silage clamp safety:-

Before Filling:-

- Check all joints to ensure sealant is correctly applied and in good order.
- Check all concrete surfaces for signs of corrosion or mechanical damage. Ensure all repairs are fully cured before filling.
- Check all walls, floor slabs and outside effluent channels for cracks. If any are noticed, contact an engineer for investigation before filling.
- Ensure that safety fences and warning notices are all in position and in good order.
- All areas, including above the trailer, should be checked for any overhead wires which may be in the striking zone of the trailer.

During filling -

- Ensure that filling and compacting vehicle does not drive closer that 300mm (1 foot) from walls of silo.
- Make sure that compacted silage is no higher than the top of the walls. Silage may be placed higher ONLY if the base of this extra is a minimum of 3 metres from any wall.
- Inspect the exterior of the silo for any effluent leaks or cracks to walls or surrounding concrete. Any cracks or movement of walls should be reported to an engineer immediately and filling should be halted.

The NFU has produced a Work at Height guide for Farmers – see link here: -

<https://www.nfuonline.com/nfu-online/farm-safety-leaflets-2019/safety-focus-on-working-from-height/>

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