Guidance

Working at Height: How To Reduce The Risk Of Dropped Tools

According to official UK government statistics, there were 43 fatalities and more than 6681 serious injuries resulting from fall from height accidents between April 2010 and March 2011. While the majority of these accidents were classified as falls by workers, many of them were also caused by falling tools and equipment. The most up to date reported data specifically related to falling objects were 15 fatalities and more than 3323 serious injuries between April 2008 and March 2009.

To mitigate the risk of serious injuries and deaths, the Work at Height Regulations 2005 were introduced. They were amended again in 2007 with some slight changes. These regulations strictly govern how work at height is managed, covering but limited risk assessment, planning, supervising, inspection, and record-keeping. Where tools and objects are concerned, the regulations specifically state that “where it is necessary to prevent injury, you must do all that is reasonably practicable to prevent anything falling.” This includes all hand tools workers may use at height.

Injury Potential Is Great

While securing hand tools may not seem very important to those who do not work at height, it still is nonetheless. The laws of physics dictate that an object dropped at height increases acceleration as it falls, thereby also increasing in force all the way down. That means the farther an object falls, the faster it travels, and the more force it carries upon impact.

Using some simple equations most of us learned in physics class it can easily be seen that a 550g hammer can become a deadly object if dropped from a height of just two or three stories. Even some lighter hand tools such as screwdrivers can become very dangerous objects if dropped from a high enough platform. Therefore it is imperative that all hand tools be secured at height.

A simple analogy is a 300gm standard site hardhat falls off your head from six stories up (18M), achieves a speed in excess of 40mph with an impact force of 49kgs. This is equivalent to a domestic washing machine landing on you if struck.

Beyond just the injury potential there is a financial impact i.e. the potential for damaged and lost tools themselves, along with the fallout from localised structural drop zone damage. Strictly from a commercial business standpoint there’s no point in continuing to replace damaged dropped hand tools and with the associated costs, when they can be secured with lanyards and tethers at a fraction of the cost. And since hand tools and objects make up a large portion of the overheads associated with various types of work at height operational tasks, it just makes good sense to reduce that cost by protecting your tools and work place as much as possible.

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Job Site Planning & Inspection

The law requires that all jobs requiring working at height be well planned out thoroughly before any work is to commence. Planning should take into consideration suitable safe methodology in-line with the scope of activity and risks involved, through to how workers and tools will be safely secured to prevent injury or loss. This is true regardless of whether the job requires scaffolding, towers and staging, powered access, or the use of PPE. Once the planning phase is complete including risk assessment, a formalised method statement can be put into operation, making it easier to facilitate supervised control and task hazard visibility.

Planning and inspection must be carried out by a qualified competent individual as outlined in the government's work at height regulations. That individual must supervise all PPE safety equipment and tools, including how individual items will be safely secured against falling. Inspection should result in a complete list of items that pass inspection as well as being deemed fit for purpose, as well as a list of those that do not and aren't. It is the responsibility of the management to make sure all items not in compliance or suitable are either removed or modified to bring them into compliance.

Commercial hand tools themselves must be inspected and documented in order to ensure they are appropriate to the task for which they're being used and properly safely secured against being dropped. Height safety equipment such as lanyards, harnesses, as well as tool tethers and tool lanyards should be serialized in order to allow inspectors and job site managers to easily keep track of them with full traceability. Equipment inspections must be done at least on an annual basis, although a six monthly basis is preferred. This is in relation to the scope of work, hazards and the environmental factors.

Options For Tool Tethering

The most common method of safely securing and tethering hand tools is to attach them to the worker directly i.e. safety harness, too bag or tool belt with rated anchorage points via the use of tool lanyards and tethers. This keeps them easily accessible for the worker while also preventing them from falling if they are dropped. There are many different styles of tool lanyards including retractable, coil, wrist, flexible webbing, and wire models. Lanyards also come in several different lengths and configurations to meet the various needs of different kinds of work, tool, and frequency.

For work places or applications that require a larger number of hand tools locally to the work, or tools that are too big or heavy to be carried and directly attached to the worker's person, secure tool buckets and bag systems offer another means of tool protection and storage. The bags and buckets can be safely secured to scaffolding, Mewps and other access platforms with their own straps and fittings, and then tools are attached through lanyards in the same way they would attach to a tool belt or safety harness ie clipped to a rated anchorage point. While this method doesn't keep tools as close at hand as the previous method, it is a very effective nonetheless, and ergonomically reduces fatigue from carrying and supporting the tools.

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Training Is Essential

No amount of safety equipment is 100% fail-safe by any means. That is why proper training of employees is paramount to worker safety. Workers need to be trained in how to properly work with tools at height using the specific safety systems appropriate for trade, application and scope of work. They also need to be instructed in all the associated issues relating to dropped objects. Any carelessness by a worker can result in a tragic accident that both he and his employer will regret.

It is a good idea at the time of the six monthly or annual inspections to run workers through refresher secondary tool box training. This is especially true for companies that see a high turnover rate among workers and or constant change in work. The refresher course serves to remind workers of the necessity of safe practices and how important they are. It also helps to ensure that any workers who have fallen through the cracks in the previous months still receive their proper training. The training should also ideally link in with the specific method statements and company dropped object policy.

As long as businesses involved in work at height adhere to safety regulations, we can all rest assured that the number of workplace accidents resulting from dropped tools will be reduced. While we will never completely eliminate all accidents, we can minimise their numbers by practising safety first.

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