

The importance of safety guards and safety procedures

Mechanical, electrical and pneumatic machines all have inherent safety hazards, which can cause serious injury if the moving parts can be accessed by or come into contact with an individual.

The Provision and Use of Work Equipment Regulations 1998 (PUWER) requires all machines with moving parts to have safety devices. These are to protect the individuals from contact with, or access to, the moving parts when the machine is operating.

The type of safety device will depend on the type equipment, but may include for example a safety guard, light sensors or two hand operation; ensuring the machine will not operate unless the person is clear of the moving parts when being operated

It is therefore important that all safety devices are checked and inspected regularly and that if the safety device becomes faulty, the equipment is taken out of service and not used until replaced or repaired by a competent person.

It is also important that operators are trained and made aware of the hazards and risks of the equipment, they are required to use and the safety procedures that must be followed, should the equipment or items get blocked or jammed. All too often the operator, without thinking, will try to remove the offending item and in doing so gets caught by, or dragged into, the machine's moving parts. When clearing blockages the equipment must be switched off and isolated, to avoid such incidents.

In a recent case a worker on a production line, making parts for wooden stair cases, tried to clear a blockage whilst a drive shaft continued operating. In doing so, her hair became entangled in the mechanism and she suffered severe and life changing injuries. In prosecuting the HSE found that a supervisor had that day been sacked following a row with the owner over health & safety concerns, including the practice of accessing equipment to remove blockages and to clean up while the machinery was still running. The owner of the company was personally fined £50,000 and the company was fined £500,000

In another case a worker was attempting to remove waste material from a recycling conveyor when his hand became trapped between the conveyor belt and drive roller, causing serious hand and arms injuries. The HSE found that safety guard plates had been removed several weeks before the incident and had not been replaced. In addition, the company had no procedures on the safe use of the machine, dealing with blockages, and had failed to provide suitable training in the safe use of the machine. These are just two examples of what can happen if safety procedures are not followed and if safety guards are faulty or removed.

Down time by switching off the machine and ensuring it is safe to recover the item or unblock the machine is much less than the down time due to an accident. It will also provide a safer working environment and reduce significantly the risk of any accident or incident.

Fitting and inflating commercial vehicle tyres

The process of fitting and inflating vehicle tyres has a high risk of injury, unless safety procedures are followed. The larger the tyre the higher the risk due to the level of stored energy as the tyre is inflated. And if the tyre has not been fitted correctly, or the tyre edge is damaged or it ruptures, the force of the air can cause a destructive explosion and the ejection of high-speed particles.

When inflating commercial vehicle tyres, they should be contained in a cage, a clamping device or other restraining device.

For many companies the replacement of tyres is done by an external contractor coming on to their site. If so it is important that a check is made that the contractor has safe systems of work for the fitting of the tyres for that type of vehicle, the operator has been trained on those procedures and that those procedures are followed. In addition, that they have valid and adequate indemnity insurance.

In a recent case a mobile tyre fitter was inflating a large digger tyre on a pallet at a customer's site when it suddenly exploded. The fitter was flown into the air and suffered severe injuries, which required an amputation of his arm to save his life. The HSE held that the company failed to provide adequate safety equipment to hold the wheel in place during inflation.

Vehicle and pedestrian segregation

Accidents involving vehicles, including forklift trucks, are a major source of fatal and life changing injuries in the workplace.

Where there are vehicles on a site and/or within a building it is important that there is good and adequate segregation of the vehicles and pedestrians (a pedestrian is any person, including a worker, contractor or visitor).

To do this a risk assessment needs to be conducted and documented, outlining the hazards, the potential risks, whether existing preventative measures are adequate and if not recommendations on how safety can be improved.

In many cases it will be necessary to mark out a pedestrian path and /or no go areas, with clear instructions given to the site users. Where vehicles need cross a pedestrian path, a pedestrian crossings will be required, these should be treated the same as those on any highway.

One of the key issues for vehicle v pedestrian conflict is blind-spots; that is, where the driver and/or the pedestrian cannot see each other. This is often the scenario where items are placed next to a pedestrian route blocking visibility, where there are bends, or where vehicles are required to reverse.

Buildings should have separate entrances and exits for vehicles and pedestrians; that is pedestrians should not use same entrance/exit as vehicles.

Where there are blind spots measures need to be put in place to reduce the risk, such as using mirrors, the sounding of a horn, or to re-route the pedestrian path away from the hazard.

Having implemented a segregation system it is important that it is maintained in good condition, that it is kept clear of obstructions and that the use of the pedestrian path or restricted areas are made mandatory. That is, if a person is seen not to follow the safety procedures they are reprimanded.

In a recent case a worker was struck by a vehicle on his work site, causing fatal injuries. The HSE held that driver blind spots were a feature of the site; even with a full check a person could walk into a blind spot at any time. The company was fined £180,000 plus costs for failure to provide adequate vehicle/pedestrian segregation.

In another case, a worker was struck by a forklift truck while using the designated pedestrian walkway. The HSE investigation held that the pedestrian and vehicle segregation was insufficient. It held that the view from the forklift truck was impeded by the truck itself and pallets that had been placed near to the walkway, blocking the view for both the pedestrian and the FLT operator. The company has been fined £200,000

Dangerous toxic substance

In the past 12 months there have been three HSE prosecutions involving workers exposed to methylene chloride, also known as dichloromethane or DCM, which is used in various products such as a paint stripper, flooring adhesive and metal cleaner.

DCM is a highly volatile substance, with a low boiling point and high solvency power that readily vaporises at room temperature. It is also metabolized by the body to form carbon monoxide; which can be fatal

In one recent case a worker died after inhaling fumes released by a flooring adhesive that contained DCM. The HSE investigation showed that the employer had not implemented any systems or procedures to adequately control the risk of the use of DCM, and the decision on whether to wear respiratory equipment and what type of respiratory equipment was left to the employees. It was found in this case, that the employee was working in an unventilated area and was wearing a mask that was totally unsuitable.

The employer has been fined £250,000 plus costs.

Under the Control of Substances Hazardous to Health (COSHH) the employer has a duty to risk assess all hazardous substances used in the workplace and to produce a listing of such products; together with the manufacturer's safety data sheets.

It is important that employees are made aware of those substances that may be harmful; they are provided with the appropriate PPE, and instruction on how to store, handle and use the substance. Where employees are regular users of hazardous substances it is a requirement that they undergo annual health checks.