

Hand sorting of recyclables (‘totting’) with vehicle assistance

Introduction

This guidance represents what is considered to be good practice.

It is for managers and supervisors of waste/recycling transfer and sorting facilities that require hand sorting/picking from piles of material. It aims to help prevent accidents to pedestrian workers who have to operate in close proximity to moving vehicles.

Totting is the practice of sorting through waste by hand to remove recyclables with a commercial value, or alternatively, removing contaminants from recyclable materials. It is often carried out using mechanical shovels, or other plant, to rake/sift through the piled materials to reveal items for removal.

Common totting tasks include, but are not restricted to:

- removal of plastics and other contaminants from green waste;
- removal of steel reinforcing bar, plaster, timber etc from mixed builders’ rubble;
- removal of items with residual value from mixed waste.

The risks

This guidance provides advice on how to eliminate or reduce the risk of injury/fatality caused by mobile plant (particularly mechanical shovels) striking pedestrians (eg totters).

The accidents happen because the working practices used have failed to achieve **effective segregation of moving vehicles from pedestrians**.

Assessing the risk

It is a legal requirement that employers carry out a risk assessment¹ of their activities to identify the measures they need to have in place to comply with their duties under health and safety law.

The aim of your risk assessment is to:

- 1 **Avoid** the hazards wherever reasonably practicable.
- 2 **Assess** the risks from those hazards if they cannot be avoided.
- 3 **Reduce** the risks that remain by implementing risk reducing techniques.

It is important that work is **monitored** at appropriate intervals. This will help you identify potential flaws in your systems. You should ask yourself:

- Do employees follow your agreed systems of work? If not, why not?

- Are your systems adequate to control the risk? Do they need revising?
- Is your procedure sufficiently robust? Do you need to do certain tasks more (or sometimes even less) frequently?

You should also consult your staff regarding the health and safety of your working practices. The support of site staff is essential in ensuring safe working. Safety representatives and other staff can positively contribute to achieving the desired outcomes by:

- identifying problems;
- indicating whether activities can be carried out safely under prevailing conditions; and
- generating sound practical ideas and solutions.

Equally, it is important that they are supported to raise or maintain their level of competence to safely and effectively carry out their duties.

Reducing the risks

To minimise the risks you should consider the following:

Safe sites

- Improve feedstock control/purity/throughput to eliminate or reduce the need for totting. Educate suppliers/customers to pre-sort waste.
- Consider using mechanical sorting by other means, to remove people from areas where vehicles are operated.

Example: Materials reclamation facilities (MRFs) may be able to effectively sort wastes in a safer manner by using magnets, eddy current separators, trommels etc. They often include a conveyor belt system to enable safer hand-sorting of waste away from all vehicle movements. HSE has published guidance setting out ergonomic considerations for designing and selecting conveyors.²

- Design the site to ensure good visibility for drivers, avoiding blind corners, providing mirrors where this cannot be achieved, providing adequate lighting etc.
- Effectively exclude non-essential pedestrians from areas (such as materials reception bays, loading areas and floor-totting operations) where vehicles operate. Consider the practicalities of:
 - improving layout so that vehicle operating areas do not need to be entered (eg prevent their use as means of access or shortcuts to other places);
 - introducing clearly defined and identified/signposted walkways and protected areas for pedestrians (safe refuges);
 - remove or protect other pedestrian workstations from shovel traffic areas/routes.
- Establish safe, segregated, protected zones where totters can withdraw to before shovels approach the working area. Safe refuges that can resist vehicle impacts (eg by the provision of robust bollards or similar) have two advantages:
 - totters know they are safe from vehicle movements when in the refuge;
 - drivers can easily see whether all totters are present.
- Maintain good housekeeping standards to minimise the risk of slips and trips.
- Ensure signs and instructions are clearly understood by all staff and visitors. Diagrams rather than words can avoid confusion.
- Ensure clear and unambiguous communication between drivers and pedestrian workers, eg two-way radios or clear hand signals.

Safe vehicles

- Select and equip vehicles to provide the driver with effective vision to the rear, front and sides (eg side-mounted and rear-view mirrors/CCTV etc) and other reversing aids as identified by your risk assessment. Consider the ergonomics of the driver, ie their ability to turn and twist repeatedly if the routine is of short duration and high frequency. Consider blind spots behind attachments, loads, cab corner posts, exhausts and other parts of the vehicle. The level of vision and the equipment needed to provide that vision should be determined by your risk assessment; typically, this will be the ability to see a standing or stooping person in the area where the vehicle operates.
- Windscreens, mirrors, CCTV cameras and other reversing aids are kept clean at all times.
- Warning devices and reversing/vision aids should be robust, effective and well maintained. Technology in this area is constantly improving; it is recommended that options are properly researched before purchase.
- Provide effective lighting.

Safe driver

- All drivers (including temporary staff) should be trained and competent to operate alongside pedestrian workers.
- Drivers should be fit and physically capable of operating the vehicle safely.
- Drivers should be trained how to set the aids provided and be able to use them to their maximum potential. They should recognise which aid to use and when to use it within each manoeuvre cycle.
- Drivers should fully understand the safe system of work in association with pedestrian workers.
- Drivers should be able to communicate clearly with pedestrian workers (eg by clear signals and/or two-way radio).
- Regularly monitor and assess drivers to ensure that they operate safely, eg watch to see if they comply with speed limits and reversing procedures, and how they interact with pedestrian workers.

Safe ways of working

The key objective of any safe system of work should be to effectively segregate moving vehicles from pedestrians. Your risk assessment should be used to identify the control measures necessary for each circumstance. Typically, when totting is carried out in association with mobile plant, a safe system of work will consist of:

- 1 Tipper vehicle deposits materials then exits/withdraws to a safe distance/safe place and stops.
- 2 Totters enter totting pile from their safe place/safe refuge and remove target materials.
- 3 Totters return to safe place/safe refuge.
- 4 Mechanical loading shovel enters working zone and sifts materials before withdrawing again to a safe distance/place and stopping.
- 5 The entire routine described above is repeated until the contaminants are removed.

Important:

- drivers should never start or continue vehicle movements unless all totters can be seen, in a safe place, before and throughout the material raking/sifting activity;
- drivers should stop whenever any totter is not visible in the pre-agreed safe place;

- totters should not approach the totting pile unless the vehicle has withdrawn to its pre-agreed safe place, and has stopped;
- all other personnel should be excluded from the area.

Remember that other vehicles, such as tipping vehicles, may need to enter the picking area. Your systems should ensure that all drivers are familiar with the safe systems of work and ensure vehicle/pedestrian segregation is maintained.

Safe workers

- Totterers should wear high-visibility clothing.
- Totterers should keep to the recognised safe areas when vehicles are operating.
- Totterers (including new and agency employees) should have adequate training in the agreed safe systems of work and means of communicating with drivers.

References and further reading

1 *Five steps to risk assessment* Leaflet INDG163(rev2) HSE Books 2006 (single copy free or priced packs of 10 ISBN 978 0 7176 6189 3) Web version: www.hse.gov.uk/pubns/indg163.pdf

2 www.hse.gov.uk/waste/conveyorbelt.pdf

Workplace transport safety: An employers' guide HSG136 (Second edition) HSE Books 2005 ISBN 978 0 7176 6154 1

Safe operation of vehicles in the workplace: www.hse.gov.uk/workplacetransport

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