



Electricians and supervisors are often called on to participate in or to give toolbox talks on different issues of site safety. Wiring Matters plans to address a series of safety subjects in this and subsequent issues that can be made the basis of a toolbox talk. In this first issue we will cover the subject of ladders.

LADDERS FORM an everyday part of an electrician’s job and, unfortunately, falls from ladders are the single biggest cause of workplace deaths and one of the main causes of major injury. We will look at a survey of accidents and then see the planning necessary before using a ladder, how to check the ladder and then how to use the ladder safely.

A recent study of 483 falls from fixed and portable ladders disclosed:

- 277 accidents where the ladder slipped, and
- 206 accidents where the ladder remained stable.

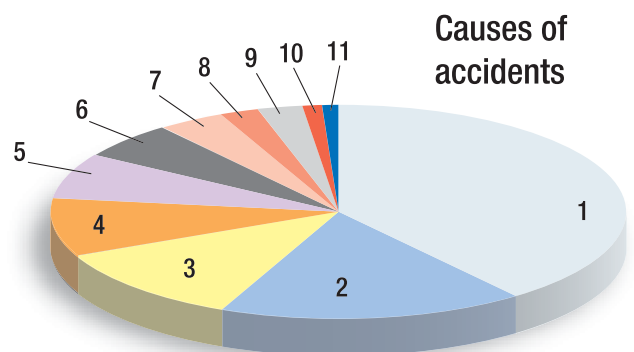
Of the 206 accidents where the ladder remained stable, the following causes were given (see pie chart)

1. 81 cases where a foot slipped on a rung
2. 36 cases where the person was carrying tools/materials and missed their footing
3. 18 cases where the person missed their footing
4. 14 cases where the person overbalanced on the ladder
5. 12 cases where the person over reached
6. 7 jumped off to avoid other hazards
7. 5 lost grip

8. 5 obstruction part way up ladder
9. 2 struck by falling material
10. 24 cases where there was a structural defect in the ladder or its anchorage
11. 2 cases where the ladder was struck by a vehicle

**What can be done to reduce the risk?**

Work at height must be avoided wherever possible. Where work at height cannot be avoided, everything



that is reasonably practicable must be done to prevent anyone falling. Where the risk of a fall cannot be eliminated, work equipment or other measures must be used to minimize the distance of a fall and the consequences of a fall should one occur.

Before using a ladder

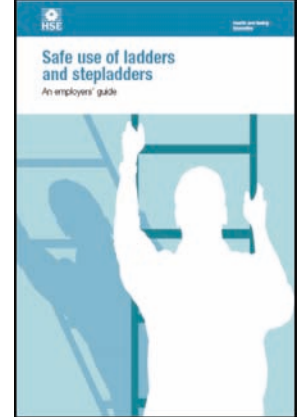
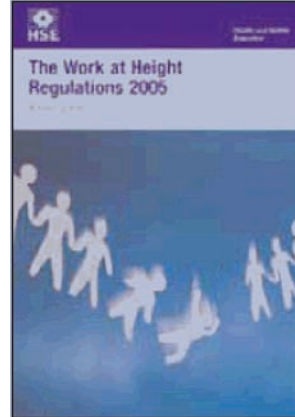
- Avoid working at height wherever possible. Ensure no work is done at height if it is safe and reasonably practicable to do it other than at height.
- Where work at height cannot be avoided, ensure it is properly planned, appropriately supervised and carried out in as safe a way as possible
- Ensure a risk assessment has been made as required by regulation 3 of the Management of Health and Safety at Work Regulations.
- Ensure those involved in the work at height are trained and competent
- Plan for emergencies and rescue
- Take account of the weather conditions
- Ensure the place where work at height is done is safe. Take account of fragile surfaces and the possibility of falling objects
- Check that there is strong fixing to which the ladder can be secured
- Make sure that you have suitable footwear which is unlikely to slip on a rung.

Setting up the ladder

- Always examine ladders before and after use. Report any defects immediately
- Never use a make-shift ladder
- Don't use ladders with cracked or broken rungs or other defects
- Avoid the use of metal ladders if you are doing work on or near live parts
- Don't use ladders that are too short. If you are going to step off the top of the ladder make sure it extends high enough to get a secure handhold
- Set ladders at the correct angle, 300 mm out to every 1,200 mm up (1:4)
- See that the ladder cannot slip. Ask someone to stand at the bottom. Alternatively the ladder should be staked, to prevent slipping outwards and sideways
- Don't stand a ladder on a drum, or box, or other unsteady base
- Ensure the ladder is tied near the top

Using the ladder

- The person using the ladder must be both able and trained. They must know how to avoid falling and how to minimize injury should they fall
- Keep the rungs and footwear clean



- Use both hands when climbing or descending
- Don't overreach from a ladder - always move it
- Never overload a ladder, or support it on its bottom rung from a plank
- Use a tray or hook on the ladder for tools/accessories.

**The Work at Height Regulations 2005**

The use of ladders is covered by the HSE Work at Height Regulations 2005 SI 2005/735. The document may be obtained directly from the HSE or online at [www.hmso.gov.uk](http://www.hmso.gov.uk).

The Work at Height Regulations do not ban the use of ladders. The Regulations require that ladders should only be considered where a risk assessment has shown that the use of other more suitable work equipment is not appropriate because of the low risk and short duration of the task or considerations of where the work is located. The Regulations apply to all work at height where there is a risk of a fall liable to cause personal injury.

The HSE accepts the practicalities of the use of ladders for work at height and the fact that they are commonly used in a wide variety of situations. Ladders are used in almost all employment sectors, and, unfortunately, sometimes for purposes other than those for which they were designed.

**Further information is available from:** Work at Height Regulations 2005. The Statutory Instrument can be downloaded from Her Majesty's Stationery Office website. *Safe use of ladders and step ladders - An employers' guide*, HSE INDG402. The HSE has produced an excellent free leaflet entitled *The Working at Height Regulations 2005: A brief guide (INDG401)*. Alternatively, hard copies are available from HSE Books.

Information is available from the HSE's Falls from height website: [www.hse.gov.uk/falls](http://www.hse.gov.uk/falls)

Finally, it is always worth remembering that following the guidance from the HSE will normally be doing enough to comply with the law. ■