



LADDERS - THINK FIRST!

LADDER SAFETY NOTES FOR TRAINERS

Introduction

These notes are for you to use as a guide when talking to workers about ladder safety. Before your talk, make sure that you have whatever you need – cards, supplementary information etc – that the location is suitable, that interruptions and distractions will be kept to a minimum, and that everyone who needs to be, will be present.

As you use these notes to talk about ladder safety, ask your audience how and where they use ladders. Stimulating discussion is an effective way to get people to think about their own safety. These notes also include some real life stories that you may find useful to discuss.

Facts and figures – why this talk is important

Each year about 80 people die and 5600 are injured in accidents involving falls at work.

Figures collected between 1996 and 2001 about accidents involving falls from height show that maintenance fitters and electrical fitters were among the highest at risk from serious injury or death. Some 40% of fatal and major injuries caused by falls are to electrical fitters, and 24% are to maintenance fitters.

Ladders are the most common piece of work equipment involved in falls from height. There are **twice as many** falls from ladders as there are from scaffolds. All too often, ladders are used without any thought given to whether they are the safest equipment for the job.



Before starting a job you should ask yourself: **Do I really need to work at height to do this job?**

There may be a way of doing a job from a safer position.

Access to heights, whether inside or outside buildings, should be avoided where possible, for example by providing maintenance and cleaning systems that do not require access at height. (Some buildings are being designed with safety features to reduce work at height such as self-clean glass in windows, anchor points on each floor level for safety harnesses, access equipment for roof work.) Minimise the time you are working up a ladder. Thorough preparation may reduce the time you actually spend up the ladder.

Consider other ways of working safely at height

- Short duration work that is carried out regularly should be reviewed so that safer ways of working are considered. Just because single jobs are short does not mean that the risks should be frequently repeated.
- Where access to height is essential, then consider systems other than ladders, eg installing stairs with handrails if access is frequent, using mobile scaffolding or a cherry picker.

Is a ladder the best equipment for this job?

- In deciding whether a ladder is right for the job think first:

What are the risks of this job?

Work of short duration may be carried out from a suitable ladder for the job, but avoid using ladders if there is a safer alternative.

Rating information should be clearly marked on the ladder:

BS2037 - portable aluminium ladders, class 1, industrial heavy duty rating 20 stone (130 kg).

BS1129 - portable wood ladders, class 1, industrial heavy duty rating 20 stone (130 kg).

BSEN131 - (European standard previously BS class 2) duty rating 18 stone (115 kg), suitable for light trade/DIY.

BS2037 - class 3, duty rating 15 stone (95 kg), domestic and DIY ladders. Domestic or DIY ladders should not be used in an industrial environment.

Never use aluminium ladders or stepladders to carry out work where there is a risk of electric shock.

No ladders - either aluminium or wooden - should be used near overhead power lines

- The overall length of a ladder is not the same as its useable length – because you should never stand on the top three rungs.
- **Never stand on the top three rungs.** Where ladders are used as a means of access from one level to another, say on scaffolding, then the ladder should extend about 1 metre above the landing point – this provides a handhold for people getting on and off. The ladder must be tied at the top by both stiles.
- Only short-term work – minutes rather than hours - should be done from a ladder. Jobs that take longer should be planned using different equipment because tiredness or fatigue may become a risk.
- Strenuous jobs, such as opening a seized valve, should not be undertaken from a ladder.

If equipment or materials need to be carried up, or if the job needs two hands, don't use a ladder, use a different means of access:

- Both hands should be free to climb a ladder - tools should be fixed securely in a belt so they can't fall and injure anyone below.
- Do not carry heavy loads up a ladder - use a hoist or other lifting equipment such as a transport platform, a goods hoist, a forklift truck etc.

If two people are needed for a job, then use something other than a ladder because there should be **only one person on a ladder** at any time.

The weather can affect safety

- High winds, wet and windy conditions could all make the job more dangerous.
- Very cold temperatures may affect your ability to hold a ladder for long.
- Wearing gloves may create a risk because they could reduce your grip.

Work environment

- Be aware of your work environment and the risks it may present to you while you are working. Controls will be needed to ensure that vehicles do not hit the ladder when in use - this includes internal and external traffic. Think of cars, lorries, forklift trucks, trolleys and automatic guided vehicles.
- Do not position ladders over doorways.
- Make sure you are wearing the correct footwear and that the soles are clean and dry.

Could the ladder break and cause me to fall?

- Ladders should not be overloaded.
- Ladders should be individually identifiable, subject to a pre-use check, and regularly inspected.
- Check the stiles, rungs, treads, crossbars, rung-to-stile connections, welds, screws, hinges, anti-skid devices.

Look for

- Splits or cracks.
- Dents or bends.
- Missing rungs.
- Any loose parts.

Take note of where and how the ladder has been stored. Incorrect storage may lead to faults such as deterioration through damp, corrosion etc.

DO NOT use the ladder if

- It is not in good condition.
- It is painted – paint may hide defects.

If you discover any defects

- Put a 'DO NOT USE' notice on the ladder – and make sure it cannot be used by someone else – notices can fall off!
- Report the fault.
- Do not try to repair it.
- Defective ladders should be destroyed or professionally repaired.
- If you decide that using a ladder is a safe way to work then THINK FIRST.

How can I make my ladder safe and secure?

- There should be a firm, level base to rest the base of the ladder on. It should be free of grease, grit or anything else that might cause the ladder to slip.
- Ladders should never be used upside down.
- The ladder should be correctly angled – one unit out and four units up and on flat ground.

Sloping ground presents a hazard and will affect the stability of the ladder

The *angle aid* on the information card provided may be useful in helping you to check that your ladder is at the right pitch. The card is small enough to fit in your wallet or pocket.

To use the *angle aid*

- Stand well to the side of your ladder.
- Hold the angle aid up so that the long side looks as though it is lined up with the wall or fixture. Ensure that the ground is not sloping.

- Your ladder should be one metre (or other unit of distance) out from the wall for every four up.
- If your ladder is correctly positioned it should be within the wide line on the card.
- Because the card is transparent it can be used from both sides.

Ladders should be secured so that they cannot slip

- The best way to prevent slipping is to secure or tie ladders at the top.
- If this is not reasonably practicable then tie it part-way down.
- 'Foot' it.
- Six metres is the maximum length an unsecured ladder should normally be used footed.
- Ladder stability devices (LSDs) may offer additional means of achieving stability, although in fact many are of little practical help. There is no standard and they should be carefully selected. LSDs should always be used as directed by the manufacturer. LSDs may be less effective on wet, shiny or dusty surfaces.
- Ladder levellers are also available for use on sloping surfaces. Again, these should be carefully selected and used as directed by the manufacturers.

If you have identified a risk such as uneven or sloping ground, you should seriously consider whether a ladder is suitable for the job at all and if some other equipment would be safer.

If using a ladder

- It should rest on firm, level ground.
- It should rest against a solid surface at the top.
- It should be positioned as close as possible to the work area so that you do not overreach to the side of the ladder.
- You should be able to do the job with both feet and one hand on the ladder or both feet on the ladder and one hand on a separate but secure handhold.
- Keep your body between the stiles.
- Face the ladder to carry out the task – don't try to turn around.
- It should be at an angle of 1 metre out for every 4 metres up.

In storage ladders should

- Be protected from the weather/harsh environments.
- Preferably be stored on one edge in racks or hung from a stile with enough supports to prevent sagging.
- Not be hung from rungs.
- Anti-skid devices and ladder feet should be kept clean.

Much work on ladders is carried out by lone workers and it is vital that they are instructed how to erect ladders properly.

For long ladders

- When the ladder is flat on the ground, the feet of one person should be placed at the base of the stiles to chock them while another person positions themselves at the head and takes hold of the top rung, raising the ladder above their head.
- Then, rung by rung, they should move towards the foot, lifting as they go. The anchor person grasps the stiles and draws the ladder towards themselves, steadying it at the same time. The sequence is reversed when lowering.

For short ladders

- They may be raised by one person placing the foot of the ladder against a wall or fixture and pushing the ladder upwards from the top.

For fixed ladders there should be adequate resting places.

Safety hoops or permanently fixed fall arrest systems should be fitted on ladders of more than 2.5 metres high with a pitch of more than 75 degrees.

For more information

Phone the number on the card:
HSE infoline : 08701 545 500
HSE website: www.hse.gov.uk
Report dangerous occurrences
(near misses) or accidents on:
0845 300 9923

UCATT General Office
177 Abbeville Road
London
SW4 9RL
Tel: 0207 622 2442
Fax: 0207 720 4081
Website: www.ucatt.org.uk

Other useful contacts

ESCA House
34 Palace Court
London
W2 4HY
Tel: 020 7229 1266
Fax: 020 7221 7344
Email: electricalcontractors@eca.co.uk
Website: www.eca.co.uk

Amicus AEEU
Hayes Court
West Common Road
Bromley
Kent
BR2 7AU
Tel: 020 8462 7755
Fax: 020 8315 8234
Website: www.aeeu.org.uk

REAL LIFE STORIES

These are some examples of accidents reported to HSE, in which ladders have been involved

A maintenance fitter carrying out routine work was using a ladder to access a ventilation duct in a production area of a pharmaceutical company. The ladder was not secured or footed but had suction pads attached to the feet to prevent slipping as it was thought that this would save having a second person present while the task was being carried out. However the ladder did slip down the wall and ended up flat on the ground. The employee sustained two broken wrists, one of which had to be pinned. The accident investigation found that the smooth floor, necessary for hygiene standards in the production area, had compromised the performance of the grippers.

A maintenance supervisor who was carrying equipment fell from a vertical ladder below the level of the steel hoops.

During the refurbishment of a warehouse by a construction company, one of the contractors placed a ladder between two stands of pallet racking so that the bottom of the ladder was resting against one rack – so that it would not slip – and the top was leaning on the other. The ladder, which was wooden, was at an angle of about 45 degrees. It broke under his weight and he fractured his skull.

An electrical fitter, in trying to unscrew a stuck plastic cap off an infrared detector, got more than he bargained for. The force he was using caused the body of the fitting to fail and his hand grabbed hold of live metal eight feet up a ladder. He was thrown off but landed more or less on his feet and suffered shock, burns and bruising.

A self-employed installer fitting cavity wall insulation was working off a ladder using a heavy diamond tube drill. The ladder was not footed, nor were any stability devices used. The ladder was in poor condition, with loose and bent rungs. He overreached and the ladder fell. The installer fell three metres to the concrete floor below. He broke his right heel and various other bones in his foot. He has undergone several bouts of quite major surgery, but is still unable to walk without crutches. He has not worked since.

An electrical fitter was working from an aluminium ladder in a warehouse. He accidentally broke into a live cable and was electrocuted. The ladder acted as the earthing device.

A window cleaner sustained broken ribs, fingers and a broken arm when he fell 2.3 metres while using his ladder. He had been cleaning the windows of a show house on a new estate. The ladder was not secured or footed, the ground was dry but sloped slightly away from the house. The construction company had produced no method statement and the injured man had received no health and safety induction when he had arrived on site.

A maintenance fitter lost his footing on the second rung of a ladder. His feet slipped through the rungs and he was killed when his head hit the floor as he fell backwards.

An employee of a construction and building services company was replacing windows in council houses. He was carrying some silicon sealant up the ladder for the new window and had reached a height of about three metres when the bottom of the ladder slipped out and the employee fell, badly breaking his right leg. The investigation found that the ladder had been resting on grass that sloped slightly away from the building. It had been raining. The ladder was not footed as the injured person's colleague had been inside the building at the time and the ladder was not tied or secured by any other means.

A maintenance fitter who did odd jobs around the factory on a permanent contract used a wooden ladder that was lying around the factory yard. The ladder collapsed and the fitter sustained bad bruising to his back - lucky as he fell over two metres onto a gravel path and not the concrete floor beside it. Subsequent enquiries revealed that a previous contractor had left the ladder on site. Neither the dutyholder nor contractor had included it in their maintenance regime.

You can probably add your own stories of accidents and near misses.

Each accident represents pain, time away from work, loss of earnings, lifelong disability or death. Not only the people who are injured are affected – injury and loss also affects families and friends.

Ladder safety is important. Don't take risks. It's not worth it.

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For information about health and safety ring HSE's Infoline Tel: 08701 545500 Fax: 02920 859260 e-mail: hseinformation@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 5 from HSE Books, ISBN 0 7176 2592 3 Single free copies are also available from HSE Books.

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LADDER SAFETY NOTES FOR TRAINERS

This pack contains notes for trainers and 10 copies of a workers' *angle aid* pocket card on ladder safety.

The pack is currently being piloted by the Health and Safety Executive with partner organisations in the delivery of 'toolbox talks' to people who use ladders as part of their job. As such, this pack is not currently listed in HSE's catalogue.

The cards are designed to be used only in conjunction with the notes as training material. They are not available on their own.

Once the pilot has been evaluated, HSE will decide whether the pack will continue to be available as a stock item.

If you have any comments on the pack, write to:
Alan St Clair, Evaluation Manager, Health and Safety Executive,
Room 313, Daniel House, Trinity Road, Bootle, Merseyside L20 3TW

Pack price

1 pack	£5.00
2-4 packs	£4.00 (each pack)
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