

Safe Use of Ladders and Stepladders

A brief guide

Guidance Document LA455



TABLE OF CONTENTS

	Page
01 Foreword from the HSE	1
02 Introduction	1
03 When is a ladder the most suitable equipment?	2
04 Who can use a ladder at work?	2
05 Check your ladder before you use it	3
06 Using your ladder safely	4
07 What about the place of work where the ladder will be used?	9
08 What are the options for securing ladders?	9
09 What about ladders used for access?	10
10 What about the condition of the equipment?	10
11 Further reading	11

01 Foreword from the HSE

Falls when working at height remain the most common kind of workplace fatality, accounting for around a quarter of all worker deaths and 8% of all non-fatal injuries every year, with many involving a fall off a ladder. It's essential that people use the right type of ladder for a task and know how to use it safely.

We work in close partnership with the Ladder Association, and we are pleased to offer our support for this publication. Written by industry experts, this guide helps people better understand how to manage work at height risks and complements more detailed information freely available from the Ladder Association.

We want to help people better understand how to manage work at height risk, to reduce harm and for everyone to go home safely every day.



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02 Introduction

Ladders and stepladders are not banned under health and safety law.

In fact they can be a sensible and practical option for low-risk, short-duration tasks, although they should not automatically be your first choice.

Make sure that you use the right type of ladder and that you know how to use it safely.

This guidance is for employers on the simple, sensible precautions they should take to keep people safe when using portable leaning ladders and stepladders in the workplace. It will also be useful for employees and their representatives.

Following this guidance helps you to comply with health and safety law, but you are free to take other action.

The law calls for a sensible, proportionate approach to managing risk. Further guidance on how to decide whether a ladder is the right type of equipment for a particular task is also provided in *Working at height: A brief guide* (see Further reading).

References to ladders in this leaflet, unless otherwise indicated, are to types of portable leaning ladders and stepladders, and the guidance applies to both. More specific requirements that apply only to a certain type of ladder are covered in detail under the relevant headings.

03 When is a ladder the most suitable equipment?

The law says that ladders can be used for work at height when an assessment of the risk for carrying out a task has shown that using equipment offering a higher level of fall protection is not justified because of the low risk and short duration of use, or there are existing workplace features which cannot be altered.



Low-risk & Short duration

Short duration is not the deciding factor in establishing whether use of a ladder is acceptable – you must have first considered risk. As a guide, if your task would require staying up a leaning ladder or stepladder for more than 30 minutes at a time, it is recommended you use alternative equipment.

You should only use ladders in situations where they can be used safely, eg where the ladder will be level and stable, and can be secured (where it is reasonably practicable to do so).

04 Who can use a ladder at work?

To use a ladder, you must be competent or, if you are being trained, you should be working under the supervision of a competent person.

Competence can be demonstrated through a combination of training, practical and theoretical knowledge, and experience. Training should be appropriate for the task, and this includes knowing:

- how to assess the risks of using a ladder for a particular task;
- when it is right to use a ladder (and when it is not);
- which type of ladder to use and how to use it.

05

Check your ladder before you use it

Before starting a task, you should have access to user instructions from the manufacturer in case you need to refer to them. You should always carry out a 'pre-use' check to spot any obvious visual defects to make sure the ladder is safe to use.

A pre-use check should be carried out:

- by the user;
- at the beginning of the working day;
- after something has changed, eg a ladder has been dropped or moved from a dirty area to a clean area (check the state or condition of the feet).

The check should include:

- **the stiles** – make sure they are not bent or damaged, as the ladder could buckle or collapse;
- **the feet** – if they are missing, worn or damaged the ladder could slip. Also check the ladder feet when moving from soft/dirty ground (eg dug soil, loose sand/stone, a dirty workshop) to a smooth, solid surface (eg paving slabs), to make sure the actual feet and not the dirt (eg soil, chippings or embedded stones) are making contact with the ground;
- **the rungs** – if they are bent, worn, missing or loose, the ladder could fail;
- **the locking mechanism** – does the mechanism work properly? Are components or fixings bent, worn or damaged? If so, the ladder could collapse. Ensure any locking bars are fully engaged;
- **the stepladder platform** – if it is split or buckled, the ladder could become unstable or collapse;
- **the steps or treads on stepladders** – if they are contaminated, they could be slippery; if the fixings are loose on the steps, they could collapse.

If you spot any of the above defects, do not use the ladder and notify your employer.

06 Using your ladder safely

Once you have done your pre-use check, the following simple precautions can minimise the risk of a fall.

Leaning ladders

When using a leaning ladder to carry out a task:

- only carry light materials and tools – read the manufacturer’s labels on the ladder and assess the risks;
- don’t overreach – make sure your belt buckle (or navel) stays within the stiles;
- make sure the ladder is long enough or high enough for the task;
- don’t overload the ladder – consider your weight and the equipment or materials you are carrying before working at height;
- check the pictogram or label on the ladder for any advisory information;
- make sure the ladder angle is at 75° – you should use the 1-in-4 rule (ie one unit out for every four units up – see Figure 1).



Figure 1
Ladder showing the correct 1 in 4 angle

- always grip the ladder and face the ladder rungs while climbing or descending – don’t slide down the stiles;
- don’t try to move or extend the ladder while standing on the rungs;
- don’t work off the top three rungs, and try to make sure that the ladder extends at least 1 m (three rungs) above where you are working;
- don’t stand ladders on movable objects, such as pallets, bricks, lift trucks, tower scaffolds, excavator buckets, vans or mobile elevating work platforms;
- avoid holding items when climbing (consider using a tool belt);
- don’t work within 6 m horizontally of any overhead power line, unless it has been made dead or it is protected with insulation. Use a non-conductive ladder (eg fibreglass or timber) for any electrical work;

- maintain three points of contact when climbing and wherever possible at the work position – see Figures 2 and 3.



Figure 2

Correct – user maintaining three points of contact



Figure 3

Incorrect – overreaching and not maintaining three points of contact

- where you cannot maintain a handhold, other than for a brief period (eg to hold a nail while starting to knock it in, start a screw etc), you will need to take other measures to prevent a fall or mitigate the consequences if one happened;
- secure the ladder (eg by tying the ladder to prevent it from slipping either outwards or sideways) and have a strong upper resting point (ie do not rest it against weak upper surfaces such as glazing or plastic gutters – see Figure 4);



Figure 4

Correct – use of a stand-off device to ensure a strong resting point. Do not rest a ladder against weak upper surfaces such as glazing or plastic gutters. Follow the manufacturer's instructions.

- consider using an effective stability device (a device which, if used correctly, prevents the ladder from slipping).

Telescopic ladders

Telescopic ladders are a variation of leaning ladders but remember that they don't all work in the same way and some may be more prone to twisting and flexing.

They should always be used, stored and transported with care and kept clean. In addition to following this guidance, it's important you read and follow the user instructions provided by the manufacturer.

Before every use – in addition to the normal ladder checks – make sure they are operating correctly and that the mechanisms that lock each section are working properly.



Figure 5

Check all sections are locked before using the ladder

Always follow the user instructions regarding the opening and closing procedure. Be aware of the potential for trapping fingers between the closing sections. Remember some of the important parts are inside where they cannot be seen. If you are in any doubt, do not use them.



Figure 6

Take care when closing telescopic ladders not to trap fingers

Stepladders

When using a stepladder to carry out a task:

- Check all four stepladder feet are in contact with the ground and the steps are level;
- Only carry light materials and tools;
- Don't overreach;
- Don't stand and work on the top three steps (including a step forming the very top of the stepladder) unless there is a suitable handhold;
- Ensure any locking devices are engaged;
- Try to position the stepladder to face the work activity and not side on. However, there are occasions when a risk assessment may show it is safer to work side on, eg in a retail stock room when you can't engage the stepladder locks to work face on because of space restraints in narrow aisles, but you can fully lock it to work side on;
- Try to avoid work that imposes a side loading, such as side-on drilling through solid materials (eg bricks or concrete);
- Where side loadings cannot be avoided, you should prevent the steps from tipping over, eg by tying the steps. Otherwise, use a more suitable type of access equipment;
- Maintain three points of contact at the working position. This means two feet and one hand, or when both hands need to be free for a brief period, two feet and the body supported by the stepladder.

When deciding whether it is safe to carry out a particular task on a stepladder where you cannot maintain a handhold (eg to put a box on a shelf, hang wallpaper, or install a smoke detector on a ceiling), the decision needs to be justified, taking into account:

- the height of the task;
- whether a handhold is still available to steady yourself before and after the task;
- whether it is light work;
- whether it avoids side loading;
- whether it avoids overreaching;
- whether the stepladder can be tied (eg when side-on working).

Combination and multi-purpose ladders

Combination and multi-purpose ladders can be used as stepladders, a variation of stepladders or leaning ladders. Combination ladders are sometimes referred to as 'A' frame ladders.

These types of ladders can be used in a variety of different configurations. You should:

- check to ensure that any locking mechanism is properly engaged before use;
- always recheck the locking mechanism if the setup of the ladder is changed;

Figure 7

Never use without engaging locking mechanism

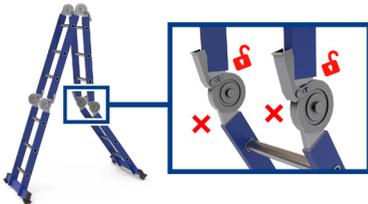
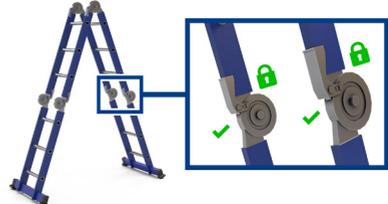


Figure 8

Check locking mechanism engaged **every time** before use



- on three-part combination ladders, never extend the top section (the section extending above the A frame) beyond the limit marked on the ladder and specified in the user manual.

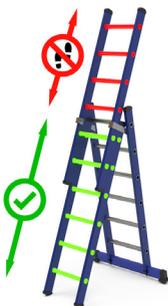


Figure 9

On three-part combination ladders *in stepladder mode*, do not stand on the top 4 rungs. Always follow the user manual.

07

What about the place of work where the ladder will be used?

As a guide, only use a ladder:

- on firm ground;
- on level ground – refer to the manufacturer’s pictograms on the side of the ladder. Use proprietary levelling devices, not ad-hoc packing such as bricks, blocks, timbers etc;
- on clean, solid surfaces (paving slabs, floors etc). These need to be clean (no oil, moss or leaf litter) and free of loose material (sand, packaging materials etc) so the feet can grip. Shiny floor surfaces can be slippery even without contamination;
- where it will not be struck by vehicles (protect the area using suitable barriers or cones);
- where it will not be pushed over by other hazards such as doors or windows, ie secure the doors (not fire exits) and windows where possible;
- where the general public are prevented from using it, walking underneath it or being at risk because they are too near (use barriers, cones or, as a last resort, a person standing guard at the base);
- where it has been secured.

08

What are the options for securing ladders?

The options are as follows:

- Tie the ladder to a suitable point, making sure both stiles are tied (see Figures 10 and 11);
- Where this is not practical, secure the ladder with an effective ladder stability device;
- If this is not possible, securely wedge the ladder (eg wedge the stiles against a wall);
- If you cannot achieve any of these options, foot the ladder. Footing is the last resort.

Figure 10

Correct – ladder tied at top stiles



Figure 11

Correct - tying near the base



09 What about ladders used for access?

In general:

- Ladders used to access another level should be tied (see Figure 12) and extend at least 1 m above the landing point to provide a secure handhold. At ladder access points, a self-closing gate is recommended;
- Stepladders should not be used to access another level, unless they have been specifically designed for this.



Figure 12

Correct – access ladders should be tied and extend at least 1m above the landing point to provide a secure handhold

10 What about the condition of the equipment?

Employers need to make sure that any ladder or stepladder is both suitable for the work task and in a safe condition before use. As a guide, only use ladders or stepladders that:

- have no visible defects. They should have a pre-use check each working day;
- have an up-to-date record of the detailed visual inspections carried out regularly by a competent person. These should be done in accordance with the manufacturer's instructions. Ladders that are part of a scaffold system still have to be inspected every seven days as part of the scaffold inspection requirements;
- are suitable for the intended use, ie are strong and robust enough for the job;
- have been maintained and stored in accordance with the manufacturer's instructions.

A detailed visual inspection is similar to pre-use checks, in that it is used to spot defects and can be done on site by a competent employee. Pre-use checks make sure that a ladder is safe to use and are for the immediate benefit of the ladder user. These checks do not need to be recorded. Any problems or issues should be reported to a manager.

Detailed visual inspections are the responsibility of the employer. They should be carried out at fixed intervals and recorded. Records of these inspections provide a snapshot of the state of the ladders over time.

When doing an inspection, look for:

- damaged or worn ladder feet;
- twisted, bent or dented stiles;
- cracked, worn, bent or loose rungs;
- missing or damaged tie rods;
- cracked or damaged welded joints, loose rivets or damaged stays.

Pre-use checks and inspections of ladder stability devices and other accessories should be performed in accordance with the manufacturer's instructions.

11 Further reading

Guidance

Working at height safely: A brief guide, Leaflet INDG401 HSE
www.hse.gov.uk/pubns/indg401.htm

Health and safety in roof work, Guidance HSG33 HSE (includes guidance on roof ladders)
www.hse.gov.uk/pubns/books/hsg33.htm

Safety Guidance on Portable Ladders, The Ladder Association
<https://ladderassociation.org.uk/guidance/>

Safety Guidance on Telescopic Ladders, The Ladder Association
<https://ladderassociation.org.uk/guidance/>

Work at height web pages on the HSE website: www.hse.gov.uk/work-at-height/index.htm

Guidance on the selection and use of ladders on The Ladder Association website:
<https://ladderassociation.org.uk/guidance/>

Product Standards

EN131 standard for portable steps and ladders.

While BS2037 and BS1129 have been withdrawn, ladders originally made to these standards prior to their withdrawal may still be used (subject to following user instructions and guidance on safe use).





Saving lives by stopping falls

The only charity dedicated exclusively to the work at height sector.

The Ladder Association actively supports the No Falls Foundation, the first and only UK-based charity devoted exclusively to the work at height sector.

The Foundation is dedicated to preventing falls from height and helping people affected by the life-changing consequences of a fall.

For more information visit nofallsfoundation.org



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