

# Safe use of Ladders and Stepladders

## Health and Safety Executive (HSE), UK

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### **1. Overview**

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

The law calls for a sensible, proportionate approach to managing risk, and ladders can be a sensible and practical option for low-risk, short-duration tasks, although they should not automatically be your first choice.

There are simple, sensible precautions you should take to stay safe when using portable leaning ladders and stepladders in the workplace.

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

### **2. How and when to use a ladder at work**

When to use a ladder at work

Ladders can be used for work at height when an assessment of the risk for carrying out a task has shown that using equipment that offers a higher level of fall protection is not justified.

This is because of the low risk and short duration of use, or there are existing workplace features which cannot be altered.

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).

Know how to use a ladder safely

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

### **3. How to check your ladder is safe before you use it**

Before using a ladder, 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 person using the ladder
- 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
- any 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 tell the person in charge of the work.

#### **4. Types of ladder and using them safely**

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

- leaning ladders
- telescopic ladders
- stepladders
- combination and multi-purpose ladders

#### **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
- To help make sure the ladder angle is at the safest position to work from- you should use the 1-in-4 rule. This is where the ladder should be one space or unit of measurement out for every four spaces or units up (a 75° 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. Try to make sure that the ladder extends at least 1 metre or 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.

- 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)
- Consider using an effective stability device (a device which, if used correctly, prevents the ladder from slipping, some types of ladders come with these)

### **Telescopic ladders**

Telescopic ladders are a variation of leaning ladders but remember that they don't all work in the same way.

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.

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.

### **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
- 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

## **5. Where ladders should 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

## 6. Securing ladders and ladders used for access

Options for securing ladders

The options are as follows:

- Tie the ladder to a suitable point, making sure both stiles are tied
- 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

### Ladders used for access

In general:

- Ladders used to access another level should be tied 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

## 7. Inspecting the condition of ladders

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.