

Safe Use of Ladders and Safe Working on Ladders

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1. Introduction

- 1.1 A third of all reported fall-from-height incidents involve ladders and stepladders and, on average, this accounts for 14 deaths and 1200 major injuries to workers each year.
- 1.2 Many of these injuries are caused by inappropriate or incorrect use of the equipment. This guidance is to help managers and staff:
- Know when to use a ladder;
 - Decide how to go about selecting the right sort of ladder for the particular job;
 - Understand how to use it;
 - Know how to look after it; and
 - Take sensible safety precautions.
- 1.3 As with all work equipment, all users need adequate information and training to be able to use ladders and stepladders safely. Adequate supervision is needed so that safe practices continue to be used.
- 1.4 This guidance does not apply to fixed ladders (on buildings, plant or vehicles), other types of fixed access (step irons etc), specialist rescue ladders used by the fire service, roof ladders, step stools, warehouse steps/mobile stairs, or temporary or permanent stairs.
- 1.5 Within workplaces, appropriate items such as stepladders and ladders must be used by staff when working at height (such as the fixture of displays or retrieving low-use items from storage) to prevent injuries to both staff and pupils. Ladders and stepladders should be provided in appropriate locations for ease of retrieval, and items such as chairs and desks are never to be used, regardless of the task.

2. Management responsibilities

2.1 The appropriate selection of ladders and stepladders must be made upon a risk assessment, covering;

- The task to be undertaken.
- The location of the task, and the local environment.
- The time required to undertake the task.
- The user being appropriately trained.
- The ladders being assessed as safe to use.

3. Legal requirements

3.1 The requirement for safe use of ladders is covered by several pieces of legislation;

- Construction (Health, Safety and Welfare) Regulations 1996
- Management of Health and Safety at Work Regulations 1999
- Workplace (Health, Safety and Welfare) Regulations 1992
- Provision and Use of Work Equipment Regulations 1998

4. Risk assessment

4.1 This refers to the type of work and its duration. As a guide, only use a ladder or stepladder:

- In one position for a maximum of 30 minutes;
- For 'light work' - ladders are not suitable for strenuous or heavy work. If a task involves a worker carrying more than 10kg up the ladder or steps, the task will need to be justified by a detailed manual handling assessment;
- Where a handhold is available on the ladder or stepladder;
- Where the user can maintain three points of contact (hands and feet) at the working position. On a ladder where the user cannot maintain a handhold, other than for a brief period of time, other measures will be needed to prevent a fall or reduce the consequences of one. On stepladders where a handhold is not practicable a risk assessment will have to justify whether it is safe or not.

4.2 On a ladder or stepladder, users must not:

- Overload it - the user and anything they are taking up should not exceed the highest load stated on the ladder;
- Overreach - keep the belt buckle (navel) inside the stiles and both feet on the same rung throughout the task.

- 4.3 When working on stepladders the user should avoid work that imposes a side loading, such as side-on drilling through solid materials (e.g. bricks or concrete), by having the steps facing the work activity. Where side-on loadings cannot be avoided the user should prevent the steps from tipping over, for example by tying the steps to a suitably high point. Otherwise a more suitable type of access equipment should be used.
- 4.4 Users should also avoid holding items when climbing (for example, by using tool belts):
- On a ladder where the user must carry something, the user must have one free hand to grip the ladder;
 - On a stepladder where the user cannot maintain a handhold (e.g. putting a box on a shelf), the use of a stepladder will have to be justified by taking into account:
 - The height of the task;
 - A safe handhold still being available on the stepladder;
 - Whether it is light work.
 - Whether it avoids side loading.
 - Whether it avoids overreaching.
 - Whether the user's feet are fully supported; and
 - Whether the user can tie the stepladder.

5. Equipment selection

- 5.1 This selection process has to take into account the hierarchy of controls:
- Firstly to avoid work at height where possible;
 - Then to prevent falls from height; and, failing that,
 - To reduce the consequences of a fall.
- 5.2 Where work at height is necessary the manager must justify whether a ladder or stepladder is the most suitable access equipment compared to other access equipment options. The manager can do this by using risk assessment and the hierarchy of controls.
- 5.3 When considering whether it could be appropriate to use a ladder or stepladder, the manager needs to consider the following factors identified in this guidance note.

6. Selecting/buying safe ladders and stability devices

- 6.1 When buying a new ladder, think about the worst type of surface conditions the user will come across (e.g. smooth, wet floor tiles). Manufacturers should be able to indicate the types of surfaces their products are intended to be used on when they are unsecured (untied). Only buy the ladder and associated stability devices that suppliers/manufacturers can confirm will be stable enough to be used unsecured in the worse-case scenario, otherwise the manager will need to take additional measures to secure it.

- 6.2 The HSE and DTI recommend Class 12,3 'Industrial' or EN1314 ladders or stepladders for use at work. The manager must ensure the ladder is a suitable size for the work.

7. Appropriate placement of a ladder or stepladder

- 7.1 This covers the specific place where the user is going to set up and use it. As a guide, only use a ladder or stepladder:

- On firm ground or spread the load (e.g. use a board);
- On level ground - for stepladders refer to the manufacturer's instructions, for ladders the maximum safe ground slopes on a suitable surface (unless the manufacturer states otherwise) are as follows:
 - Side slope 16° – but the rungs still need to be leveled;
 - Back slope 6°
- 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 has been secured.

- 7.2 The options for securing a ladder are as follows:

- Tie the ladder to a suitable point, making sure both stiles are tied;
- Where this is not practical, use a safe, unsecured ladder or a ladder supplemented with an effective ladder stability device;
- If this is not possible, then securely wedge the ladder, e.g. against a wall;
- If none of the above can be achieved, foot the ladder. Footing is the last resort and should be avoided, where reasonably practicable, by the use of other access equipment.

- 7.3 Ladders used for access to another level should be tied. Stepladders should not be used for access to another level unless they have been designed for this.

- 7.4 Consider tying a stepladder where possible and advantageous to the task (e.g. side-on working or where two free hands are needed). The user should only use ladders or stepladders:

- Where they will not be struck by vehicles, by protecting them with suitable barriers or cones;

- Where they will not be pushed over by other hazards such as doors or windows, by securing doors (not fire exits) and windows where possible. If this is impractical, have a person standing guard at a doorway, or inform workers not to open windows until they are told to do so;
- Where pedestrians are prevented from walking under them or near them, by using barriers, cones or, as a last resort, a person standing guard at the base;
- Where ladders can be put up at the correct angle of 75°. To judge the angle use the angle indicator marked on the stiles of some ladders or the 1 in 4 rule (1 unit out for every 4 units up);
- Where the restraint devices on stepladders can be fully opened. Any locking devices must also be engaged.

7.5 On a ladder or stepladder:

- Never work within six meters horizontally of any overhead power lines, unless the line owner has made them dead or protected with them temporary insulation. If this is a regular activity, find out if the lines can be moved;
- Always use a non-conductive ladder or steps for any necessary work on electrical circuits;
- Don't rest ladders against weak upper surfaces (e.g. glazing or plastic gutters). Alternatively, users can use effective spreader bars or effective stand-offs.

8. Ensuring the ladder/stepladder is safe

8.1 Establish the ladder or stepladder is in a safe condition before using it. As a guide, only use ladders or stepladders that:

- Have no visible defects. They should have a pre-use check each working day;
- Have a current detailed visual inspection. These should be done in accordance with the manufacturer's instructions. Ladders that are part of a scaffold system have to be inspected every seven days or after severe weather conditions;
- Are suitable for work use. Use Class 12.3 or EN 1314 ladders or stepladders at work because domestic (Class 32.3) ones are not normally suitable for use at work;
- Have been maintained and stored in accordance with the manufacturer's instructions.

- 8.2 Both pre-use checks and detailed visual inspections are used for looking for obvious visual defects, and they only differ in detail. Both can be done in-house (pre-use checks should be part of a user's training). Detailed visual inspections should be recorded. Ladder stability devices and other accessories should be pre-use checked and inspected in accordance with the manufacturer's instructions. Ladder and stepladder feet must be part of the pre-use check. Ladder feet are essential for preventing the base of the ladder slipping. Missing stepladder feet cause it to wobble. The feet should be:
- In good repair (not loose, missing, splitting, excessively worn, secure etc); and
 - Clean – the feet should be in contact with the ground.
- 8.3 Ladder feet should also be checked when moving from soft/dirty ground (e.g. dug soil, loose sand/stone, a dirty workshop) to a smooth, solid surface (e.g. paving slabs), to ensure the foot material and not the dirt (e.g. soil, embedded stones or swarf) is making contact with the ground.

9. Ensuring user competence

- 9.1 These are common issues about setting up and using ladders under the direct control of the user. Users should also be aware of the limitations covered in the other headings. People should only use a ladder, stepladder or stability device if a risk assessment shows that it is a practical safe solution and:

- They are competent – users should be trained and instructed to use the equipment safely;
- The ladder or stepladder is long enough –

For ladders:

- Don't use the top three rungs;
- Ladders used for access should project at least 1m above the landing point and be tied; alternatively a safe and secure handhold should be available

For stepladders:

- Don't use the top two steps of a stepladder, unless a suitable handrail is available on the stepladder
- Don't use the top three steps of swing-back or double-sided stepladders, where a step forms the very top of the stepladder;
- The ladder or stepladder rungs or steps are level. This can be judged by the naked eye. Ladders can be leveled using specially designed devices but not by using bits of brick or whatever else is at hand;
- The weather is suitable - do not use them in strong or gusting winds (follow the manufacturer's safe working practices);
- They are wearing robust, sensible footwear (e.g. safety shoes/boots or trainers). Shoes should not have the soles hanging off, have long or dangling laces, or be thick with mud or other slippery contaminants;

- They know how to prevent members of the public and other workers from using them;
- They are fit - certain medical conditions or medication, alcohol or drug abuse could stop them from using ladders. If you are in any doubt, speak to an occupational health professional;
- They know how to tie a ladder or stepladder properly.

9.2 On a ladder or stepladder, users must not:

- Move them while standing on the rungs/steps;
- Support them by the rungs or steps at the base;
- Slide down the stiles;
- Stand them on moveable objects, such as pallets, bricks, lift trucks, tower scaffolds, excavator buckets, vans, or mobile elevating work platforms;
- Extend a ladder while standing on the rung

10. Further information and advice

10.1 If at any time further advice, assistance or information is needed contact the Education Health and Safety Team at John Smith House (extensions 55034, 55035 or 55259) who will be able to help.