



## Safety in window cleaning using portable ladders

### HSE Information Sheet MISC613

#### Introduction

Portable ladders have traditionally been used by window cleaners mainly for cleaning windows on ground, first and second floors.

Most falls to window cleaners involve the use of portable ladders. In recent years figures for accidents reported to HSE and local authorities show that between two and seven window cleaners have been killed each year in Great Britain and about 20-30 suffer major injuries as a result of falls involving ladders. Many more suffer less serious injuries that result in several days off work.

These accidents are usually due to the misuse of a ladder or error by the operative; very few are caused by faults in ladders. Misuse includes such activities as over-reaching, stepping off the ladder and working from window sills and ledges with no safeguards; working from sloping roofs; and working from excessively long, unsecured ladders.

Economic pressures mean that many householders, workplaces and window cleaners themselves have all accepted such practices as unavoidable risks of the job.

Building owners, designers, and window cleaners need to understand that window cleaners will continue to suffer regular accidents unless a different approach is taken.

This will include:

- wider provision of means to allow safe access in commercial buildings in accordance with the Workplace (Health, Safety and Welfare) Regulations 1992;
- designers of all buildings ensuring safe window cleaning is possible. New commercial and industrial buildings should have information in the health and safety file regarding safe access for window cleaning;
- acceptance by everyone, including domestic residents, that if they want clean windows they will sometimes have to accept different ways of working and that some windows may need to be left uncleaned if safe access is not possible;
- window cleaners adapting to safer ways of working.

Future legal changes resulting from the recent European Directive on work at height will further tighten the law. All those involved in window cleaning need to adapt if deaths and injuries are to be reduced.

This information sheet sets out practical precautions to help window cleaners reduce risks to as low a level as possible, taking into account the needs of the job. It has been prepared in co-operation with the National Federation of Master Window and General Cleaners.

#### Scope

For the purpose of this guidance, the term portable ladder is defined as a ladder that can be put up and taken down by one, or possibly two, operatives without the need for any tools or mechanical appliance and can be easily moved from workstation to workstation and transported between sites.

#### Avoiding the risk

Although window cleaners have traditionally worked mainly from outside buildings, cleaning from inside can effectively eliminate the risk of falling, and should be considered wherever window design allows this to be carried out in safety.

In some situations, use of long pole systems can also help avoid risks of falling. However, these cannot be used in every situation and risks from falling poles or contact with power lines need to be considered. Also the large quantities of water created on the ground can result in an increased risk of slipping, especially if it freezes or is carried into shops.

Some windows may be so dangerous to reach for external cleaning from a ladder that window cleaners and customers will have to accept that cleaning must be done from inside, or at greater expense, for example using other means of access. If these options are not possible, the windows should be left uncleaned.

Window cleaners should not have to risk their lives just because someone does not want to pay for safe access or cannot arrange a time for access.

Where external cleaning from height is the chosen method, using the safest equipment is the best approach to reducing risk. Ladders should not be an automatic choice and alternatives should always be considered first.

## Choice of equipment

The choice of access equipment will be determined by:

- the height to be negotiated;
- the site conditions;
- the duration and extent of work;
- the frequency of required access.

For some jobs, a mobile elevating work platform will be the best option. However, for many jobs, especially on domestic and small commercial buildings, risk assessment will demonstrate that because of the short duration of the work and features on the building that cannot be altered, ladders are the only realistic option. Control measures will then be required to reduce the risk from their use in accordance with current legal requirements.

In all cases, a judgment has to be made on the appropriate form of access. For example, on a single job in a location where the great majority of windows can be cleaned in reasonable safety from a ladder, the cost of providing a mobile elevating work platform may be disproportionate to the slightly higher risk of using a longer ladder for a small number of windows.

The purpose of risk assessment is simply to identify the particular risks on any job in order to take the appropriate precautions to minimise them. Conditions change at the same building, for example at different times of year due to weather or slippery surfaces.

For similar jobs, a generic risk assessment for providing safe access will be sufficient, but before work starts at every visit it must be reassessed by whoever is on-site to ensure that the assessment is still valid and the conditions are safe for work to proceed. The generic assessment should cover likely variations in conditions. Window cleaners should know what standards are expected in response to varying conditions, as well as recognising their own limitations, and when more expert assessment is needed before tackling a job.

Ladders should only be used for light work of short duration at lower levels. Current industry best practice is that 9 m is the maximum length of portable ladder window cleaners should use. Even below this length, for some jobs other means of access may be more suitable. For example, where a building has extensive glazing it may be reasonably practicable to clean it more safely from a mobile elevating work platform or tower scaffold where site conditions permit such an approach.

## Common hazards associated with the use of ladders

- Falls from ladder when stepping on and off the lower rungs

- Falls due to ladder slipping sideways at the upper resting point
- Falls due to ladder slipping outwards at the bottom
- Falls due to ladder moving because of unsuitable ground conditions
- Falls due to ladder placed at incorrect angle
- Falls due to failure of ladder
- Falls or electric shock due to overhead electrical hazards
- Falls due to adverse weather conditions
- Injury during handling of ladders
- Injury to others from falling tools

Because ladders are in such regular use, there is a constant temptation to take the odd chance but this is when most accidents occur and all window cleaners must beware of overconfidence or complacency in using them.

## Choosing ladders

Although they cause relatively few accidents, ladder failures do happen and it is important that ladders are selected properly.

The ladder and its intended use should comply with the relevant British or European Standard.

## Is it strong enough?

New ladders are generally marked according to their safe working load. However, the classification can vary slightly in the values given, and has caused confusion. The variation is due to the different way in which the values for safe working loads are expressed.

In the British Standards it is 'duty rating' and has been arrived at by taking into account the general conditions and probable frequency of use for each type. The European Standard uses 'maximum static vertical load'.

British Standard ladders to either BS 2037 (Aluminium) or BS 1129 (Wood):

- Class 1. (Industrial) duty rating 130 kg (20 stone) = maximum vertical static load 175 kg
- Class 3. (Domestic) duty rating 95 kg (15 stone) = maximum vertical static load 125 kg

European Standard ladders to BS EN 131 (All types):

- (Previous Class 2) duty rating 115 kg (18 stone) = maximum vertical static load 150 kg

In practice, window cleaners most commonly use ladders to BS EN 131.

Domestic ladders, British Standard Class 3, are not recommended for commercial window cleaning. Although lighter to carry, they are not as durable and if

they are used then particular care must be paid to maintenance checks and regular replacement will be likely.

### Is it long enough?

The overall length of a ladder is not the same as its usable length:

- Allow 1 m of ladder length above the highest rung you use.
- Avoid standing on the top three rungs.
- Current best practice is to limit ladder length to a maximum of 9 m.

### Maintenance

- Ladders are work equipment subject to the requirements of the Provision and Use of Work Equipment Regulations 1998 (PUWER).
- Ladders should be numbered individually and placed on an equipment register which records:
  - make/type of ladder;
  - duty/weight/class rating;
  - date first put into use.
- The ladder should be subject to suitable, regular documented management inspections, which take into account the degree of use and type of ladder. In practice, three-monthly inspections are recommended.
- Procedures should be in place for handling any defect found, which would include repair or removal of the ladder from service.
- Ladders should be subjected to a daily pre-use check.
- Defects will include: cracked, bent or warped stiles; cracked, bent or missing rungs; loose, defective or missing feet, tie rods, brackets; and corrosion of fittings.

### Stability of ladders

The key factor in preventing falls from ladders is to ensure the ladder is stable in use. Almost all falls from ladders happen because the ladder moves unexpectedly.

Tying the ladder to a suitable point to prevent movement is the most secure arrangement and should be done where site conditions permit. This is still relatively rare for window cleaning.

While tying near the top offers the highest level of safety, doing this in window cleaning will involve climbing to the top of the unsecured ladder and the risks may outweigh the benefits compared to the time spent on the ladder cleaning a window.

Another means of securing ladders that could be used is tying partway down using anchorages at a height of 2 m and quick-release straps. Using proprietary stability

devices or footing ladders may help in some circumstances. Footing is of little value in preventing sideways slip at the top of ladders, especially those that are over 6 m long. HSE is currently reviewing footing techniques and general ladder guidance will cover this topic.

When selecting a ladder stability device, ensure that it will increase the stability of the ladder sufficiently. Currently there is no standard covering these devices that can be used to assess their performance.

In window cleaning work, all ladders longer than 6 m must be secured. The need to secure ladders less than 6 m long will depend on a number of factors including:

- height - the greater the height, the greater the risk;
- lone work - self-employed cleaners cannot use footed ladders and not all locations may permit the use of stability devices;
- inherent stability of the ladder - the more securely the feet and top are located, eg by wedging on the ground or into a corner of a building, the less the risk.

Unstable conditions include:

- adverse weather conditions, eg high winds, rain, snow, ice;
- uneven ground;
- loose, unstable surfaces;
- slippery surfaces, eg due to wet leaves or moss;
- placing at incorrect angle;
- sloping ground, either in line with or away from the face of the building.

All of these factors should be carefully considered when deciding whether an unsecured ladder will be stable enough to allow window cleaning in safety.

### Use of ladders

On every job, ladders should be secured as far as site conditions permit. If you are not securing the ladder by tying it, and using a stability device or footing is not realistic or considered necessary, then correct use of the ladder will be the sole safeguard. For example, using a 4 m ladder in good condition on firm, level and dry ground, with no loose contaminants such as sand or leaves and where it can be held in place firmly by a window reveal, will often be sufficiently safe without further securing.

- Over-reaching is a very common cause of ladder movement and avoiding this cannot be over-emphasised.
- Ladders should be fitted with anti-slip feet.
- Ladders should be placed at the correct angle (75 degrees or 1 m out for every 4 m up).

- Both stiles must be in contact with the ground and the upper resting point of the ladder.
- The surface that the top of the ladder is resting on must be strong enough to withstand the load. Plastic gutters, infill panels and glass are unsuitable surfaces to rest a ladder against.
- Ladder rungs and stiles should be clean and not slippery.
- Ladder accessories may improve stability and should be used when necessary. Extensions to stiles can help ensure stability on slopes and swivelling cupped or articulated feet also help.
- The window cleaner should face the ladder at all times when going up and down.
- The window cleaner should always have one hand on the ladder or other secure handhold and both feet on the ladder at all times when working from the ladder.
- The window cleaner should wear suitable footwear that is in good condition, has good grip and is flexible enough to feel the position of the foot on the ladder rung. In practice, trainers with clean soles and a good grip satisfy these requirements.
- Ladders should not be left unattended.
- Warning signs should be displayed in public areas and protection from traffic is essential.
- Personal tools and equipment should be secured at all times when going up and down portable ladders. In practice, this can be achieved by use of tool belts or carriers.

### Manual handling

If the ladder is too heavy get assistance. The length of ladder that can be safely handled by a single person will depend on their build, age and experience but, as a general indication, longer ladders for cleaning above 6 m may require two people for some operations.

### Work above roofs

Many windows are located above short lengths of sloping roof, for example above front porches or dormer windows positioned a short way up the sloping face of the roof; others are often located above garage or extension flat roofs.

Such windows pose particular problems for window cleaners. **Where such windows can be cleaned safely from indoors, every effort should be made to do so.** However, this is often not possible due to window design, or is inconvenient or unacceptable to householders concerned about dirt being carried indoors or having strangers in their homes.

Leaving certain windows uncleaned may be the only option. In older properties, particularly where windows are often jammed shut, householders will have to

accept that some windows cannot be cleaned because the risks are too great.

Other means of cleaning windows above roofs include extension poles (and pole systems) and mobile elevating work platforms.

Roofs should only be used for access when there is no other reasonably practicable way of safely reaching and cleaning the windows above the roof.

Many falls through fragile roofs still occur and the suitability of any roof for access needs to be carefully assessed, preferably by inspection and discussion with the owner. Fragile roof lights can be a particular problem, especially where they are not immediately visible, and any work involving close approach to these will need careful consideration, in conjunction with the building owners.

Safety is often simply achieved on the flat roof area of non-domestic buildings by the use of clearly barriered or marked safe areas or physical distance from the edge of the roof to the window.

If installed, any safety wire system or other suitable means of fall arrest must be used and safety harnesses and lanyards must be worn and used. Anyone who uses fall protection equipment must be trained in its correct use and in rescue procedures. All such equipment must be tested and routinely examined as outlined in HSE guidance leaflet *Inspecting fall arrest equipment made from webbing or rope*.

Use a suitable support for ladder feet to spread the point load from the stiles and ensure stability if using a ladder on flat roofs.

### **For domestic work above flat roofs**

Before stepping onto the roof:

- Make sure that the ladder is secure and cannot slide sideways (some ladder-top stability devices are an effective means of doing this). Extend the ladder at least 1 m above the stepping-off point.
- Check the roof is wide enough to do your work safely without going too near the edge (making sure there is a width of 2 m is a useful rule of thumb which provides a margin of safety in the event of a slip or trip).
- Make sure you know where the edge of the roof is.
- Don't step back to view your work.

### **For domestic work above small areas of sloping roofs, eg over ground-floor porches and below first-floor dormers:**

Current trade practice to work from the sloping roof is still widespread, particularly among self-employed window cleaners at private domestic premises.

Working from a sloping roof will expose window cleaners to the following risks:

- the ladder slips sideways when stepping on or off the roof;
- slipping down the roof if the angle is steep;
- slipping on loose slates or tiles;
- slipping on slates or tiles, for example because they are wet or mossy;
- slipping on ice;
- loss of balance due to lack of handhold.

Any of these could result in serious injury or death and all means of avoiding such work should be fully explored. Such work should never be done unless all these risks have been suitably dealt with.

HSE recognises this as a problem that will not always easily be eliminated given that the pay rates for window cleaners often make use of expensive equipment uncompetitive. There are a number of ways such work can be done more safely.

- Cleaning from inside is likely to be the safest method.
- If the roof pitch is steep enough, a ladder can be used from the ground like a roof ladder to reach awkward windows from outside.
- Extending poles or tool extensions can be used in some cases, though cleaning frames will not be possible using these.

If none of these or any other safe working methods is possible, the only safe solution may be that window cleaners do not attempt to clean such windows, explaining the reasons and pointing out disadvantages such as damage from walking on the roof, and the risks to which they would be exposed.

### **Commercial premises**

The Workplace Regulations require provision of safe access for window cleaning by the building duty holder. Despite these Regulations, many smaller commercial buildings still do not provide safe access and this can cause great difficulty for window cleaners, particularly when almost identical domestic properties provide no such safeguards. Occupiers of commercial premises have to comply with the law and in all cases a safe access method must be provided and used. Domestic occupiers have no such duty under criminal law.

### **Lone working and portable ladders**

Lone workers are defined as employees who work by themselves without close contact or direct supervision (this section does not apply to self-employed window cleaners).

No window cleaner should work alone in any area or location that would involve increased risk to their safety, eg in the delivery yard of a hotel where vehicles might hit a ladder, on a busy street or on a road.

No window cleaner should work alone on portable ladders longer than 6 m.

If you are working in a team on a single site, regular (hourly) checks should be made on any lone worker.

If a window cleaner is dropped on a job to work solo, intervals between contacts should not exceed one hour.

If a window cleaner is working solo for a full shift or day, a one-hour contact system should be established, eg mobile phone or radio.

### **Don'ts/common misuses**

- Don't use a defective ladder.
- Don't overreach.
- Don't straddle from a ladder to a nearby foothold.
- Don't take a grip on the building and stretch in the opposite direction.
- Don't place a ladder on boxes, bricks, drums or other unstable surface to gain extra height.

### **Training and competence**

All window cleaners should be suitably trained and competent. They should have appropriate knowledge, experience and practical skills for the type of work being undertaken. Personnel with different levels of responsibility, such as managers, will require different types of competence.

Other than NVQs, there are at present no nationally recognised qualifications with regard to window cleaning. New employees will therefore claim competence on joining a company. Management must assess proof of competence at the earliest opportunity. This assessment is best undertaken on a live contract.

The following criteria should be used at initial and ongoing assessments:

- daily use check;
- manual handling;
- securing and footing;
- ladder stability devices;
- ground conditions;
- signage/barriers when the base of the ladder may be struck by pedestrians or vehicles;
- common hazards;
- do's and don'ts.

Any gaps in knowledge should be assessed and suitable training and/or supervision provided until competence is achieved.

### Competent person

A competent person may be defined as a designated person, suitably trained or qualified by knowledge and practical experience to enable them to:

- carry out their required duties at their level of responsibility;
- fully understand any potential hazards related to their work;
- detect any defects or omissions in that work, recognise any implications for health and safety, and be able to specify appropriate remedial action needed, including refusal to do the work if the danger is too great.

In other words, a competent person should not only be able to discover defects but tell what effect they are likely to have.

### Personal protective equipment (PPE)

PPE is not directly relevant to the use of portable ladders and is limited to protection against adverse weather conditions, eg extremes of heat, sunshine and cold.

### Supervision

The degree of supervision required for work using ladders will depend on a number of factors including:

- competence and experience of the window cleaner;
- maturity;
- reliability;
- potential/temptation to take short cuts on particular jobs;
- risk;
- degree of control by client site staff.

In window cleaning, as in many jobs where work moves rapidly from place to place, supervision is often no more than periodic checks that workers are following set procedures, with the frequency of such checks depending on the supervisor's knowledge and experience of workers' practice. While many window cleaners have to work on their own for long periods, some degree of supervision will always be needed to ensure that bad habits do not appear.

### Further reading

*Management of health and safety at work. Management of Health and Safety at Work Regulations 1999. Approved Code of Practice and guidance L21* (Second edition) HSE Books 2000 ISBN 0 7176 2488 9

*Safe use of work equipment. Provision and Use of Work Equipment Regulations 1998. Approved Code of Practice and guidance L22* (Second edition) HSE Books 1998 ISBN 0 7176 1626 6

*Manual handling. Manual Handling Operations Regulations 1992. Guidance on Regulations L23* (Second edition) HSE Books 1998 ISBN 0 7176 2415 3

*Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice L24* HSE Books 1992 ISBN 0 7176 0413 6

*Inspecting fall arrest equipment made from webbing or rope* Leaflet INDG367 HSE Books 2002 (single copy free or priced packs of 10 ISBN 0 7176 2552 4)

Temporary Work at Height Directive 2001/45/EC (intended to be implemented in Great Britain by the Work at Height Regulations by July 2004) The Official Journal of the European Communities

*A safety guide from the National Federation of Master Window and General Cleaners* NFMW&GC 2001

*Walk Up, Walk Down Ladder Safety Video* NFMW&GC 1998

### Further information

National Federation of Master Window and General Cleaners (NFMW&GC), Summerfield House, Harrogate Road, Reddish, Stockport, Cheshire, SK5 6HQ. Tel: 0161 432 8754. Website: [www.nfmwgc.com](http://www.nfmwgc.com)

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For information about health and safety ring HSE's Infoline Tel: 08701 545500 Fax: 02920 859260 e-mail: [hseinformationservices@natbrit.com](mailto:hseinformationservices@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.

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