



## WORKING AT ELEVATED PLACES Window Cleaning Standard

Workers who clean windows in elevated locations at the University are faced with a potential risk of falling. Persons below these work areas may be at risk from falling objects. These hazards must be significantly reduced through the use of proper equipment and safe work practices. This standard is based on [O. Regulation 859 \(Window Cleaning\)](#) as amended under the Occupational Health and Safety Act of Ontario, the Ministry of Labour guidelines on window cleaning ([Window Cleaning: Guideline for the Design, Installation and Use of Fall Arrest Anchor Points, Tie-Back Anchor Points and Primary Support for Suspended Equipment Systems](#)) and on Canadian Standards Association (CSA) CAN/CSA-Z91-M90, "Safety Code for Window Cleaning Operations". This document highlights some of the requirements. As with any work, owners, employers, supervisors and workers should be familiar with all requirements in the regulations/standards/guidelines above that applies to their role.

### APPLICATION:

Any worker who during the course of work at the University cleans windows that must be accessed by use of a ladder, ledge, sill or elevated work platform and where the worker may fall a vertical distance of three meters or more during such work.

**Note:** *In this standard, "worker" includes contractors, faculty, staff, students and visitors.*

### RESPONSIBILITIES:

Prior to authorizing work, those who contract window cleaners shall:

- Inform the window cleaning contractor of his/her obligation to comply with this standard and all applicable legislation which shall be confirmed in writing;
- Provide sketches of suitable anchor points to the contractor for a location where suspended work platforms and/or fall arrest systems are to be used before the work (including sill work) has begun;
- Post a copy of the sketch or sketches at the building near the entrance of the roof;
- Ensure that all anchor points and permanent suspended scaffolds to be used have been inspected and approved by a competent individual prior to initial use and thereafter as often as recommended by the manufacturer or yearly, whichever is less and when informed of a defect or inadequacy; Maintain a log book as long as the anchor points and suspended scaffold equipment are used. The log book shall contain the name and signature of the person making the inspection, the date the inspection and any modifications or repairs made to the anchor point. These requirements also apply to the owner of the suspended platform.

Supervisors and all others in authority shall:

- Identify situations where window cleaning will occur;
- Determine the appropriate practices, equipment, safety devices and personal protective equipment for window cleaning in this location;
- Before start of work, ensure provision of adequate written procedures and practical training regarding personal protective equipment, device or other equipment to workers performing window cleaning prior to the commencement of work including a site specific work plan;
- Maintain records of any modifications or repairs made to the anchor point and suspended scaffold,



including the date they were made and the name and signature of the person making modifications of repairs

- Registers with the Ontario Ministry of Labour within 30 days of starting the business of window cleaning or supplying window cleaners;
- Provide notice to the Ontario Ministry of Labour of the nature and location of the work if a suspended scaffold, boatswain's chair or other single point suspension system is to be used, prior to the commencement of work;
- Ensure that workers are provided with any needed equipment in good condition;
- Ensure that workers use appropriate safety devices and practices during window cleaning operations;
- Visit the location of window cleaning operation at least once daily; and
- Report any problem regarding permanently affixed safety equipment or devices to the appropriate authorities at the University.

Workers shall:

- Follow procedures and use safety equipment in a manner consistent with their training at all times;
- Inspect all the equipment for defects prior to each use;
- Maintain any window cleaning equipment in good condition; and
- Immediately inform those in authority of any perceived or observed safety concern.

#### **WINDOW CLEANING:**

- Window cleaning shall not take place in high winds or inclement weather or extreme temperatures that may endanger workers.
- Every person who engages in window cleaning shall be at least 18 years of age.
- A sign that reads "Danger – Work Overhead" shall be placed in a sufficient number of locations to warn any pedestrian approaching the site.
- Where practicable, a barrier should be used to direct pedestrian traffic in a manner that prevents passing under the work area if this does not: (1) block a sidewalk, (2) block a paved thoroughfare, or (3) direct pedestrians onto the street. A barrier will be used when pedestrians or traffic may endanger workers.
- Any worker cleaning windows who may fall 3 meters or greater shall wear personal fall protection equipment, All fall arrest or fall protections systems, including guardrails, must meet requirements set out in O. Regulations 859 Window Cleaning and 851 Industrial Establishments and applicable CSA Standards. For more information, refer to the [UofT Working at Elevated Places standard](#).
- All scaffold, suspended work units and boatswain's chair, including hooks, ropes and cables, must meet all requirements set out in O. Regulations 859 Window Cleaning and applicable CSA Standards.
- Where a suspended platform is used, loose items that are not in hand shall be tied to the platform (e.g. buckets) or otherwise contained (e.g. secured box for spare rags).

#### **Suspended Working Units and Boatswain's chair**

- All lines and ropes shall be controlled or otherwise arranged at the ground level in such a manner as to prevent damage or entanglement in or with moving machines or other equipment.
- Ropes used shall be resistant to deterioration by chemical solutions used during cleaning and atmospheric conditions.
- Padding shall be provided to prevent the chafing of the lines and ropes.
- Primary suspension line and lifeline shall have a breaking strength of at least ten times the static load that the line is intended to support.
- Lifelines shall be securely attached to anchors on the building but shall not be secured to anchors that are supporting working loads. Lifelines shall not be attached to portable equipment.



- Portable suspension supports shall be installed and tied back to the anchors in secure manner.
- Portable suspension supports shall not be made of wood and shall be counter-balanced or otherwise secured to support a mass no less than 4 times the static load or 4 times the hoist capacity when using electrically powered hoists.
- The support system shall only be placed on that part of the building, where a professional engineer verified the structural adequacy.
- Suspended platforms shall have a floor width of not less than 510 mm. Two point suspended platforms shall have a floor width not exceeding 760 mm.
- Suspended platforms shall be capable of supporting a minimum of 4 times the rated safe working load. The safe working load shall be clearly marked on the platform in a conspicuous location.
- Suspended platforms shall have guardrails and mid-rails on the outer side and toe boards on all sides.
- Manually operated single-point suspension working units shall not be used where the suspension height exceeds 45 m.
- Boatswain chairs shall only be used to clean windows within arm's reach of a worker suspended on the primary support line.
- Every person working on a suspended scaffold, boatswain's chair or a single-point suspension unit shall be protected by fall arrest system.
- Every person working on a suspended scaffold, boatswain's chair or a single-point suspension unit shall have means of summoning assistance in case of an emergency.
- A boatswain's chair shall not be used when a corrosive substance or solution is used for window cleaning

#### Scaffolds

- The erection, alteration and dismantling of a scaffold shall be done under supervision of competent person.
- The scaffold shall support twice the likely maximum load without exceeding the allowable material stressed and four times this load without overturning.
- Scaffolds over 15 m high must be designed by a professional engineer. Scaffolds of tube and clamp system over 10 m must be signed by a professional engineer.
- The horizontal members of the scaffold must not have joints between the points of support and must be adequately secured to prevent lateral movement.
- Scaffolds must be secured at vertical intervals of not more than three times the smallest width of the base to prevent lateral movement.
- Scaffolds shall have safety catches on all the hooks.
- Footings, sills or supports must support twice the likely maximum load without changing their shape.
- If the scaffold is on wheels or castors, its height must not exceed three times its smallest base dimension.
- Scaffolds mounted on castors or wheels shall not be more than three times the smallest lateral dimensions of the scaffold as measured at the base or between the outriggers. Each wheel or castor must have a brake that must be applied when the scaffold is unattended or when it is in use.
- The scaffold platform must be at least 460 mm wide and be able to support the actual load.
- Each open side and end of the platform must have a guardrail.
- Work platform decks must be secured against slipping

#### Portable Ladders

All portable ladders must comply with CSA CAN3-Z11-M81 Portable Ladders. In general, portable should be able to support the intended load, be in good condition, have evenly spaced rungs, be equipped with slip resistant feet and if made of wood, not be painted or coated with an opaque material. For more information, refer the [UofT Portable Ladder Standard](#).

Use of portable ladders in window cleaning shall meet the requirements outlined below:

- Only commercial or industrial grade ladders per CSA CAN3-Z11-M81 Portable Ladders shall be used



- for window cleaning.
- Ladders shall not be used to clean a window whose top is more than 12 m above the surface on which the ladder is supported.
  - Ladders shall be placed on a stable footing, with all supports (non-skid “feet”) contacting the footing;
  - Care should be taken to assure the stability of the footing does not deteriorate during the work period
  - The rungs of a portable ladder must be horizontally level before it is used;
  - Only one person shall work from a ladder at any one time
  - While climbing and using the ladder a persons must maintain a firm grip. Both hands (3-point contact) must be used in climbing.
  - If a ladder exceeds 9 m in length it shall be securely fastened or stabilized to prevent it from falling or tipping.
  - When the ladder is not securely fastened, it shall be inclined so that the horizontal distance from the top support to the foot of the ladder is not less than one-quarter and not more than one-third of the length of the ladder
  - When a cleaner is working on an unsecured ladder over 4.5 m long, a person shall stand facing the foot of the ladder, holding the ladder with both hands
  - The cleaner shall not stand on the top three rungs of standard ladder or the top two steps of stepladders.
  - Ladders shall be visually inspected before each use, and if a problem is identified, tagged-out of service until repaired;
  - Portable ladder shall not be lengthened by temporarily attaching additional sections;
  - Permissible lengths of ladders used for window cleaning applications are as follows:

**Maximum Permissible Lengths of Window Cleaning Ladders**

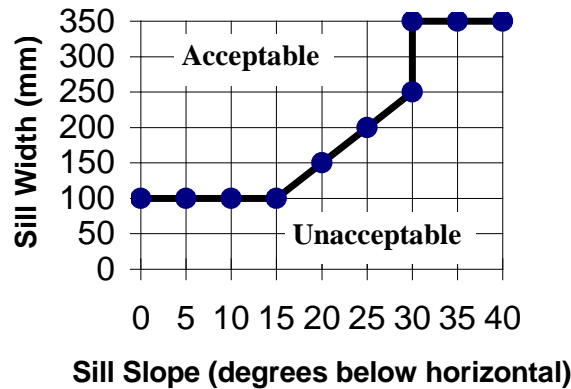
<b>Type</b>	<b>Maximum Siderail Length (meters)</b>
Stepladder	6
Single Section Ladder	9
Extension or Sectional	13

Sill Work

- No worker shall clean a window from the sill unless the window is constructed, equipped and maintained to be safe for cleaning by use of anchors and window cleaner’s belts.
- Cleaners standing on a sill or window frame 3 m or higher shall wear fall protection.



- Permissible dimensions for working from the sill surface with the benefit of fall protection equipment are as follows (adapted from CAN/CSA-Z91-M90):



Other Requirements

- Workers shall not walk on or place any significant loads on any glass surface or frame, or both, in a skylight or atrium or canopy unless the glazing system has been engineered to safely permit this access method.
- When cleaning is performed while standing on surface having an incline >15 degrees from the horizontal, a fall protection system shall be used.
- Where a worker is required to clean an operable window where there is a falling through hazard (define as any window that has a clear opening with the smallest dimension exceeding 18 inches when fully opened), a fall arrest system must be worn.
  - Any combustible, corrosive or toxic substance must be in a suitable container, clearly labelled and be transported in a way that does not endanger.

Electrical Hazards

- All electrical equipment, power lines and insulating materials are installed, maintained, modified and operated in a safe manner.
- Tools, ladders, scaffolding and equipment capable are used and stored away from any energized electrical installation, equipment or conductor.
- Where there are exposed energized electrical parts, the owner shall place signs at every entrance of the room/enclosure/space. No person shall enter these space without the authorization of the owner.
- Vicinity to an energized outdoor overhead electrical conductor: no object/equipment shall be brought closer to the distances outlined below in subsection 35(1) of O. Regulation 859 Window Cleaning unless mats/shields/protective devices and procedures are in place to protect the person from shock/burns.

Column 1 - Voltage Rating of Conductor	Column 2 - Minimum Distance
From 750 up to and including 150,000 volts	3 metres
Over 150,000 up to and including 250,000 volts	4.5 metres
Over 250,000 volts	6 metres