

Discussion Items & Details for Window Cleaning TAG

General Standing Work Surface Requirements for Window Cleaning:

(not currently identified in standard or rule)

1. Access to the work surface likened to access to mechanical appliance spaces in the Minnesota Mechanical Code Section 306.
2. Work surface shall be at least 30" x 30" for a standing surface (MMC 306.5.1), but shall be larger as required to accommodate equipment necessary for safe access.
3. Work surface shall have a slope not greater than 3:12 (25% slope) (MMC 306.5.1) Where slopes are steeper, a work platform shall be provided.
4. Work surface shall be designed to support occupant loading including any equipment. [IWCA I-14.1, Section 3.6]
5. Where there is a vertical change in elevation of 30 inches or greater along the path of travel to the work surface and the slope along the path of travel exceeds
6. Access to the Work surface shall have a slope not greater than 4:12 (33% slope) unless stairs, ladders, ship's ladders or fall protection are provided. [1926.451(e)(5)(ii)] (from scaffolding criteria) OSHA has no guidance on maximum work slopes or path-of-travel slopes for workers other than for scaffolding, so we need to discuss this relative to roof slopes.
7. Ladder locations shall be provided with not less than 30" x 30" landings top and bottom.
8. Work surface and access to the work surface shall be not coarser than crushed stone #3 (stone sizes between ½ and 2" dia.)

Extension Devices (poles):

1. From IWCA I-14.1, Section 5.1.3: May not be used within 10 feet of unshielded electrical supplies
2. Vertical Reach Limit from the standing work surface: 30 feet (typical 3-story building) Discuss. Some manufacturers sell poles up to 90 feet in length. Practical limitations?
3. Horizontal Reach Limit: 6 feet each direction from the work surface.
4. Work surface positioning: Work surface shall extend from the building face to not less than the head height of the top-most window served/4.

Ladders:

1. The standard indicates that consideration should be given to other access methods before ladders are used for cleaning windows. Discuss. [IWCA I-14.1, Section 5.2.1]
2. A work surface shall be provided at each required ladder position.
3. Vertical limit of 35 feet above the work surface to the head of the served window. (Discuss holding to the 35 feet so that workers are not pushed to using ladders without stand-offs or equivalent stabilizers) [IWCA I-14.1, Section 5.2.6]
4. Ladders shall be positioned between 50° (14v: 12h) and 70° (32v: 12h). [OSHA section 1910.25 (e) (1)]
5. Ladders must be positioned against firm, stable building elements and shall not be supported by windows, doors, skylights, louvers, guardrails, or similar non-structural building elements.
6. Ladders may be used with extension poles to reach up to 6 feet horizontally from the ladder.

7. Ladders may be used with extension poles to reach up to 6 feet vertically from the ladder. (verify)
8. Ladders used for window cleaning must be positioned on a work surface.
9. The work surface for ladder support shall be positioned at varying distances based upon the height of each window to be cleaned. Positions shall be centered at a distance from the face of the building not less than the height of the window served/4.
10. Ladders used to access roofs shall have a landing on the roof equal to a work surface and adjacent to the ladder support location.
11. The work surface supporting the ladder shall not have a cross slope between supporting members of greater than 2%.
12. Discuss the use of hook ladders (IWCA I-14.1, Sections 5.2.25 and 5.2.26) and whether we even want this as an option.

Manually Propelled Ground-mounted Mobile Scaffolds:

1. Scaffolding can raise a work surface up to 30 feet above finished grade.
2. Extension devices may be utilized from scaffolding.
3. Scaffolding must be installed on stable surfaces having a slope not greater than 5% (1:20)
4. Scaffolding shall be positioned not farther than 14 inches from the building. [OSHA 1926.451 (b)(3)]
5. Scaffolding erection surfaces shall be capable of supporting the concentrated loads of the scaffolding, equipment, and occupants.
6. Scaffolding erection surfaces shall be not coarser than crushed stone #3 (stone sizes between ½ and 2" dia.)

Aerial Work Platforms (vehicle mounted & manually propelled):

- A. Aerial Work Platform ground surfaces shall be capable of supporting the concentrated loads of the equipment, and occupants.
- B. Aerial Work Platform ground surfaces shall be not coarser than crushed stone #3 (stone sizes between ½ and 2" dia.)
- C. Working pathway width from a paved surface to the work location: minimum 6 feet clear without irrigation lines below.

Scissor's lifts/ manlifts:

1. Working height: 45 feet finished grade to top of window.
2. Maximum front to rear slope: 5° or 8%
3. Maximum leveling side to side slope: 10° or 17%

Cherry Picker Lifts:

1. Working height: 50 feet finished grade to top of window.
2. Maximum leveling: 10° or 17%
3. Outrigger Footprint (when deployed) 11' x 12'
4. Outreach: 27'
5. Up & Over reach: 20'

Manual Swinging Scaffolds, Boatswain's Chairs, Rope Descent Systems & Transportable Suspended Powered Platforms:

(require roof anchors, or davits for use)

1. Limited to 130 feet of working height.
2. Maximum side reach from plumb = 6 feet to each side.
3. Requires access to the anchor location likened to access to mechanical appliance spaces in the Minnesota Mechanical Code Section 306.
4. Working surface at anchor points and davits shall be at least 30" x 30" (MMC 306.5.1)
5. Work surface at anchor points and davits shall have a slope not greater than 4:12 (33% slope)
6. Work surface shall be designed to support occupant loading. [IWCA I-14.1, Section 3.6]
7. Access to the Work surface shall have a slope not greater than 4:12 (33% slope) unless stairs, ladders, or ship's ladders are provided. Ladder locations shall be provided with not less than 30" x 30" landings top and bottom.
8. Work surface and access to the work surface shall be not coarser than crushed stone #3 (stone sizes between ½ and 2" dia.)

Permanently Installed Powered Platforms:

1. Provided with davits.
2. Working height not limited.
3. Requires access to the platform installation location likened to access to mechanical appliance spaces in the Minnesota Mechanical Code Section 306.