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Subchapter 7. General Industry Safety Orders
Group 1. General Physical Conditions and Structures Orders
Article 5. Window Cleaning

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§3286. Manual Boatswain's Chairs and Controlled Descent Apparatus (CDA).

(a) Use and Application.

(1)(A) Boatswain's chairs and CDAs shall be used for window cleaning operations only where the windows cannot be cleaned safely and practicably by other means.

(B) When boatswain's chairs or CDAs are used for window cleaning operations, the following conditions shall be complied with:

1. Manual boatswain's chairs shall not be used where the height of suspension exceeds 75 feet or unless otherwise accepted by the Division where the heights exceed 75 feet.
2. CDAs shall not be used where the height of suspension exceeds 130 feet or unless otherwise accepted by the Division in writing when the height exceeds 130 feet.
3. Roof tie-backs or other approved independent anchorages shall be provided for each support line(s) and each safety line.
4. Each support line(s) and each safety line shall be connected to approved independent anchorages.
5. An Operating Procedures Outline Sheet (OPOS) shall be developed as required in Section 3282(p)(1)(C).

(2)(A) Employees shall be trained in the use of boatswain's chairs and/or CDAs before they shall be permitted to use such equipment.

(B) Training shall include, but not be limited to, proper rigging of support lines, inspection of primary support line(s) and safety lines and anchorage, safe use of CDAs or boatswain's chairs, fall arrest systems, and self rescue methods.

(3) When a boatswain's chair or CDA is suspended over an area traversed by workers, pedestrians or vehicular traffic, the ground area below and within the window cleaner's work zone shall be effectively blocked by barricades, or an attendant shall be stationed to keep the area clear. Warning signs shall also be posted below.

(4) Employees using boatswain's chairs or CDAs shall be provided, and instructed in the use of, a personal fall arrest system meeting the requirements of Article 6, Appendix C, Section I of the General Industry Safety Orders, and as otherwise provided by these orders. Each employee's fall arrest system shall be secured to an independent safety line attached to an approved anchorage.

(b) Rigging, Block and Tackle.

(1) Rope attachment to a block shall be by a thimble and splice.

(2) A safety hook or shackle shall be used on the upper block to prevent accidental disengagement.

(3) Each double block of luff (or watch) tackle shall be branded or otherwise clearly marked so as to indicate the fully extended length in feet from block to block.

(4) Where the chair connects to the block and tackle, a safety hook shall be used to prevent accidental rope disengagement.

(5) Tackle shall consist of rope equivalent in strength to 5,400 pounds. Blocks shall be compatible with the suspension rope diameter.

(6) Parapet or cornice hooks shall be provided with tie-back rings. Each parapet or cornice hook shall be tied back with wire rope to a roof tie-back or equivalent anchorage.

(c) Specifications.

(1)(A) Boatswain's Chair. The chair shall be suspended from its four corners by means of rope slings. It shall have a seat not less than 24 inches long by 10 inches wide and, if of soft wood, 2 inches thick (1 1/8 inches if of oak or ash). It shall be reinforced across the full width by cleats securely fastened to each end. A rope or strap guard across the front and rear approximately 18 inches above the seat shall be provided. The seat may be constructed of material other than wood, provided the material is equivalent in strength to 2 inches of soft wood or 1 1/8 inches of oak or ash. If constructed of material of equivalent strength, cleats across the full width of the seat shall be provided unless structural analysis indicated they are not necessary. Other design and construction may be substituted if it can be shown to provide equal safety and strength.

(B) Boatswain's chairs, their supports and all accessories shall be capable of supporting, without failure, 4 times the maximum load that may be placed thereon.

Note: See Section 3286(b)(1).

(C) Buckets used in boatswain's chair work shall be attached in such a manner that the buckets will not fall.

(2) CDA Seatboards. (A) Seatboards shall be made of wood or other suitable materials, and may be reinforced. Seatboards shall be capable of supporting a live load of at least 250 pounds. All rope and webbing used in suspending the seatboard to a CDA shall be of synthetic fiber, preferably nylon or

polyester, that has a rated minimum strength of 5000 pounds.

(B) Buckets used in seatboard work shall be attached in such a manner that they will not fall.

(d) Controlled Descent Apparatus (CDA)

(1)(A) CDA system shall include but not be limited to the following:

1. Working line(s);
2. Controlled descent device;
3. Seatboard;
4. Personal fall arrest system;
5. Independent safety line (lifeline);
6. Locking carabineer (D-ring).

Note: For the purpose of Section 3286 a full body harness is required as part of the personal fall arrest system.

(B) The controlled descent device and seatboard shall be permanently marked with:

1. Manufacturer's or Trade name, and
2. Model number, and
3. Identification (serial) number, and
4. Date of manufacture.

(C) Working lines and safety lines shall be permanently marked or tagged with:

1. Manufacturer's name, and
2. Length/size, and
3. Date of manufacture, and
4. Date placed in service.

(D) Personal fall arrest systems shall comply with the requirements in Article 6, Appendix C of the General Industry Safety Orders.

(2) The working line(s) shall be the proper size to pass over and/or around the fixed members of the controlled descent device body as recommended by the device manufacturer.

(3) Working lines, safety lines, and lanyards shall have spliced or swaged ends as per the rope manufacturer's specifications.

(4) Lanyards shall not exceed 4 feet in length.

(5) Knots shall not be permitted at ends or anywhere along the length of lanyards, working lines or safety lines.

(6) Descent control devices shall be used in accordance with the manufacturer's instructions. Employees shall not be permitted to use descent control devices unless these devices are specifically designed for building maintenance or window cleaning operations.

(7) The entire CDA system shall be visually inspected before and during each use. If any part of the system shows excessive wear, damage or deformation, that part shall be removed from service and discarded.

(8)(A) Safety lines and lanyards shall be removed from service as recommended by the manufacturer or if one of the following conditions is evident or occurs:

1. Braids or webbing are cut, or
2. Excessive abrasion or worn fibers, or
3. There is hardness or stiffness, or
4. Dirt or grit has clogged fibers, or
5. Rust, tar or grease is present, or
6. Line size has been reduced, or
7. Safety lines and lanyards are subjected to a shock load, or
8. Safety lines and lanyards are exposed to chemicals that affect their strength, or
9. Safety lines and lanyards are exposed to excessive ultra violet degradation.

(B) Working lines shall not be used longer than two (2) years from date first placed in service or three (3) years from date of manufacture.

(9) All descent control devices shall be 100% proof load tested at 3600 pounds without visual evidence of cracking, breaking or permanent deformation.

(10) Chemicals having adverse effects on the CDA system, as determined by the chemical or equipment manufacturer, shall not be used for window cleaning.

(11) Any working or safety line that passes over any edge of a building or structure or passes over any sharp object shall be protected from cutting and/or abrasion.

(12) Working lines that have been used to stop a CDA's free fall of four feet or more in distance shall be removed from service.

(13) Working lines that have been subjected to a rapid descent by an employee using the CDA shall be removed from service.

(14) Prior to making a drop, the building exterior shall be visually inspected and, where necessary, appropriate measures taken to ensure that building features, such as sharp edges of parapets and window frames cannot impair the structural integrity of the CDA system or associated fall protection rigging.

(15) A safe means of access, which includes the use of a personal fall arrest system, shall be provided before employees gain access to and egress from CDA drop locations.

NOTE

Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

HISTORY

1. Editorial correction filed 10-7-83; effective thirtieth day thereafter (Register 83, No. 41).
2. Amendment of subsection (a)(4) and (b)(1) and (5) filed 9-12-85; effective thirtieth day thereafter (Register 85, No. 37).
3. Amendment of subsections (a)(3), (a)(4) and (c)(1) filed 3-9-93; operative 4-8-93 (Register 93, No. 11).
4. Amendment of section heading and section filed 7-23-98; operative 8-22-98 (Register 98, No. 30).
5. Amendment of subsection (a)(4) filed 3-31-2000; operative 4-30-2000 (Register 2000, No. 13).

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