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OHIO LEGISLATIVE SERVICE
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Ohio Administrative Code

Rule 4123:1-5-20 Roof car suspended platforms.

Effective: February 1, 2022

(A) Roof car.

(1) The horizontal speed of a roof car shall be no more than fifty feet per minute.

(2) A roof car may not be moved horizontally unless means are in place to prevent the car from moving outside the areas provided for roof car travel.

(3) The roof car shall be designed and installed in such a manner as to remain stable and upright under every loading condition.

(4) A roof car shall be so positioned and anchored to the structure as to ensure that the working platform is placed and retained in proper position for vertical travel.

(5) The operating device controlling movement of a roof car shall be of the continuous pressure weatherproof electric type and shall be located on the roof car, the working platform, or both. If located on both, such operating devices shall be interlocked so that control is possible only from one at a time.

(6) The operating device controlling movement of a roof car shall not be operable until the working platform is at its uppermost position for travel and is not in contact with the building face or fixed vertical guides in the face of the building, and until all protective devices and interlocks are in a position for movement.

(7) If the access to the roof car at any point of its travel is not over the roof area, standard guardrails with self-closing, self-locking gates shall be provided on the roof car.

(B) Working platforms.

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(1) The working platform shall be of girder or truss construction and shall be capable of supporting its rated load under any position of loading.

(2) Each working platform shall bear the manufacturer's load rating plate, conspicuously posted and legible, stating the maximum permissible load.

(3) The vertical speed of a working platform suspended by four or more hoisting ropes shall be no more than seventy-five feet per minute.

(4) The vertical speed of a working platform suspended by less than four hoisting ropes shall be no more than thirty-five feet per minute.

(5) The working platform shall be no less than twenty-four inches wide.

(6) The working platform shall be provided with toeboards and with permanent guardrails no less than thirty-six inches high, and no more than forty-two inches high at the front (building side). At the rear, and on the sides, a standard guardrail and toeboard shall be provided. An intermediate guardrail shall be provided around the entire platform between the top guardrail and the toeboard.

(7) The platform flooring shall be of the nonskid type.

(8) Where access gates are provided, they shall be self-closing and self-locking. Such gates are required where access to the working platform is not over the roof area.

(9) A means shall be provided to prevent inadvertent horizontal movement of the working platform.

(10) The operating device controlling vertical movement of the working platform shall be located on the working platform and shall be of the continuous pressure weatherproof electric type.

(11) The operating device controlling vertical movement shall be operable only when all electrical protective devices and interlocks on the working platform are in normal operating position, and the roof car is at an established operating point.

(12) On roof-powered platforms, an emergency electric operating device shall be provided near the hoisting machine for use in the event of failure of the traveling cable system. This emergency device shall be mounted in locked compartment and shall have a legend mounted thereon reading: "For Emergency Operation Only. Establish Communication With Personnel On Working Platform Before Use." A key for unlocking the compartment housing the emergency operating device shall be mounted in a break-glass receptacle located near the device.

(C) Hoisting equipment.

(1) Hoisting equipment shall consist of a power-driven drum or drums contained in the roof car (i.e., roof-powered platform) or contained on the working platform (i.e., self-powered platform).

(2) Hoisting equipment shall be power-operated in both up and down directions.

(3) Where exposed to contact, rotating shafts, drums, couplings, and other mechanisms and gears shall be guarded.

(4) Friction devices or clutches shall not be used for connecting the main driving mechanism to the drum or drums. Belt-or chain-driven machines are prohibited.

(5) Hoisting motors shall be electric and of waterproof construction.

(6) Hoisting motors shall be directly connected to the hoisting machinery. Motor couplings, if used, shall be of steel construction.

(7) Hoisting machines shall have two independent braking means, each designed to stop and hold the working platform with one hundred twenty-five per cent of rated load.

(D) Hoisting ropes and winding drums.

(1) Each hoisting rope shall be made of wire and shall be no less than five-sixteenths-inch diameter.

(2) Working platforms shall be suspended by no less than two ropes with a safety factor of ten as

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calculated under the following formula:

F = S NW

Where

S = manufacturer's rated breaking strength of one rope

N = number of ropes under load

W = maximum static load on all ropes with the platform and its rated load at any point of its travel

(3) Where winding drums are used, the rope shall be wound in level layers.

(4) Winding drums shall have no less than three turns of rope remaining when the working platform is at its lowest possible point of travel.

(5) Where the working platform is suspended by more than two ropes, the non-drum ends of the ropes shall be provided with individual shackle rods which will permit individual adjustment of rope lengths.

(6) The lengthening or repairing of wire ropes by splicing is prohibited.

(7) More than one reverse bend in the length of six wire rope lays is prohibited.

(8) Wire rope shall not be used if, in any length of eight diameters, the total number of visible broken wires exceeds ten percent of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.

(E) Electrical protective devices.

(1) Electrical protective devices and interlocks shall be of the weatherproof type.

(2) When a traveling cable storage reel is used, an electric contact shall be provided and so connected that it will cause the relay for vertical travel to open if the tension on the traveling cable exceeds safe limits.

(3) An automatic overload device shall be provided to cut off electrical power to the circuit in all hoisting motors for travel in the up direction, should the load applied to the hoisting ropes at either end of the working platform exceed one hundred twenty-five per cent of its normal tension with rated load as shown on the manufacturer's data plate on the working platform.

(4) An automatic device shall be provided for each hoisting rope which will cut off electrical power to the hoisting motor or motors in the down direction and will apply the brakes if any hoisting rope becomes slack.

(5) Upper and lower directional limit devices shall be provided to prevent the travel of the working platform beyond the normal upper and lower limits of travel.

(6) Directional limit devices, if driven from the hoisting machine by chains, tapes, or cables, shall incorporate a device to disconnect the electric power from the hoisting machine and apply both the primary and secondary brakes in the event of failure of the driving means.

(7) On platforms with four or more ropes, final terminal stopping devices for the working platform shall be provided as a secondary means of preventing the working platform from over-traveling at the terminals.

(8) Emergency stop switches shall be provided in or adjacent to each operating device.

(9) Electrical cord strain relief anchors and grip or equivalent means shall be provided to prevent the electrical cord from pulling on the receptacle.

(F) Emergency communications.

A means of two-way communication shall be provided for each roof car suspended platform for use in emergency.

(G) Safety belts and lifelines.

Employees on working platforms shall be protected by a personal fall arrest system.