

524 CMR: BOARD OF ELEVATOR REGULATIONS

524 CMR 29.00: STAGE, ORCHESTRA, AND ORGAN CONSOLE ELEVATORS

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29.01: Hoistway Construction

The complete surface of the hoistway within the limits of travel shall be of smooth finish, devoid of surface roughness, and without any projections or recesses except for landing entrances, guides, and guide brackets, vertical slots where required for concealed guides, junction boxes, and conduit or wiring. All projections or recesses at landing entrances shall be beveled on the underside or shall be guarded with metal plates. The angle of such bevels or guard plates shall not be less than 75 from the horizontal.

29.02: Clearance and Pits

A pit shall be provided at the bottom of every hoistway of such depth that when the platform is at its lowest limit of travel, the distance between the lowest point of the underside of the platform framing, shall have a clear vertical distance between the underside of the car platform or between the underside of any equipment attached thereto, exclusive of the car frame channels, car safety blocks, guide shoes and any aprons or guards attached to the car sill, and the pit floor when the car rests on the fully compressed buffer shall not be less than two feet. In measuring this clearance, the depth of any trenches or depressions in the pit shall not be included.

29.03: Machine Rooms, Sheave Rooms, and Secondary Levels

All machine rooms shall be located above or below or contiguous to any side of the hoistway. EXCEPTIONS: Oil hydraulic machine rooms and entrances to machine rooms shall be located not more than ten feet from any side of the hoistway.

29.04: Hoistway Doors

The bottom landing openings of hoistways shall be protected by sliding or swinging doors of 1½ hour fire resistive construction.

29.05: Railings and Toe Boards

Railings and toe boards shall be provided at floor levels.

29.06: Guide Rails

Where used, guide rails shall be steel.

29.07: Door Interlocks

All hoistway landing doors shall be equipped with interlocks as described in 524 CMR 35.00: *Safety Code for Elevators and Escalators A17.1-2013 and the Massachusetts Modifications of That Code.*

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29.08: Lifting Capacities and Speed

- (1) The lifting capacity of an orchestra or organ console elevator shall be equal to a live load of not less than 25 lbs. per square foot of floor area of the platform. All railings, aprons, and wiring conduits shall all be considered as part of moveable platforms.
- (2) The lifting capacity of a stage elevator shall be equal to a live load of not less than 75 lbs. per square foot of floor area of that platform.
- (3) Speed. Stage, orchestra, and organ console elevators shall not exceed a speed limit of 15 feet per minute.

29.09: Control Apparatus

- (1) Operating switches shall be provided in a suitable location in sight of the platform.
- (2) An emergency stop switch, which will cut off the sources of power, shall be provided in the car adjacent to the operating device and shall be red in color.
- (3) Emergency stop switches may be operated by buttons or levers but shall be of the manually opened and closed type so installed that when opened gravity will not tend to close the switch.
- (4) An emergency stop switch shall be installed in the pit.
- (5) A manually operated multiple disconnecting switch shall be installed in the main line of each elevator or motor generator set machine.
- (6) The disconnect switch shall be located adjacent to and visible from the elevator machine or motor generator set to which it is connected and shall, where practicable, be located in the machine room at the lock jam side of the entrance door.

29.10: Driving Machines

- (1) Where elevating screws are used they shall be of the direct connected type, either worm or beveled gears, and all gears shall be enclosed in a protective housing.
- (2) Where an elevator is not supported or operated by screws, plungers or similar means, car safeties shall be provided under the platform capable of stopping and holding the platform with full rated load at any point of its travel.

29.11: Control and Operating Devices and Systems

Motor controller requirements are as set forth in 524 CMR 29.11(1):

- (1) Motor Controller. A suitable lighted room shall be provided outside of the hoistway for the motor controller and brake unless the motor and controller and brake are located in the pit in which case masonry piers or columns shall be provided of sufficient strength to take the impact of a full loaded car.
- (2) Location of Motor and Controller. Where the motor and controller are located in a hoistway pit or in a pit adjacent to the lifting platform, access to same shall be provided by means of a door entirely below the bottom of the platform when the platform is at its lowest limit of travel. This door shall be of sufficient width and height to make the entrance readily accessible.
- (3) Terminal Limit Switches. Enclosed terminal limit switches located in the hoistway shall be provided and arranged to automatically bring the car platform to rest as it approaches either terminal landing.

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29.11: continued

(4) Final Limit Switches. Enclosed final limit switches shall be provided at the top and bottom of the hoistway arranged to cut off the current and stop the platform if it should travel beyond the terminal limit switch. Electric power elevators having winding drum machines shall have the stopping switches on the machines and also in the hoistway operated by the movement of the car.

29.12: Safety Factor and Hoistway Requirements

(1) Elevator Platform Construction. The platform shall be of steel frame construction designed with a safety factor of not less than six based on the rated load, uniformly distributed. All other parts of the equipment shall have a safety factor as required by 524 CMR 35.00: *Safety Code for Elevators and Escalators A17.1-2013 and the Massachusetts Modifications of That Code*.

(2) Installations in the Same Hoistway. When installations are in the same hoistway the adjacent sides shall be provided with solid dividing wall partitions with not less than $\frac{3}{4}$ hour fire resistive construction.

(3) When travel extends above the top of the hoistway enclosure, aprons of substantial construction shall be provided on the platform of sufficient depth to enclose the space between the top of the hoistway enclosure and the underside of the platform plus three inches when the platform is at its limit of travel.

(4) The lower edge of the aprons shall be beveled at an angle of at least 75 with the horizontal.

REGULATORY AUTHORITY

524 CMR 29.00: M.G.L. c. 143, §§ 62 through 71G.