# REVISION RECORD FOR THE STATE OF CALIFORNIA

# SUPPLEMENT

**November 15, 2002**
**(This date is for document identification purposes only.**
**Effective date of provisions shown in History Note Appendix.)**

## 2001 Title 24, Part 7, California Elevator Safety Construction Code
## See History Note Appendix, Items 4 and 5 for effective dates.

This revision record contains all the additions, amendments, and repeals affecting the above-entitled portion of the California Code of Regulations.

By starting with a full loose-leaf copy of the 2001 *California Elevator Safety Construction Code* and substituting the revised pages (blue) listed below, the user will have a complete 2001 *California Elevator Safety Construction Code* in correct numerical sequence. It is suggested that original pages (white) that have been removed and replaced by revised pages (blue) be retained in a separate file for possible future reference.

**NOTE**

**Due to the fact that the application date for a building permit establishes the California Building Standards code provisions that are effective at the local level, which apply to the plans, specifications, and construction for that permit, it is strongly recommended that the removed pages be retained for historical reference.**

| Remove White Page | Insert Blue Page |
|---|---|
| 21 and 22 | 21 and 22 |
| 93 and 94 | 93 and 94 |
| 139 and 140 | 139 and 140 |
| 143 and 144 | 143 and 144 |
| 161 and 162 | 161 and 162 |

**Item No. 5575A01**

**EXCEPTIONS:** 1. Alternating tread stairs as permitted by Section 3234 of the General Industry Safety Orders.

2. Vertical ladders may be used where the differences in level are more than 3 feet for access from interior building floors or from machine roomsto machinery spaces containing overhead sheaves, secondary and deflecting sheaves, or governors.

D. A platform shall be provided at the top of stairs or ladders conforming to and where required by Article 4 of the General Industry Safety Orders.

E. Standard handrails, guardrails, toeboards, and stair railings shall conform to the regulations of Article 2 of the General Industry Safety Orders.

(d) **Access Doors.**

1. *Elevator machine rooms or enclosures shall be secured against unauthorized access.* Access doors shall be provided for all elevator machine rooms or enclosures and shall conform to the following:

A. Have minimum width of 30 inches and a minimum height of 6 feet for machine rooms and a minimum height of 30 inches for other spaces specified in Sections 7-3011 (e) 2 and 7-3011 (e) 3.

B. Be self-closing.

C. Be provided with a spring-type lock to permit the door to be opened from the inside without a key.

**EXCEPTION:** Doors are not required at openings in machine room floors for access to deflecting and secondary sheave spaces provided the floor access opening is provided on all four sides with a standard railing, one side of which is arranged to slide or swing to provide access to the ladder or stairs leading to the secondary sheave space. Trap doors, where provided, shall have standard railings or guard wings on all open sides and shall be arranged to be secured in the open position. See Section 7-3011 (e) 3.

D. Keys to access the elevator machine rooms and machinery space enclosures shall be kept in the elevator pit. The keys shall be properly identified, located near the pit stop switch, and shall be accessible from the pit access door. In buildings with banks of multiple elevators, the keys shall be kept in the elevator pit of the elevator with the lowest state identification number.

(e) **Headroom in Machine Rooms and Overhead Machinery Spaces.**

1. Elevator machine rooms and machinery spaces not located over the hoistway shall have a headroom of not less than 7 feet.

2. Where a floor is provided at the top of the hoistway, elevator machine rooms and overhead machinery spaces above such floor shall have a clear headroom of not less than the following:

A. Machine, control, and motor generator rooms, 7 feet.

B. Spaces containing only overhead, secondary or deflecting sheaves, 3 feet 6 inches.

C. Spaces containing only overhead, secondary or deflecting sheaves, and governors, 4 feet 6 inches.

D. Under Sections 7-3011 (e) 2B and 7-3011 (e) 2C, the machine or supporting beams may encroach on the required headroom provided there is clearance of not less than 3 feet below the underside of machine beams or not less than 3 feet above the top of overhead sheave supporting beams with at least a 2-foot-wide clear passageway.

3. Separate access to each secondary or deflecting sheave space shall be provided unless a clear passageway not less than 4 feet high and 2 feet wide is provided from one space to another in multiple hoistway installations. This height may be reduced to 3 feet between the machine beams and the sheave space floor.

(f) **Lighting and Ventilation of Machine Rooms and Machinery Spaces.**

1. Permanent lighting and convenience outlets shall be provided and installed to comply with the requirements of the State Electrical Code. See Article 620.

2. Machine Rooms shall be provided with uniform natural or mechanical ventilation of sufficient capacity to maintain a temperature of not more than 104°F regardless of outside temperature.

A. Where mechanical ventilation equipment is provided, it shall be located outside the elevator machine room, where possible. When located within the machine room, it shall be isolated from the elevator equipment by an enclosure conforming to Section 7-3011 (a).

(g) **Work Space Required in Machine Rooms and Machinery Spaces.**

1. There shall be a clear work space and passageway at least 18 inches wide on at least three sides of every elevator machine.

**EXCEPTION:** A second side of the machine may be partially or totally blocked by an enclosure or equipment, thereby reducing the required work space and passageway, provided the following are conformed to:

1. Safe access to and a minimum of 18 inches work space is provided for machine parts that require inspection, service, and adjustment when the machine is in operation; and

2. Parts that normally do not require service, repair, or inspection when the machine is in operation shall be provided with access, or can be made accessible when protective guards, etc., are removed, and adequate work space to perform the work is provided.

**NOTE:** The intent of this regulation is to locate the machine, with respect to the adjacent enclosure and other machine room equipment, so that safe and convenient access is provided for inspection, service, and adjustment. Safe working conditions for future major repairs should be considered when locating the machine and adjacent equipment.

2. Governors, motor generator sets, and other devices, shall have a clear work space and passageway at least 18 inches wide and 6 feet 6 inches high on at least one side, and no passageway shall exist between various devices, or devices and the walls, less than 18 inches wide.

The commutator end of motor generator sets shall be exposed to allow safe access for servicing and adjusting.

3. The clear work space in front of and in back of control panels and the passage space at the ends of control panels shall conform to the State Electrical Code. See Article 620.

4. The clear work space in front of, and the accessibility of the power disconnect switches, shall conform to the requirements of the State Electrical Code. See Article 620.

(h) **Identification Required.** Where there is more than one elevator, each elevator shall be assigned a different number. This number shall be used to clearly identify all major components of that piece of equipment in the machine room and machinery spaces.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Electrical Wiring, Pipes, and Ducts in Elevator Hoistways, Machine Rooms, or Machinery Spaces.**

**7-3012.**

(a) **Wiring Methods in Hoistways and Machine Rooms.** The installation of all electrical wiring in hoistways and machine rooms, except as may be provided elsewhere in these regulations, shall comply with the State Electrical Regulations. The special requirements for elevators may be found in Article 620.

(b) **Installation of Pipes and Ducts Conveying Gases, Vapors, or Liquids in Hoistways, Machine Rooms, or Machinery**

**Spaces.** *Pipes or ducts conveying gases, vapors, or liquids, and not used in connection with the operation of the elevator, shall not be installed in any hoistway,* machine room, or machinery space.

**EXCEPTIONS:** 1. Pipes or ducts that were installed before June 5, 1947, and which convey gases, vapors, or liquids which if discharged into the hoistway would not endanger life.

2. Steam and hot water pipes may be installed in hoistways, machine rooms, or machinery spaces for the purpose of heating these areas only, subject to the following:

A. Heating pipes shall convey only low pressure steam (5 pounds per square inch or less) or hot water (212°F or less).

B. All risers and return pipes shall be located outside the hoistway.

C. Traps and shut-off valves shall be provided in accessible locations outside the hoistway.

3. Ducts for heating, cooling, ventilating, and venting may be installed in the machine room, subject to the following:

A. Clear headroom of 7 feet is maintained.

B. Clear work space around all elevator equipment is maintained.

C. No inspection covers, adjustable dampers or clean-outs are installed in the elevator machine room.

4. Pipes for sprinklers only may be installed in these spaces subject to the following:

A. All risers and returns shall be located outside these spaces.

B. Branch lines in the hoistway shall supply sprinklers at not more than one floor level.

C. Shut-off valves shall be provided at accessible locations outside these spaces.

D. Sprinkler heads shall be guarded against accidental contact.

5. Piping and wiring for elevator pit sump pump may be installed in the hoistway. See Section 7-3016 (b).

**Location and Guarding of Counterweights.**

**7-3013.**

(a) **Location.** Counterweights shall be located only in the hoistway of the elevator they serve.

(b) **Counterweight Pit Guards.** *Counterweight runway enclosures of unperforated metal, extending from a point not more than 12 inches above the pit floor to a point not less than 7 feet above the pit floor, shall be installed on the open side or sides of all counterweights, except this enclosure may be omitted on the side facing the car where compensating roper chains are attached to the counterweight.*

**EXCEPTIONS:** 1. Where oil buffers are installed under the counterweights in the pits of new installations, the enclosure, where required, shall extend from a point even with the bottom of the buffer stroke to a height of not less than 7 feet above the pit floor.

2. Elevators installed before June 5, 1947. The enclosure shall be fastened to a metal frame adequately reinforced and braced to be at least equal in strength and stiffness to No. 14 M.S. gage steel.

(c) **Guarding of Counterweights in a Multiple-elevator Hoistway.**

1. Where counterweights are located between elevators in a hoistway having more than one elevator, the counterweight shall be guarded for the entire height of the hoistway. The guard shall extend at least 6 inches horizontally beyond each counterweight rail. The guard shall be made from wire-mesh material equal to or stronger than 0.048-inch-diameter wire with openings not exceeding $^1/_2$ inch, securely fastened to keep the guard taut and plumb.

2. The guarding of counterweights required in Section 3013 (c) (1) shall be accomplished within three years of the effective date of this regulation.

**Guarding of Exposed Equipment.**

**7-3014.**

(a) **Guarding in Machine Rooms and Machinery Spaces.** The following equipment located in machine rooms or machinery spaces shall be guarded to protect against accidental contact:

1. *Exposed external moving parts such as gears, sprockets, sheaves, drums, shafts and their driving ropes, chains or tapes for selectors, floor controllers or signal machines.*

**EXCEPTION:** Guards are not required for equipment located more than 7 feet above the floor.

2. The nip points of the drive sheave of traction machines where the machine frame does not provide this protection.

3. *All moving parts of the equipment in secondary sheave spaces shall be completely guarded except the governor sheave and flyballs.* Expanded metal or grillwork shall be used for secondary sheave guards.

**EXCEPTION:** Guards are not required for equipment located more than 7 feet above the secondary sheave space floor.

4. The moving parts of equipment in overhead sheave spaces having a ceiling height of less than 6 feet 6 inches shall be completely guarded except the governor sheave and flyballs.

5. The moving parts of equipment in overhead sheave spaces shall be guarded when it is necessary to pass over or by the moving parts to gain access to the governor.

(b) **Guarding in the Hoistway and on the Car.** The following equipment located in the elevator hoistway or on the elevator car shall be guarded to protect against accidental contact:

1. Hoisting rope sheaves attached to and mounted above the car crosshead shall be completely guarded. Handholds shall be provided on each side of the guard.

2. Hoisting rope sheaves mounted within the car crosshead shall be provided with guards at the exposed nip points.

3. Where secondary or deflecting sheaves are located on the hoisting side of overhead machines, the ropes shall be guarded at the point of contact with the sheave, except where the bottom of the sheave is more than 7 feet above the crosshead of the car when the car is at the top terminal landing.

4. Where overhead sheaves are located above the crosshead, the ropes attached to the crosshead shall be guarded at the point of contact with the overhead sheave unless the sheave is located in an overhead sheave space.

5. *Ventilating fans or blowers installed on the car top shall be guarded.*

(c) **Rope Retainer Guards.** Rope retainer guards shall be provided on deflector sheaves, machine sheaves, compensator rope sheaves, governor tension sheaves and hoist rope sheaves on cars and counterweights to inhibit displacement of ropes in the event ropes become slack.

*Rope guards shall be continuous or there shall be one restraint for 30 degrees wrap or less, and two restraints for wraps in excess of 30 degrees. Where one restraint is furnished, it shall divide the arc of contact into equal parts. Where two restraints are furnished, they shall be located approximately $^1/_6$ of the arc of contact from the nip points.*

(d) **Snag Guards.** Snag points created by rail brackets, clip bolts and fishplates shall be provided with guards to prevent snagging of the following:

1. *Compensating cables on the counterweight and within 30 inches of a counterweight rail bracket.*

2. *Governor ropes located within 20 inches of a counterweight rail bracket.*

3. *Hoist ropes located within 12 inches of a snag point.*

4. *Traveling cables hung so any portion of their loop below the hatch junction box is within 36 inches horizontally of a potential snag point.*

# Article 7-13. Escalators

**Construction Requirements.**

**7-3089.**

(a) **Protection of Floor Openings.** The protection of floor openings and the means of enclosing escalators, which may or may not be a part of the required egress system of the building, shall conform to governing building codes and are not considered part of the Elevator Safety Orders.

(b) **Angle of Inclination.** The angle of inclination shall be not more than 30 degrees from the horizontal.

(c) **Geometry.**

1. The width of the escalator shall be the width of the step tread (to the next whole inch).

2. The handrail shall be a minimum of 4 inches (102 mm) horizontally and 1 inch (25 mm) vertically away from adjacent surfaces. The centerline of the handrail shall be not more than 10 inches (254 mm), measured horizontally, from the vertical plane through the edge of the exposed step.

3. The following applies to escalators installed between April 16, 1970, and the effective date of Sections 7-3089 (c) 1 and 2, unless they have been brought into compliance with subsections 7-3089 (c) 1 and 2.

The width between balustrades shall be measured on the incline at a point 27 inches vertically above the nose line of the steps, and shall not be less than the width of the step. It shall not exceed the width of the step by more than 13 inches with a maximum of $6^1/_2$ inches on either side of the escalator. See Figure 7-3089B.

(d) **Balustrades.**

1. A solid balustrade shall be provided on each side of the moving steps.

A. The balustrade on the step side shall have no areas or moldings depressed or raised more than $^1/_4$ inch from the parent surface, except when skirt deflection devices, such as brushes, are used per Section 7-3089 (d) 6. ||

B. Such areas or moldings shall have all boundary surfaces beveled unless parallel to the direction of travel.

2. Safety glass or plastic panels, if used in balustrades, shall conform to the requirements of ANSI Z97.1, except that there shall be no requirement for the panels to be transparent.

**EXCEPTION:** Plastic material bonded to a basic supporting panel. >

3. The width between the balustrades in the direction of travel shall not be changed abruptly nor by more than 8 percent of the greatest width.

In changing from the greater to the smaller width, the maximum allowable angle of change in the balustrading shall be 15 degrees from the line of travel.

4. A solid guard shall be provided in the intersecting angle of the outside balustrade (deck board) and the ceiling or soffitt.

**EXCEPTION:** Where the intersection of the outside balustrade (deck board) and the ceiling or soffitt is more than 24 inches from the center line of the handrail.

A. The vertical face of the guard shall project at least 14 inches horizontally from the apex of the angle. On existing installations, the vertical face of the guard shall be not less than 6 inches.

B. *The exposed edge of the guard shall be rounded to eliminate shear hazard. Guard may be glass or plastic, provided they meet the requirements of Section 7-3089 (d) 2.*

5. Existing escalators shall comply with the following:

A. Skirt deflection devices to protect against the accidental entrapment of body parts, clothing, shoes, etc., shall be installed; or

B. Clearances between the skirt and the step shall comply with ASME A 17.1-1996, Rule 802.3e, hereby incorporated by reference; and the skirt panel shall comply with ASME A17.1-1996, Rule 802.3f, hereby incorporated by reference.

C. The escalator shall be inspected by the Division, following the completion of Section 7-3089 (d) 5. A. or B., and || a new permit to operate issued. Escalator owners shall have three years from April 12, 2000, to comply with Section 7-3089 (d) 5. ||

6. If provided, the skirt deflection device shall comply with the following:

A. The rigid portion of the device shall not rise more than $^3/_4$ inch from the parent surface of the balustrade.

B. The plans, drawings and specifications on the planned installation of the deflection device shall be submitted to the Division for review before the deflection device is installed. The Division shall review the plans, drawings and specifications to ensure the planned installation and subsequent operation does not conflict with other requirements of Article 7-13.

C. The deflection device shall be inspected by the Division for entanglement, entrapment, shearing or tripping hazard.

**NOTE:** Authority Cited: Section 142.3, Labor Code. Reference: Sections 142.3, Labor Code and 18943, Health and Safety Code.

(e) **Handrails.**

1. *Each balustrade shall be provided with a handrail moving in the same direction and at substantially the same speed as the steps.*

2. Each moving handrail shall extend at normal handrail height not less than 12 inches beyond the line of points of the combplate teeth at the upper and lower landings.

3. *Hand or finger guards shall be provided at the point where the handrail enters the balustrade.*

4. The horizontal distance between the center lines of the two handrails shall not exceed the width of the escalator by more than 19 inches (483 mm).

**EXCEPTION:** Existing installations installed prior to April 16, 1970.

(f) **Step Treads.**

1. The depth of any step tread in the up direction of travel shall be not less than $15^3/_4$ inches, and the rise between treads shall be not more than $8^1/_2$ inches. The width of a step tread shall be not less than 22 inches nor more than 40 inches.

**EXCEPTIONS:** 1. For existing installations installed prior to the effective date of this order, with width of a step tread shall not be less than 16 inches.

2. Escalators installed prior to April 16, 1970 at which time no order existed.

2. The step riser shall be provided with vertical cleats which shall mesh with slots on the adjacent step treads as the steps make the transition from incline to horizontal.

3. The tread surface of each step shall be slotted in a direction parallel to the travel of the steps. Each slot shall be not more than $^1/_4$ inch wide and not less than $^3/_8$ inch deep; and the distance from center to center of adjoining slots shall be not more than $^3/_8$ inch.

Slots shall be so located on the step tread surface as to form a cleat on each side of the step tread adjacent to the skirt panel.

(g) **Combplates.**

1. There shall be a combplate at the entrance and at the exit of every escalator.

2. The combplate teeth shall be meshed with and set into the slots in the tread surface so that the points of the teeth are always below the upper surface of the treads.

Combplates shall be adjustable vertically. Sections forcing the combplates shall be readily replaceable.

(h) **Trusses or Girders.** The truss or girder shall be designed to safely sustain the steps and running gear in operation and in the event of failure of the track system, the truss shall retain the tracks, steps, and running gear. Where tightening devices are operated by means of tension weights, provision shall be made to retain these weights in the truss if they should be released.

(i) **Step Wheel Tracks.** Step wheel tracks shall be so designed to contain the step wheels in the track if a step chain breaks.

(j) **Rated Load.**

1. For the purpose of structural design, the rated load shall be considered to be not less than:

(Customary Units)

Structural rated load (lb) = $4.6\ (W + 8)\ A$

(SI Units)

Structural rated load (kg) = $0.27\ (W + 203)\ A$

**WHERE:**

$A$ = length of the horizontal projection of the entire truss, ft. (m)

$W$ = width of the escalator, in. (mm)

2. For the purpose of driving machine and power transmission calculations, the rated load shall be considered to be not less than:

(Customary Units)

Machinery rated load (lb) = $3.5\ (W + 8)\ B$

(SI Units)

Machinery rated load (kg) = $0.21\ (W - 203)\ B$

**WHERE:**

$B$ = $1.732 \times$ rise, ft (m)

$W$ = width of the escalator, in. (mm)

3. For the purpose of brake calculations, the rated load shall be not less than:

*A* With Escalator Stopped

(Customary Units)

Brake rated load (lb) = $4.6\ (W + 8)\ B$

(SI Units)

Brake rated load (kg) = $0.27\ (W + 203)\ B$

*B* With Escalator Running

(Customary Units)

Brake rated load (lb) = $3.5\ (W + 8)\ B$

(SI Units)

Brake rated load (kg) = $0.21\ (W + 203)\ B$

**WHERE:**

$B$ = $1.732 \times$ rise, ft (m)

$W$ = width of the escalator, in. (mm)

**EXCEPTION:** For existing installations installed prior to the effective date of this order, the rated load shall be computed as follows:

The rated load, in pounds, shall be computed by the following formula:

Rated Load = $4.6WA$

Where W is the width in inches between the balustrades and A the horizontal distance in feet between the upper and lower combplate teeth. See Figure 7-3089B.

(k) **Design Factors of Safety.** The factors of safety, based on the static loads, shall be at least the following:

1. For driving machine parts:

A. Where made of steel or bronze, 8.

B. Where made of cast iron or other materials, 10.

2. For power-transmission members, 10.

**EXCEPTION:** Step chains composed of cast-steel links which, if thoroughly annealed, shall be permitted with a factor of safety of at least 20.

3. Steel trusses and supporting structures, including tracks, shall conform to AISC Specification for Design Fabrication and Erection of Structural Steel for Buildings.

(l) **Rated Speed.** The rated speed shall be not more than 125 feet per minute.

**Escalator Machinery and Equipment.**

**7-3090.**

(a) **Driving Machine, Motor and Brake.**

1. The driving machine shall be connected to the main drive shaft by toothed gearing, a coupling, or a chain.

2. An electric motor shall not drive more than one escalator.

3. Each escalator shall be provided with an electrically released and mechanically or magnetically applied brake. If the brake is magnetically applied, a ceramic permanent magnet shall be used.

A. There shall be no intentional time delay designed into the application of the brake.

B. The brake shall be applied automatically if the electrical power supply is interrupted.

C. The brake shall be capable of stopping the down running escalator with any load up to the brake rated load.

D. The escalator brake shall stop the down running escalator at a rate no greater than 3 feet per second$^2$ (0.91 m/s$^2$).

E. The escalator brake shall be provided with a nameplate which indicates the brake torque in ft-lb (N-m) required to stop and hold brake rated load.

4. Where means other than a continuous shaft, coupling, or toothed gearing is used to connect the motor to a gear reducer, the escalator brake shall be located on the gear reducer or main drive shaft.

5. If the escalator brake is separated from the main drive shaft by a chain used to connect the driving machine to the main drive shaft, a mechanically or magnetically applied brake capable of stopping a down running escalator with brake rated load shall be provided on the main drive shaft.

A. If the brake is magnetically applied, a ceramic permanent magnet shall be used.

B. The brake shall stop the down running escalator at a rate no greater than 3 feet per second$^2$ (0.91 m/s$^2$) at brake rated load.

# GROUP III. NEW ELEVATOR INSTALLATIONS

## Article 7-20. Hoistways, Hoistway Enclosures and Related Construction for Electric Elevators

**Construction of Hoistways and Hoistway Enclosures.**
**7-3120.0.**

(a) **Construction of Hoistways and Hoistway Enclosures.** Construction of hoistways and hoistway enclosures shall comply with Section 100 of ASME A17.1-1996; except for Rules 100.1a (3), and 100.1c (3); which is hereby incorporated by reference.

1. Construction of hoistways and hoistway enclosures shall comply with Sections 7-3010 (a) (6) and 7-3010 (d) (2) (B).

(b) **Screening of Hoistway.** When two or more elevators are located in the same hoistway, the elevators shall be fully separated by a material complying with the following:

1. Where unperforated steel is used, it shall be equal to or stronger than 0.0437 inch (1.110 mm) thick steel;

2. Where wire screen or perforated steel is used it shall be equal to or stronger than 0.0915 inch (2.324 mm) diameter metal grill;

3. The material shall reject a ball 1 inch (25.4 mm) in diameter;

4. Be so supported and braced that when subjected to a pressure of 100 lb/ft$^2$ (4.79 kPa) applied horizontally at any point, the deflection shall not exceed 1 inch (25.4 mm).

**NOTE:** Screening is subject to local building code requirements.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Machine Rooms and Machinery Spaces.**
**7-3120.1.**

(a) **Machine Rooms and Machinery Spaces.** Machine rooms and machinery spaces shall comply with Section 101 of ASME A17.1-1996, which is hereby incorporated by reference.

1. Machine rooms and machinery spaces shall comply with Sections 7-3011 (b) 3, 7-3011 (d) 1.D, 7-3011 (e) 2.D, 7-3011 (f) 2, 7-3011 (g), and 7-3011 (h).

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Electrical Equipment, Wiring, Pipes and Ducts in Hoistways, Machine Rooms and Machinery Spaces.**
**7-3120.2.**

(a) **Electrical Equipment, Wiring, Pipes and Ducts in Hoistways, Machine Rooms and Machinery Spaces.** Electrical equipment, wiring, pipes, and ducts in hoistways, machine rooms and machinery spaces shall comply with Section 102 of ASME A17.1-1996, except for the reference to ANSI/NFPA 70, which is hereby incorporated by reference.

1. All electrical equipment and wiring shall comply with CCR, Title 24, Part 3, California State Electrical Code.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Location and Guarding of Counterweights.**
**7-3120.3.**

(a) **Location and Guarding of Counterweights.** Location and guarding of counterweights shall comply with Section 103 of ASME A17.1-1996, which is hereby incorporated by reference.

1. If the counterweight pit guard prevents viewing of the counterweight runby, an opening in the guard shall be provided which will allow verification of the counterweight runby. The opening shall be protected to prevent accidental contact with the moving equipment.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Guarding of Exposed Equipment.**
**7-3120.4.**

(a) **Guarding of Exposed Equipment.** Guarding of exposed equipment shall comply with Section 104 of ASME A17.1-1996, which is hereby incorporated by reference.

1. Guarding of exposed equipment shall comply with Sections 7-3014 (a) and 7-3014 (b).

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Machinery and Sheave Beams, Supports and Foundations.**
**7-3120.5.**

Machinery and sheave beams, supports, and foundations shall comply with Section 105 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Pits.**
**7-3120.6.**

(a) **Pits.** Pits shall comply with Section 106 of ASME A17.1-1996; except for Rules 106.1c and 106.1d (2); which is hereby incorporated by reference.

1. Pits shall comply with Sections 7-3016 (a), 7-3016 (d) (3), 7-3016 (d) (4), 7-3016 (d) (5) and 7-3016 (h).

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Bottom and Top Clearances and Runbys for Elevator Cars and Counterweights.**
**7-3120.7.**

Bottom and top clearances and runbys for elevator cars and counterweights shall comply with Section 107 of ASME A17.1-1996; except for Rules 107.1b (1) (a) and 107.1b (1) (b); which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Horizontal Car and Counterweight Clearances.**
**7-3120.8.**

(a) Horizontal car and counterweight clearances shall comply with Section 108 of ASME A17.1-1996, except for Rule 108.1e (1) (a), which is hereby incorporated by reference.

1. The clearance between the edge of the car platform sill and the hoistway enclosure or fascia plate may be increased to not more than $7\frac{1}{2}$ inches for vertically sliding hoistway doors of the pass type or of the heavy duty type requiring special sills for extra wide openings.

**NOTE:** Horizontal clearance requirements for Seismic Zone 2 or greater are contained in Article 7-37.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Protection of Spaces Below Hoistways.**

**7-3120.9.**

Protection of spaces below hoistways shall comply with Section 109 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Protection of Hoistway-landing Openings.**

**7-3120.10.**

(a) Protection of hoistway-landing openings shall comply with Section 110 of ASME A17.1-1996; except for Rules 110.1 and 110.4 (b) (2); which is hereby incorporated by reference.

1. Protection of hoistway-landing openings shall comply with Sections 7-3020 (a) (1), 7-3020 (a) (2), 7-3020 (a) (3) (B), 7-3020 (a) (4), 7-3020 (b) (6) (B) and 7-3020 (b) (9) (C).

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Hoistway-door Locking Devices, Car Door or Gate Electric Contacts, Hoistway Access Switches and Elevator Parking Devices.**

**7-3120.11.**

(a) Hoistway-door locking devices, car door or gate electric contacts, hoistway access switches and elevator parking devices shall comply with Section 111 of ASME A17.1-1996; except for Rules 111.9a, 111.9d, 111.9e and 111.10; which is hereby incorporated by reference.

1. Prior to installation, hoistway door locking devices shall be approved by the Division, pursuant to Section 7-3120.11. Approval criteria are specified in Section 7-3110.

2. Hoistway access switches shall comply with Section 7-3021 (k) (1), excluding the exception, and Section 7-3021 (k) (2) (B).

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Power Operation, Power-opening and Power-closing of Hoistway Doors and Car Doors or Gates.**

**7-3120.12.**

Power operation, power-opening and power-closing of hoistway doors and car doors or gates shall comply with Section 112 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

# Article 7-22. Hydraulic Elevators

**Hoistways, Hoistway Enclosures and Related Construction.**

**7-3122.0.**

(a) **Hoistways, Hoistway Enclosures and Related Construction.** Hoistways, hoistway enclosures and related construction shall comply with Section 300 of ASME A17.1-1996, which is hereby incorporated by reference.

(b) **Machine Rooms and Machinery Spaces.** Machine rooms and machinery spaces shall comply with Sections 7-3011 (d) 1.D, 7-3050 (b) (7) and 7-3050 (b) (8).

(c) **Electrical Equipment, Wiring, Pipes and Ducts in Hoistways, Machine Rooms and Machinery Spaces.** Electrical equipment, wiring, pipes and ducts in hoistways, machine rooms and machinery spaces shall comply with Section 7-3120.2.

(d) **Guarding of Exposed Equipment.** Guarding of exposed equipment shall comply with Sections 7-3120.4 (a) and 7-3052 (a) (2) (A).

(e) **Pits.** Pits shall comply with Section 7-3120.6 (a) 1.

(f) **Horizontal Clearance.** The horizontal clearance between the enclosure and any side of the car top that is not protected by guide rails shall be not more than 24 inches.

(g) **Protection of Hoistway Landing Openings.** Protection of hoistway landing openings shall comply with Section 7-3120.10 (a) 1.

(h) **Hoistway-door Locking Devices, Car Door and Gate Electric Contacts, Hoistway Access Switches and Elevator Parking Devices.** Hoistway-door locking devices, car door and gate electric contacts, hoistway access switches, and elevator parking devices shall comply with Sections 7-3120.11 (a) 1 and 7-3120.11 (a) 2.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Mechanical Equipment.**

**7-3122.1.**

(a) **Mechanical Equipment.** Mechanical equipment shall comply with Section 301 of ASME A17.1-1996, which is hereby incorporated by reference.

(b) **Car and Counterweight Guide Rails, Guide Rail Supports and Fastenings.** Car and counterweight guide rails, guide rail supports and fastenings shall comply with Sections 7-3121.0 (a) 1 and 7-3121.0 (a) 2.

(c) **Buffers and Bumpers.** Buffers and bumpers shall comply with Sections 7-3121.1 (a) 1 and 7-3121.1 (a) 2. The average retardation for a buffer or bumper shall not be greater than 32.2 ft./sec$^2$ (1g).

(d) **Car Enclosures, Car Doors and Gates, and Car Illumination.** Car enclosures, car doors and gates, and car illumination shall comply with Sections 7-3121.4 (a) 1 and 7-3121.4 (a) 2.

(e) **Car and Counterweight Safeties.** Car and counterweight safeties shall comply with Sections 7-3121.5 (a) 1 and 7-3121.5 (a) 2.

(f) **Speed Governors.** Speed governors shall comply with Section 7-3121.6.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Driving Machines.**

**7-3122.2.**

Driving machines shall comply with Section 302 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Valves, Supply Piping and Fittings.**

**7-3122.3.**

Valves, supply piping and fittings shall comply with Section 303 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Hydraulic Machines, Tanks.**

**7-3122.4.**

Tanks shall comply with Section 304 of ASME A17.1-1996, except for Rule 304.4, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Terminal Stopping Devices.**

**7-3122.5.**

Terminal stopping devices shall comply with Section 305 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Operating Devices and Control Equipment.**

**7-3122.6.**

(a) **Operating Devices and Control Equipment.** Operating devices and control equipment shall comply with Section 306 of ASME A17.1-1996, except Rule 306.6 (a), which is hereby incorporated by reference.

1. Operating devices and control equipment shall comply with Sections 7-3121.10 (a) 1 and 7-3121.10 (a) 2.

(b) **Medical Emergency Service.** Medical emergency service shall comply with Section 7-3121.11 (b).

(c) Electrical equipment and wiring shall comply with CCR, Title 24, Part 3, California Electrical Code.

**NOTE:** Earthquake requirements are in Article 7-37.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Counterweights Ropes, Rope Connections and Sheaves.**

**7-3122.7.**

Counterweight ropes, rope connections and sheaves shall comply with Section 307 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

**Layout Data.**

**7-3122.8.**

Layout data shall comply with Section 308 of ASME A17.1-1996, which is hereby incorporated by reference.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

# Article 7-23. Power Sidewalk Elevators

**Power Sidewalk Elevators.**

**7-3123.**

(a) **Power Sidewalk Elevators.** Power sidewalk elevators shall comply with Part IV of ASME A17.1-1996, which is hereby incorporated by reference.

1. Power side walk elevators shall comply with Sections 7-3120.1 (a) 1, 7-3120.2, 7-3120.6 (a) 1, 7-3120.8 (a) 1 and 7-3120.10 (a) 1, as they apply to freight elevators; and Sections 7-3120.11 (a) 1, 7-3121.1 (a) 2, 7-3121.5 (a) 1, 7-3121.6 (a) 1 and 7-3121.10 (a) 2.

**NOTE:** Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code; and Section 18943 (b), Health and Safety Code.

# HISTORY NOTE APPENDIX

## CALIFORNIA ELEVATOR SAFETY CONSTRUCTION CODE

### (Title 24, Part 7, California Code of Regulations)

For prior history, see the History Note Appendix to the *California Elevator Safety Construction Code,* 1998 Triennial Edition, effective July 1, 1999.

1. (DOSH 1/00) Part 7, Sections 7-3071 (j) 1. E. Approved as submitted by the California Building Standards Commission on January 31, 2001. Filed with the Secretary of State on February 2, 2001, effective March 4, 2001.

2. (DOSH 2/00) Part 7, Sections 7-3009, 7-3093–7-3093.60, and 7-3136. Approved as submitted by the California Building Standards Commission on July 23, 2001. Filed with the Secretary of State on July 23, 2001, effective August 22, 2001.

3. The 2001 Triennial Edition, *California Elevator Safety Construction Code*, was published May 1, 2002. The California Building Standards Commission established November 1, 2002 as the effective date.

4. (DOSH 1/01) Amend Part 7, Section 7-3089 (d). In accordance with Section 18931 (a) and within 120 days from receipt of adopted standards, the California Building Standards Commission filed approved amendment with the Secretary of State on March 15, 2002, effective April 14, 2002.

5. (DOSH 2/01) Amend Part 7, Section 7-3011, 7-3120.1 and 7-3122.0. Approved as submitted by the California Building Standards Commission on March 20, 2002, and filed with the Secretary of State on March 27, 2002. Effective April 25, 2002.