

# ASME A17.1 2005 Oregon Amendments

**ASME A17.1 2004 Oregon Amendments**  
Effective April 1, 2005

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## ELEVATOR SAFETY CODE FOR NEW AND ALTERED INSTALLATIONS

Amendments to ASME A17.1 prepared by the Building Codes Division, Elevator Safety Program and effective April 1, 2005.

The intent of these amendments is to provide clarity, alleviate conflicts with other standards or to provide additional safety requirements where none are currently provided in model code language.

Conventions used with these amendments.

Language printed in *italics* within a requirement indicates model code language and is provided to clearly associate any amendments with the remaining model code language.

The term following each rule title in italics and in parenthesis indicates the following:

**(added)**: A new rule was added to the model code language in sequence. The new rule number will not appear in the model code.

**(appended)**: Language was added to an existing rule. The model code language will appear in italicized print for reference.

**(revised)**: The model code language was changed to provide clarity, alleviate conflicts with other standards adopted in Oregon or to provide additional safety precautions not addressed in the model code language.

**(deleted)**: The model code language was not adopted by Oregon.

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**PART 2 – Electric Elevators**

**2.1 Construction of Hoistways and Hoistway Enclosures**

**2.1.1 Hoistway Enclosures** *(added)*

*Hoistway enclosures shall conform to 2.1.1.1, 2.1.1.2 or 2.1.1.3.*

The interior surface of all hoistway enclosures shall be substantially smooth without sharp edges or protrusions (screws, nails, sheet metal edges, open framework, etc.). Drywall screws or similar fastenings penetrating the inside hoistway wall, in order to maintain structural integrity, shall be guarded in such a manner as to prevent personal injury. In all other cases, the screws or similar fastenings shall be flush with the interior surface of the hoistway enclosure.

**2.1.4 Control of Smoke and Hot Gases**

*(added)*

*When required by the building code, hoistways shall be provided with means to prevent the accumulation of smoke and hot gases.*

*Where air pressurization of the hoistway is utilized as a means of smoke and hot gas control, the air shall not be introduced into the hoistway in such a manner as to cause erratic operation by impingement of traveling cables, selector tapes, governor ropes, compensating ropes, and other components sensitive to excessive movement or deflection.*

Where smoke-doors are installed directly in front of hoistway entrances the following shall apply:

- (a) they shall not be mechanically fastened to the entrance frames; and
- (b) they shall not prevent egress from, or access to, the elevator car.

**2.2 Pits**

**2.2.4.5 Access to Pit Equipment** *(added)*

Where elevated pit equipment requires vertical access of more than 1220-mm (48-in.), a permanent non-combustible working platform shall be provided. The platform's height and

surface area shall be determined by the equipment requiring access. Access to the platform shall be by fixed ladder or stair. The platform shall be of sufficient strength to support personnel and may be of open grillwork. Platform railings, where required, shall comply with ANSI 1264.1.

**2.2.5.4 Lighting Fixtures.** *(added)*

Lighting fixtures shall be of the type that will not enable the use of lamps that will generate an output less than that necessary to produce minimum illumination levels.

**2.2.5.5 Measuring Illumination Levels** *(added)*

Illumination measurements shall be taken in the direction of the light source.

**2.7 Machine Rooms and Machinery Spaces**

**2.7.2.1 Equipment in Machine Rooms and Working Clearances Around Machinery.**

*(added)*

*(a) Only machinery and equipment used in conjunction with the function or use of the elevator shall be permitted in elevator machine rooms, machine spaces, control rooms or control spaces.*

(b) Drains shall not be installed in elevator machine rooms, machinery spaces, control rooms or control spaces.

(c) Security interface panels and relays used only in conjunction with elevator control shall be permitted to be installed in elevator machine rooms, machine spaces, control rooms or control spaces. No other part of the security system is permitted to be installed in these spaces.

**2.7.2.2 Maintenance Clearance** *(added)*

**2.7.2.2.1** A clear path of not less than 600-mm (24-in.) shall be provided to all components that require maintenance.

**2.7.2.2.2** A clearance of not less than 600-mm (24-in.) shall be provided in the direction(s) required for maintenance access.

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**2.7.2.2.3 Elevated Work Platforms (added)**

Where elevated machine room equipment requires vertical access of more than 1220-mm (48-in.), a permanent non-combustible working platform shall be provided. The platform's height and surface area shall be determined by the equipment requiring access. Access to the platform shall be by fixed ladder or stair. Fixed ladders shall conform to ANSI A14.3. The platform shall be of sufficient strength to support personnel and may be of open grillwork. Platform railings, where required, shall comply with ANSI 1264.1.

produce a stair that complies with this requirement.

Angle of Stair	Rise	Tread Run
30° 35'	165mm (6½")	280mm (11.0")
32° 08'	170mm (6¾")	273mm (10¾")
33° 41'	178mm (7.0")	267mm (10½")
35° 16'	184mm (7¼")	260mm (10¼")
36° 52'	190mm (7½")	255mm (10.0")
38° 29'	197mm (7¾")	248mm (9¾")
40° 08'	200mm (8.0")	240mm (9½")
41° 44'	210mm (8¼")	235mm (9¼")
43° 22'	216mm (8½")	228mm (9.0")
45° 00'	222mm (8¾")	222mm (8¾")
46° 38'	228mm (9.0")	216mm (8½")
48° 16'	235mm (9¼")	210mm (8¼")
49° 54'	240mm (9½")	200mm (8.0")

**2.7.3.2.2 Access Across Roofs (revised)**

(a) Where the passage is over a roof, an unobstructed, permanent, and substantial walkway not less than 600-mm (24-in.) wide, shall be provided from the building roof access door to the access door for the machine room(s) or machinery space(s), control rooms or control spaces..

(b) A guard rail shall be provided adjacent to the walkway where the roof slope exceeds 15 degrees from horizontal or where the walkway passes within 3000 mm (120 in.) of a roof edge or other roof opening. The guard rail shall be placed on the side sloping away from the walkway or between the walkway and the roof opening or edge as applicable. Guard railings shall conform to ANSI A1264.1.

(c) Access routes shall be adequately illuminated so as to clearly indicate the access route to the machine room(s) machinery space(s), control rooms or control spaces.

Stair treads and platforms shall be reasonably slip-resistant. Standard railings shall be provided on both sides of any stair with a width of 1100 mm (43 in.) or less and with four or more risers. For stairways wider than 1100mm (43 in.), only one handrail is required, preferably on the right hand side, descending. Railings shall comply with Section 2.10.

*Note: where the stair to the machine room or machinery space is also an egress stair, the stair must comply with the requirements of the building code.*

**2.7.3.3.6 Exceptions to Stairways (added)**

Vertical ladders with handgrips shall be permitted to be used in lieu of stairs under the following conditions:

(a) Access to an overhead machinery space is less than 2440-mm (96-in.) from floor level and access to the overhead machinery space is from within the machine room; or

(b) In existing buildings where installation of a stair would require alterations to structural elements or the stair would obstruct an egress corridor.

Fixed ladders, when installed, shall be provided with a means for safely transporting tools and maintenance materials to and from the

**2.7.3.3 Means of Access. (amended)**

**2.7.3.3.4** Permanent, noncombustible stairs shall be provided and conform to following regulations for industrial stairs regarding slope, width, run and rise, and handrails.

The stair shall be a minimum of 560 mm (22 in.) in width. Fixed stairs shall be not less than 30° nor more than 50° from horizontal. A uniform combination of rise and tread dimensions shall be permitted to be used. The following table gives permissible run and rise dimensions that will

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upper machinery level. The means shall be operable from the top and bottom of the ladder.

Where the access door or panel is through the side of the machinery space, the ladder shall terminate at a landing conforming to ANSI A14.3, Section 6.

**2.7.3.4.4 Access Doors and Openings (added)**

The area in front of all access doors to machine rooms, machinery spaces, control rooms and control spaces shall be kept unobstructed. A minimum horizontal clearance of 1220-mm (48-in.) shall be maintained in front of access doors. In no case shall the unobstructed access space be less than the width of the door plus 150-mm (6-in.) on either side of the door. The 150-mm (6-in.) clearance does not apply where a building wall intersects near the door frame at right angles.

Where building equipment (columns, ducts, pipes, etc.) encroach on the dimensions in this rule, all edges or corners below 2000-mm (78-in.) shall be protected to prevent injury.

**2.7.3.4.5 Machine Room Door Sign (added)**

Each elevator machine room, machinery space, control room, or control space not located within the machine room, shall have a sign posted on the outside of the access door or as may be applicable for building signage. The sign shall read: **“Authorized Personnel Only - Storage or Installation of Equipment Not Pertaining to the Elevator is Prohibited”**. Letters shall be not less than 10-mm (3/8-in.) high and shall be of a contrasting color to the background. Signs shall be permanently fastened to the door or adjacent surface with tamper-resistant fasteners at a nominal height from finished floor of 1525-mm (60-in.). Signs, frame mountings and window inserts, if provided, shall be of a durable, non-breakable material.

**2.7.5.1 Lighting (appended)**

*Permanent electric lighting shall be provided in all machine rooms, machinery spaces, control rooms and control spaces. The illumination shall be not less than 200 lx (19 fc) at the floor level.*

*The lighting control switch shall be located within easy reach of the access to such rooms or spaces. Where practicable, the light control switch shall be located on the lock-jamb side of the access door.*

The illumination shall be reasonably distributed over the entire floor area where access to equipment is required.

Illumination measurements shall be taken in the direction of the light source .

Lighting fixtures shall be of the type that will not enable the use of lamps with a light output less than that necessary to produce minimum illumination levels.

**2.7.5.2 Temperature and Humidity (appended)**

*Machine rooms shall be provided with natural or mechanical means to keep the ambient air temperature and humidity in the range specified by the elevator equipment manufacturer to ensure safe and normal operation of the elevator. The temperature and humidity range shall be permanently posted in the machine room.*

Where no manufacturer's specifications are available, the machine room temperature shall be maintained within a temperature range between 13° C (55° F) and 38° C (100° F).

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**2.8 Equipment in Hoistways and Machine Rooms**

**2.8.1.4 Limitations for Electrical Equipment and Wiring in Hoistways and Machine Rooms. (added)**

**2.8.1.4.1** Wiring installed for the purposes indicated in this rule are only to enter hoistways, machine rooms, machinery spaces, control rooms, and control spaces to the extent necessary to provide for proper installation of the device(s) attached thereto. Hoistways, machine rooms, machinery spaces, control rooms, and control spaces are not to be used as a chase for raceways or conduits that do not pertain to the direct operation of the elevator.

**2.8.1.4.2 Machine Room Lighting Panels (added)**

Where a service panel is located in the machine room for providing 110vac circuits for machine room, pit and car lighting and receptacles, conduits are allowed to run from the machine room to the hoistway.

**2.8.2.3.2 Pipes, Ducts, Tanks and Sprinklers (appended)**

*In jurisdictions not enforcing the NBCC, means shall be provided to automatically disconnect the main line power supply to the affected elevator upon or prior to the application of water from sprinklers located in the machine room or in the hoistway more than 600 mm (24 in.) above the pit floor. This means shall be independent of the elevator control and shall not be self-resetting. The activation of sprinklers outside of the hoistway or machine room shall not disconnect the main line power supply.*

The installation of the device shall comply with NFPA 72. The means shall be located in the elevator control room or control space as applicable. The device shall not be activated by loss of main power to the building or feeder circuit.

**2.14 Car Enclosures, Car Doors and Gates, and Car Illumination**

**2.14.2.7 Car Interior Handrails (added)**

All passenger elevators required to be accessible shall be provided with a minimum of one handrail inside the elevator car located preferably on the rear car panel. The configuration of the handrail shall comply with the applicable accessibility standards of the building code. Where not regulated by the building code, ADAAG or ANSI/ICC A117.1 shall be used for accessibility requirements.

**2.14.7.1.4 Illumination of Cars and Lighting Fixtures (appended)**

*Each elevator shall be provided with an electric light and convenience outlet fixture on the car top.* Where pendant style work lights are provided, an additional stationary light fixture shall be provided. A single switch shall be used to activate both lights. Lamps shall be suitably guarded with wire or plastic guards specifically designed for the fixtures provided.

The illumination shall not be less than 50 lx (5 fc). Illumination shall be as evenly distributed as possible over the entire car top.

Illumination measurements shall be taken in the direction of the light source.

**2.20.11 Other Suspension Means (added)**

The suspension means shall be either coated steel belts, aramid fiber or other types approved by the authority having jurisdiction. Other suspension means shall be permitted to be used providing they comply with the following requirements.

- (a) Requirement 2.20.2, Wire Rope Data
- (b) Requirement 2.20.3, Factor of Safety
- (c) Requirement 2.20.4, Minimum Number and Diameter of Suspension Means. The diameter of the suspension means shall be permitted to deviate to accommodate other configurations of suspension means.
- (d) Requirement 2.20.9; Suspension-rope Fastening. The suspension-rope fastening

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shall be permitted to deviate from this section so as to be compatible with the suspension means. The strength and durability of the suspension-rope fastening device shall not diminish the safety factor of the suspension means.

**2.26 Operating Devices and Control Equipment**

**2.26.12.5 Car Operating Fixtures and Hall Fixtures** *(added)*

Each passenger elevator required to be accessible shall be provided with car and hall operating fixtures in accordance with the applicable accessibility requirements of the building code. Where not regulated by the building code, ADAAG or ANSI/ICC A117.1 shall be used for accessibility requirements.

**2.27 Emergency Operation and Signaling Devices**

**2.27.1.1.4 Car Emergency Signaling Devices** *(revised first paragraph)*

An intercom or telephone capable of being activated from a point outside the elevator shall be provided and be located at a readily accessible point outside the hoistway that is available to emergency personnel. One master control station may be used to connect all elevators under common group control. The device shall be within sight of the elevators served.

*(see 2.27.1.1.4(a)-(d) for additional requirements).*

**2.27.1.1.3** *(appended)*

*(j)*Telephone lines, where provided, are not required to be dedicated. However, the failure or use of any single device, including other elevator communication devices, connected to the same telephone line shall not render any remaining elevator telephone(s) inoperative.

**2.27.3.2 Phase I Emergency Recall Operation by Fire Alarm Initiating Devices** *(revised)*

*2.27.3.2.1 In jurisdictions not enforcing the NBCC, fire alarm initiating devices shall be installed in conformance with the requirements of NFPA 72, and shall be located*

*(a) at each floor served by the elevator except as modified in this requirement;*

*(b) in the associated elevator machine room; and*

*(c) in the elevator hoistway, when required by NFPA 72.*

*(d)* Fire alarm initiating devices are not required in elevator lobbies exposed directly to the outside atmosphere. Where provided, they must operate as required by Section 2.27.3.

*(e)* Where an elevator has fire alarm initiating devices located only in the elevator machine room, hoistway, or both locations, and the building is not provided with a fire alarm control panel, the fire alarm control unit shall be permitted to be omitted, providing the elevator operation defaults to Phase I Emergency Recall Operation if either fire alarm initiating device or its related circuit fails.

*(f)* Fire alarm panels, annunciators and associated wiring shall not be installed in elevator machine rooms or control spaces. Only panels and relays necessary to directly interface with the elevator control, shall be permitted to be installed in elevator machine rooms or control spaces.

*(g)* In existing buildings with an existing fire alarm control system that is not capable of supervising detectors used for elevator recall, fire alarm initiating devices specific to elevator recall shall be permitted to be connected to a separate control unit.

*(h)* Annunciator panels used to supervise fire alarm initiating devices used for elevator recall are required to be located in an area of the building where the panel can be readily seen and heard.

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**PART 3 HYDRAULIC ELEVATORS**

**3.7 Machine Rooms and Machinery Spaces**

**3.7.2 Location of Machine Rooms** *(added)*

Wherever practical, machine rooms shall be located within a nominal radius of 6.0-m (20-ft.) from the hoistway. Access routes from hoistways to machine room doors shall be as direct as possible and not be inhibited by multiple locked doors.

**3.7.3 Governor Access for Roped Hydraulic Elevators** *(added)*

Access to governors, when provided, shall be made possible from outside the hoistway. Access doors and panels shall comply with 2.7.3.4.

Governor access panels shall be permitted to be omitted if the governor is capable of being set and reset from outside the hoistway.

**3.19 Valves, Pressure Piping and Fittings**

**3.19.4.1.1 Additional Supply Line Shutoff Valve** *(added)*

Notwithstanding the seismic valve required by 8.4.11.2, an additional supply line shutoff valve is required in the elevator pit.

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**Part 4 Elevators with Other Types of Driving Machines**

**4.3 Hand Elevators** *(deleted)*

Pursuant to the exclusions in ORS 460.035, Section of Part 4.3 is not adopted.

**Part 5 Special Application Elevators**

**5.2 Limited Use Limited Application Elevators Limitations** *(added)*

Note: Limited Use/Limited Access (LULA) elevators shall only be allowed as provided in the provisions of the Oregon Structural Specialty Code (OSSC). It is understood that this elevator type does not currently meet the accessibility standards adopted in the Oregon Structural Specialty Code and therefore is normally limited to use in existing churches and private membership clubs. LULA elevators shall be permitted to be used in other existing facilities providing it qualifies for use under the building code and is approved for use by the local jurisdiction.

This code section shall not obviate any accessibility requirements of the Americans with Disabilities Act or the OSSC.

**5.2.1.27 Emergency Operations and Signaling Devices** *(added)*

Emergency operation and signaling devices shall conform to 2.27, except as modified by this requirement.

**5.2.1.27.1** The elevator shall comply with 2.27.3.1 through 2.27.3.2.

**5.3 Private Residence Elevators**

**5.3.3 Machine and Control Rooms / Machinery and Control Spaces** *(added)*

**5.3.3.1** Separate machine rooms are not required for residential elevator installations. Where provided, they shall comply with 5.3.3.1.1 to 5.3.3.1.3.

**5.3.3.1.1** The enclosure shall be large enough to provide electrical and working clearances as required by **NFPA 70**.

**5.3.3.1.2** Permanent electrical lighting shall be provided in the room to clearly illuminate all equipment within the room.

**5.3.3.1.3** The room shall be provided with a door that is capable of being locked when the room is not occupied.

**5.3.3.2** Elevator machines and controllers installed in hoistways shall comply with 5.3.3.2.1 through 5.3.3.2.4.

**5.3.3.2.1** A means of access from outside the hoistway shall be provided for maintenance and repairs.

**5.3.3.2.2** The size and location of the access panel(s) shall be sufficient to permit maintenance and repairs to the equipment without requiring complete bodily entry into the hoistway.

**5.3.3.2.3** Access panels shall not be located in the ceiling of the hoistway.

**5.3.3.2.4** The access panel(s) shall be provided with an electric contact that prevents operation of the elevator unless all panels are closed and locked.

**5.3.3.1.4** Controllers shall not be mounted directly above machines unless they are an integral part of a machine/controller assembly.

**5.4 Private Residence Inclined Elevators**

**5.4.17 Machine and Control Rooms / Machinery and Control Spaces** *(added)*

Machine and control rooms and machinery and control spaces shall comply with Section 5.3.3 as applicable.

**5.9 Mine Elevators** *(deleted)*

Pursuant to the exclusions in ORS 460.035, this section is not adopted.

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**5.11 Correction Facility Elevators** *(added)*

(Formerly 918-400-020)

**5.11.1 Scope**

Elevators governed under this section of the code are intended to be used in correctional facilities for the transport of inmates. These elevators are under sole control by the correctional facility staff and as such, are allowed to modify certain requirements where security and personnel safety are necessary.

These minimum safety standards must be approved by the division before implementation.

Correctional facility elevators shall comply with the applicable requirements of ASME A17.1 2004 except as modified herein.

**5.11.2 Operation and Control**

**5.11.2.1 In-car Emergency Stop Switches**

In-car emergency stop switches as required by 2.26.2, shall be permitted to be omitted where the following conditions are provided:

**5.11.2.1.1** Continually monitored by audio-visual equipment; and

**5.11.2.1.2** Remotely controlled from a single location.

**5.11.2.2 Emergency Signaling Devices**

Emergency signaling devices are not required where the elevator complies with the conditions of 5.11.2.

**5.11.2.3 Fire Service Operation**

Fire service operation shall be provided as required by 2.27.3 except as modified by this Rule.

**5.11.2.3.1** Phase I Emergency Recall Operation shall comply with 2.27.3.1.

**5.11.2.3.2** Phase II Emergency In-Car Operation may be controlled from a remote location provided the elevator complies with

**5.11.2.1** In all other aspects the elevator shall operate as required by 2.27.3.3.

**5.11.3 Pit and Machinery Space Access**

Pit access shall comply with 2.2.4 except as modified by this Rule.

Access to pits and machinery spaces shall be provided with a positive key-locking device on the pit door. The locking device must be designed so the door cannot be closed from the inside if the lock is engaged. The pit doors shall be kept closed and locked when not in use. Pits shall only be accessible by elevator personnel.

Where pits are only accessible from the lowest landing, access shall comply with 2.2.4.

**5.11.4 Hoistway Access**

Hoistway doors are not required to allow manual opening from inside the elevator car at the landing if;

**5.11.4.1** The door operation is controlled at a single location; and

**5.11.4.2** The elevator car position is indicated at the monitoring station.

**5.11.5 Emergency Doors**

Emergency doors required by 2.11.6 are not required if the elevator is located in a high security area.

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**PART 7 - Dumbwaiter and Material Lifts**

**General** *(added)*

Pursuant to ORS 460.035 all references to hand powered dumbwaiters are not adopted.

**7.1 Power and Hand Dumbwaiters without Automatic Transfer Devices**

**7.1.7.4 Machine Rooms and Machinery Spaces** *(appended)*

*Requirement 2.7.3.1 does not apply. A means of access to the dumbwaiter machine rooms and overhead machinery spaces shall be provided from outside the hoistway for elevator personnel.*

A permanent stair or ladder is required when the machinery is located within the hoistway and the uppermost part of the access panel is located 2440-mm (96-in.) or more above a landing. Design and installation of fixed ladders shall comply with ANSI A14.3. Stairs, when provided, shall comply with 2.7.3.3.4.

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## 8.6 Maintenance, Repair, and Replacement

*Requirement 8.6 applies to maintenance, repairs and replacements.*

It is the intent of this section to ensure that the original design and safe operation of the equipment are preserved through a regimen of periodic maintenance, testing and repair.

Where equipment indicates a deviation from the original design or operation, corrections shall be made to restore the equipment to comply with the applicable safety standards at the time of installation or alteration.

Broken or excessively worn parts shall be replaced as soon as practical providing no personal injury potential exists.

### 8.6.1 General Requirements

#### 8.6.1.2.3 General Maintenance Requirements

*(added)*

Unless otherwise specified in this code, all areas governed by this rule shall be kept a minimum of broom clean. Hoistway ledges, sills, beams, machinery, and machinery spaces shall not accumulate debris, lint, oil or dust.

Rags and other maintenance-related combustibles shall be kept in suitable metal containers or as required by the local fire prevention authority.

Powders or similar substances used as an oil absorbent shall not be allowed to accumulate in machinery spaces or pits.

Minor accumulation of debris is permitted to collect in the elevator pit between regular maintenance visits. This minor accumulation shall not exceed that which can readily be collected in a 19-l (5-gal) container.

#### 8.6.1.6.2 Lubrication *(appended)*

*All parts of the machinery and equipment requiring lubrication should be lubricated at regular periodic intervals with lubricants of a grade recommended by the manufacturer.*

*Alternative lubricants shall be permitted when intended lubrication effects are achieved.*

*All excess lubricant shall be cleaned from the equipment. Containers used to catch leakage*

*shall not be allowed to overflow.*

Rags or other materials not specifically designed for oil absorption shall not be left in or under gear-reduction-unit drip pans, machines, pits, or other areas where oil may potentially accumulate.

Once saturated, materials specifically designed for oil absorption shall be properly discarded and shall be permitted to be renewed as necessary.

*Note: saturation is considered to have occurred when the oil absorption material can no longer contain liquid.*

#### 8.6.1.6.3 Disabled Control Circuit Wiring

*(appended)*

*(a) though (e), see model code language*

(f) Disconnected wires shall be properly insulated from any point of electrical contact and identified by their previous controller connection designation. Wires or control components not intended for future use or rendered unnecessary due to circuit modifications shall be completely removed from the control circuit.

### 8.6.3 Replacements

#### 8.6.3.1.1 Replacements Necessitated by Obsolescence *(added)*

Repairs of existing equipment requiring materials or parts of a different design, due to obsolescence of direct replacement parts, shall not be considered an alteration unless the repair involves a change of an entire certified, listed, or structural assembly (e.g., controller, machine and drive motor, door and door frame, car or counterweight frame). New electrical parts must be properly listed or certified as required by ASME A17.1 and related codes.

#### 8.6.5 Maintenance of Hydraulic Elevators

#### 8.6.5.5 Additional Requirements – Drip Pans *(added)*

Hydraulic machine drip pans shall be kept clean and dry. Minor accumulation is allowed between regularly scheduled maintenance visits but in no case shall the drip pan be allowed to

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accumulate more than 19-l (5 gal.) or to the point of overflow. (Reference;  $144 \text{ in}^3 = 0.62 \text{ gallons}$  or 3.1 liters).

Rags or other materials not specifically designed or recommended for oil absorption shall not be left in or under hydraulic machine drip pans, pits, or other areas where oil may potentially accumulate.

Once saturated, materials specifically designed for oil absorption shall be properly discarded and be renewed as necessary.

*Note: saturation is considered to have occurred when the oil absorption material can no longer hold and contain liquid.*

#### **8.6.5.8 Safety Bulkhead (amended)**

Hydraulic elevator cylinders without safety bulkheads, shall be monitored each month for loss of hydraulic fluid. Any unexplained loss of hydraulic fluid shall require compliance with the following:

- (a) *Hydraulic cylinders installed below ground shall conform to 3.18.3.4, or the car shall be provided with safeties conforming to 3.17.1 and guide rails, guide rail supports, and fastenings conforming to 3.23.1; or*
- (b) A plunger gripper conforming to Section 3.17.3.

### **8.6.7 Maintenance of Special Application Elevators**

#### **8.6.7.3 Private Residence Elevators (revised)**

Pursuant to ORS 460.035, private residential elevators are not required to be inspected except for the initial installation. Therefore, maintenance requirements are at the discretion of the owner.

#### **8.6.7.9 Mine Elevators (revised)**

Pursuant to ORS 460.035, references to mine elevators are not adopted. Maintenance requirements 8.6.7.9.1 through 8.6.7.9.3 are at the discretion of the owner.

### **8.6.8 Maintenance of Escalator and Moving Walks (revised)**

#### **8.6.8.14 Cleaning (added)**

The interior of escalators, moving walks, and their components shall be cleaned to prevent an accumulation of oil, grease, lint, dirt, and refuse. The frequency of the cleaning will depend on service and conditions, but in no case shall the frequency between internal cleanings be more than 24 months. The maintenance contractor is required to contact the area inspector prior to returning the unit to service and while the unit is still open for an internal inspection.

*Note: inspectors must receive sufficient advanced notice to schedule internal inspections. This advanced notice should not be less than one calendar week (7-days).*

#### **8.6.10.1 Firefighters' Emergency Operation (revised)**

Firefighters' emergency operation shall be tested at least once each calendar quarter. Fire alarm initiating devices associated with Phase I Emergency Recall Operation shall be tested at least once each calendar year in conjunction with one of the quarterly tests.

The quarterly test shall include response to the Phase I key operation and at least a one floor run to determine if Phase II is operating properly. Fire alarm initiating device testing shall be performed to determine if the elevator(s) will still properly respond to a detector activation.

*A record of findings shall be available to elevator personnel and the authority having jurisdiction.*

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**8.7 - Alterations**

**8.10- Acceptance Inspections and Tests**

**8.7.1.1 Applicability of Alteration Requirements** *(appended)*

*(a) through (c); see model code language*

(d) Complete replacement to all of the following shall cause the entire installation to comply with the applicable requirements for a new installation:

- (1) hoistway entrances;
- (2) car enclosures and car doors or gates;
- (3) drive machines or pump units; and
- (4) controllers or type of control.

**8.7.1.9 Seismic and Accessibility Requirements** *(added)*

(a) Applicable seismic requirements of Section 8.4 shall apply to any equipment being altered.

(b) Applicable accessibility requirements as required by the Oregon Structural Specialty Code, shall apply to any equipment being altered.

**8.7.2.14.5 Car Operating Fixtures** *(added)*

Where an alteration involving fire service operation is performed and the car operating fixtures are not altered, Req. 2.27.3.3.7 and 2.27.3.3.8 are not required. All other fire service operation requirements must comply with the Section 2.27.3.

**8.7.3.23 Hydraulic Equipment** *(revised)*

8.7.3.23.1 *Hydraulic Jack. Where the alteration involves the installation of a hydraulic jack, it shall conform to 3.18 and 8.4.11.2.*

**8.7.3.23.7 Installation of a New Hydraulic Power Unit** *(added)*

Where the alteration involves the installation of a new hydraulic power unit, it shall also conform to the requirements of 8.4.11.2, 8.4.11.3 and 8.4.11.6.

**8.10.1.1.3 Persons Authorized to Make Acceptance Inspections and Tests.** *(revised)*

The inspector shall meet the qualification requirements and be certified as required by the authority having jurisdiction.

**8.10.1.4 Test Weights** *(added)*

Unless otherwise specified in this code all tests for new or altered equipment shall require the use of test weights to verify design lifting capacity, pressure relief settings, capabilities of car safety mechanisms and structural integrity.

**8.11.1 Periodic Inspections and Tests**

**8.11.1.1 Persons Authorized to Make Periodic Inspections and Tests.** *(revised)*

Except where otherwise provided in this standard, elevator personnel shall perform all required tests and inspections. Elevator personnel shall meet the qualification requirements and be licensed as required by the authority having jurisdiction.

**8.11.1.1.2 Periodic Tests** *(revised)*

(a) Periodic tests shall be permitted to be witnessed by an inspector when deemed necessary by the authority having jurisdiction,.

*(b) see model code language.*

**8.11.1.3 Periodic Inspection and Test Frequency** *(revised)*

*The frequency of periodic inspections and tests shall be established by the authority having jurisdiction.*

The intervals for inspections and tests performed in Oregon shall be as according to **ASME A17.1,2004**, Appendix N.

**8.11.1.7 Safety Test Logs** *(added)*

All maintenance and test logs shall be posted in plain view in the elevator machine room. Logs shall indicate the individual or licensed elevator contractor performing the tests and the most recent month and year of such tests.

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**8.11.2 Periodic Inspection and Tests of  
Electric Elevators**

**8.11.3 Periodic Inspection and Tests of  
Hydraulic Elevators**

**8.11.2.2 Periodic Test Requirements –  
Category One**

**8.11.3.2 Periodic Test Requirements –  
Category One**

**8.11.2.2.10 Seismic Devices. (added)**

**8.11.3.2.6 Seismic Valves. (added)**

The following shall be tested a minimum of once in each 12 months from date of installation and shall not exceed manufacturer's instructions:

Seismic valves shall be re-tested & sealed whenever the seal has been removed or broken.

- (a) Seismic switch;
- (b) Counterweight Derailment switch;
- (c) Elevator operation in response to the activation of a seismic sensing device as required by 8.4.10.1.1.

Seismic valves shall have the adjusting means sealed and tagged. The tag shall indicate the date of the most recent test and the licensed elevator contractor performing such tests. Any re-adjustment shall cause the seal to break or will give visual indication that the adjustment has been altered.

The results of tests shall be kept in a log located in the elevator machine room and posted in plain view. The log shall show, as a minimum, the most recent date the test was performed and name of the licensed elevator contractor or qualified individual performing the tests.

**8.11.2.2.11 Rope Brakes. (added)**

Rope brakes shall be tested annually and tagged by the licensed elevator contractor performing the test. The tag shall indicate the name of the contractor or qualified technician performing the test and the most recent month and year of the test. Rope brakes shall be tested using the manufacturer's instructions as the minimum requirements.