

- **2007 Minnesota Elevator Code Significant Changes**

- In prior editions of this code, IBC Chapter 30, Elevators and Conveying Systems, was deleted.
 - With amendments, Chapter 30 is now part of the Minnesota Elevator Code.
- ASME Safety Code for Elevators and Escalators A17.1 from 1996 to 2004 with 2005 A17.1a Addenda and supplement A17.1S.
- ASME A17.3 Safety Code for existing Elevators from 1996 to 2002.
- ASME A17.5 Elevator and Escalator Electrical Equipment from 1996 to 2004.
- ASME A18.1 Safety Standard for Platform Lifts and Stairway Chairlifts.
 - ASME moved Lifts from A17.1 - 1996 to A18.1 in 1999.
 - Minnesota is Adopting the A18.1 - 2005 version.
- ASME A90.1 Safety Standard for Belt Manlifts.
 - Change in edition from 1997 to 2003.
- ASME B20.1 Safety Standard for Conveyors and Related Equipment. B20.1.
 - Change in edition from 1997 to 2003.
- Part 1307.0045, Special Provisions, is renumbered 1307.0047
 - Rooftop elevators, which were previously prohibited, are now allowed, however conditioned space must be provided.
- **Retroactive provisions** (also see attached codes)
 - Subpart 8, Retroactive code **Safety Bulkhead**
 - Cylinders on hydraulic elevators must have a safety bulk head.
 - Hydraulic cylinders installed prior to 1972 must be replaced.
 - All work must be completed in 60 mo. starting 1/29/07. End date 1/29/12.
 - 1/29/08, 12 months from adoption date 1/29/07 – documented monitoring of oil use until replacement of cylinder is complete.
 - **Restricted Opening of Hoistway Doors and Cars**
 - All work must be completed in 60 mo. starting 1/29/07. End Date 1/29/12
 - **Fire Service**, must meet the requirements of ASME A17.1 -1987
 - Applies to elevators with travel of 25' or more.
 - Phase I Emergency Recall.
 - Requires smoke detectors in lobbies & machine rooms.
 - Phase II Emergency In Car Operation.
 - All work must be completed in 60 mo. starting 1/29/07. End date 1/29/12.

- **Escalators** related to friction and side step skirt entrapment.
 - Limits clearance between step and skirt.
 - Limits skirt deflection.
 - Limits roughness of skirt.
 - Testing and repairs must be completed in 36 months starting 1/29/07. End date 1/29/10.
- Subpart 16, Newly constructed parking ramps or new construction in existing parking ramps.
 - Elevators installed in a newly constructed parking ramp or new construction in an existing parking ramp shall be installed so safe operating temperature for people and elevator equipment is maintained.
- Elevator pit drain, ASME A17.1 2004 2.2.2.4 is amended by adding a paragraph to read as follows:
 - An elevator pit drain must discharge into a sanitary sewer line that precludes the possibility of sewage backup into the pit. If a sump is used, it must be located outside the pit with a dry pan drain flowing to it. The sump for the elevator pit drain must not be located in the elevator equipment room.
- Related FIRE/ Building Code Provisions
- Minnesota amendments to Fire & Building Codes will match.
 - **Fire sprinklers** are prohibited in elevator shafts, elevator pits or elevator machine rooms.
 - This means **heat detectors and shunt trip** disconnects will no longer be required.
- Subpart 3, General Requirements. ASME A17.1-2004 is amended by adding the following to the end of the section:
 - Access to elevator equipment space shall not be through any toilet room.
- Subpart 4 is amended by adding the following to the end of the section:
 - Raised surfaces intended as working spaces surrounding equipment shall have 72 inches clear headroom measured from the working surface.
- Amendments to IBC Chapter 30
 - 3001.2 Referenced Standards-defers to Minnesota Chapter 1307
 - 3001.3 Accessibility- to Minnesota Chapter 1341
 - 3001.4 Change in use-to Minnesota Chapter 1307
 - 3002.1.2 Hardware – Deleted section
- 3002.4 Elevator Car to Accommodate Ambulance Stretcher.

This information can be provided to you in alternative formats (Braille, large print or audio tape).

- Where elevators are provided in buildings four or more stories above grade plane or four or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a *24-inch by 84-inch ambulance stretcher in the horizontal, open position* and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.
- Elevator car to accommodate ambulance stretcher. Exception: When approved by the authority having jurisdiction, passenger elevators to be installed in existing buildings where existing hoistway configuration or technical infeasibility prohibits strict compliance with the minimum inside car size, the minimum inside car area may be reduced to not less than 48" x 48".
- Changes from previous code:
 - **Stretcher size** was 24" x 76" – now is 24" x 84".
 - The change means the size of net platform is increased from approximately 6'8" x 4'3" to 7'4" x 5'8".
 - Approximate capacity of 2500lbs to 4000lbs.
 - Result is a larger hoistway is needed.
- **Pit ladder** changes
 - Ladders shall extend to 48 inches above the sill level (was 42 inches).
 - Ladder rungs shall be 16 inches wide (was 12 inches).
 - A clear distance from center of rung to nearest obstruction in back of ladder shall not be less than 4.5 inches (Minnesota policy).
- Access to pit:
 - Shall be accessible to elevator personnel only
 - Elevator personnel are persons who have been trained in the construction, maintenance, repair or testing of equipment.
 - Refuge space: Red White Striped. Danger Low Clearance Sign.
- **Security** - Four groups of assigned key access.
 - Group 1 Restricted (access to elevator personnel) shall have access to all four groups via key box in equipment room.
 - Keys for pit, hoistway doors and switches, etc.
 - Group 2 Authorized Personnel for access and operation of equipment.
 - Machine room door, openings to facilitate cleaning.
 - Group 3 Emergency Operation
 - Emergency/standby power switch, Phase 1 emergency recall, Phase 2 emergency in-car operation switch.
 - Group 4 Other
 - Private residence operation switch.

- “Fire Dept”
 - Key box located in elevator lobby on main egress floor with Group 3 keys.

- “Elevator Personnel Only”
 - Group 1, 2 and 3 keys in a black box located in the elevator machine room.
 - Key for this box shall be uniformly keyed throughout the state (key # MN 4176).

- **Annual Inspections**
 - Periodic inspection and test frequency are stated in Amendments to ASME MN N-1 table.
 - Most testing will be included at yearly or five year intervals.
 - Construction elevators: Elevators used during construction shall be inspected every 3 months.

- Car top
 - Car top **emergency exit electrical device** required.
 - 42 inch high standard railing required when there is 12 inches or more from outside edge of car to adjacent hoistway enclosure.

- Machine Rooms
 - Roof access stairway with swinging door and platform at roof level. **Hatch covers prohibited** as a means of access to roof.
 - Temperature and humidity range specified by the elevator equipment manufacturer shall be posted in equipment room.
 - A **permanent means of communication** between the elevator car and remote machine room and/or control room shall be provided.

- Machine Room Less Elevators
 - A17.1S-2005 is the code book for Machine Room Less elevators (MRL’s), however does not address suspension means.

- Suspension means
 - The ASME supplement addressing suspension means is not published and has not been adopted by the State of Minnesota, therefore no alternative rope styles allowed in Minnesota.

- Hoistway door unlocking device
 - Previously prohibited at floors above bottom landing in Minnesota.
 - ASME A17.1 requires the unlocking devices, at all floors. Minnesota Elevator Code amends ASME A17.1 to allow floors above bottom landing to have hoistway door unlocking devices, when required by ASME, provided they are locked with keyed plugs. Bottom floor remains the same allowing unlocking device without keyed access.

- Two Way Communication (elevator phone)
 - If a call from the elevator car is not answered **within 30 seconds** by an onsite location, call shall be directed to another location manned by authorized personnel.
 - The two-way communication means within the car shall comply with the following requirements:
 - (a) Conform to ASME A117.1 (accessibility code).
 - (b) Activated by a push button labeled “Help”.
 - (d) Provide information on location of elevator.
 - (h) Shall not be transmitted to automated answering machine. Call must be answered by authorized personnel (i.e. trained personnel).

- **Where the elevator travel is more than 60 feet:**
 - The means shall enable emergency personnel within the building to establish two-way voice communications to each car individually.
 - Two-way voice communication shall be established without any intentional delay and shall not require intervention by a person within the car.
 - The means shall override communications to outside of the building.
 - Means to establish communication with each car without any intentional delay shall not require any action by the car occupant.
 - Shall only be able to be disconnected by emergency personnel.

MN retroactive 1307 codes:

Subp. 8. **All work required for compliance with ASME A17.1-2004 8.6.5.8 Safety Bulkhead.** All work required for compliance with ASME A17.1-2004 8.6.5.8 must be completed within 60 months of January 29, 2007. Failure to complete the work within the required time period will result in the elevator being removed from service until such work has been completed.

Starting 12 months after January 29, 2007, until the elevator complies with ASME A17.1-2004 8.6.5.8, the owner or owner's agent must annually submit a notarized statement that an oil usage log is being properly utilized by the owner or owner's agent or elevator maintenance company and that the elevator has successfully passed the annual tests required by ASME A17.1-2004 8.11.3.2.1 and 8.11.3.2.2. A copy of the test report shall be included with the statement.

Subp. 9. **All work required for compliance with ASME A17.1-2004 8.6.5.8 Bulkhead Material Transfer Device.** Elevators shall not be converted to a material transfer device (vertical reciprocating conveyor) without meeting the requirements of ASME A17.1-2004 8.6.5.8, Safety Bulkhead. A material transfer device shall comply with ASME B20.1-2003.

Subp. 10. **All work required for compliance with ASME A17.3-2002 2.7.4 Restricted Opening of Hoistway Doors and Car Doors on Passenger Elevators.** All work required for compliance with ASME A17.3-2002 2.7.4 must be completed within 60 months of January 29, 2007. Failure to complete the work within the required time period will result in the elevator being removed from service until such work has been completed.

Subp. 11. **All work required for compliance with ASME A17.3-2002 3.11.3 Firefighter's Service.** All work required for compliance with ASME A17.3-2002 3.11.3 must be completed within 60 months of January 29, 2007. Failure to complete the work within the required time period will result in the elevator being removed from service until such work has been completed.

Exception: Existing elevators with phase one emergency recall installed without phase two firefighters service on the original installation may remain in operation without the addition of phase two fire service where there is travel from the designated level of less than 35 feet. For such elevators with a travel of more than 25 feet from the designated level, to be exempt from the requirement for phase two fire service, recall of the elevator shall be from the smoke detector at each elevator landing, the elevator equipment room, and the elevator key switch at the designated landing.

Subp. 12. **All work required for compliance with ASME A17.3-2002 4.3.3 Hydraulic Elevators.** All work required for compliance with ASME A17.3-2002 4.3.3 must be completed within 60 months of January 29, 2007. Failure to complete the work within the required time period will result in the elevator being removed from service until such work has been completed.

Starting 12 months after January 29, 2007, until the elevator complies with ASME A17.3-2002 4.3.3, the owner or owner's agent must submit annually on a notarized statement that an oil usage log is being properly utilized by the owner or owner's agent or elevator maintenance company and that the elevator has successfully passed annual tests required by ASME A17.1-2004 8.11.3.2.1 and 8.11.3.2.2. A copy of the test report shall be included with the statement.

Subp. 13. **ASME A17.1-2004 8.10.4.1.1(p)(5) Clearance between step and skirt (load gap) and ASME A17.1-2004. 8.10.4.1.1(t) step/skirt index.** Where an existing escalator or moving walk requires alteration to comply with ASME A17.1-2004 6.1.3.3.7 and ASME A17.1-2004 8.6.8.3, all work must be completed within 36 months of January 29, 2007. This 36-month period to achieve compliance only applies to those escalators that fail to meet the test requirements of the referenced rule. Failure to complete the required work within the applicable time period will result in the escalators being removed from service until such work has been completed.