CHAPTER 30

ELEVATORS AND CONVEYING SYSTEMS

SECTION 3001
GENERAL

3001.1 [Comm 62.3001 (1)] Scope. This chapter governs the design, construction, installation, alteration and repair of elevators, dumbwaiters, escalators, moving walks and their components.

3001.2 [Comm 62.3001 (2)] Referenced standards. Except as otherwise provided for in this code, the design, construction, installation, alteration, repair and maintenance of elevators, dumbwaiters, escalators, moving walks and their components shall comply with ch. Comm 18.

3001.3 Accessibility. Passenger elevators required to be accessible by Chapter 11 shall conform to ICC A17.1.

3001.4 [Comm 62.3001 (3)] Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with ch. Comm 18.

SECTION 3002
HOISTWAY ENCLOSURES

3002.1 Hoistway enclosure protection. Elevator, dumbwaiter and other hoistway enclosures shall have a fire-resistance rating not less than that specified in Chapter 6 and shall be constructed in accordance with Chapter 7.

3002.1.1 Opening protectives. Openings in hoistway enclosures shall be protected as required in Chapter 7.

3002.1.2 Hardware. Hardware on opening protectives shall be of an approved type installed as tested, except that approved interlocks, mechanical locks and electric contacts, door and gate electric contacts, and door-operating mechanisms shall be exempt from the fire test requirements.

3002.2 Number of elevator cars in a hoistway. Where four or more elevator cars serve all or the same portion of a building, the elevators shall be located in at least two separate hoistways. Not more than four elevator cars shall be located in any single hoistway enclosure.

3002.3 Emergency signs. An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall read: IN FIRE EMERGENCY, DO NOT USE ELEVATOR. USE EXIT STAIRS. The emergency sign shall not be required for elevators that are part of an accessible means of egress complying with Section 1003.2.13.3.

3002.4 [Comm 62.3002] Elevator car to accommodate ambulance stretcher. At least one elevator shall be provided for fire department emergency access to all floors in all buildings four stories in height or more, and, regardless of the number of stories, in all outpatient clinics specified in IBC Section 304.1 and in all nursing homes and hospitals as specified in IBC Section 308.3. Such elevator car shall be of such a size and arrangement to accommodate a 24-inch by 76-inch (610 mm by 1930 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services, which is the 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.

3002.5 Emergency doors. Where an elevator is installed in a single blind hoistway or on the outside of a building, such elevator shall be installed in the blind portion of the hoistway or blank face of the building, an emergency door in accordance with ASME A17.1.

3002.6 Prohibited doors. Doors, other than hoistway doors and the elevator car door, shall be prohibited at the point of access to an elevator car unless such doors are readily openable from the car side without a key, tool, special knowledge or effort.

3002.7 Common enclosure with stairway. Elevators shall not be in a common shaft enclosure with a stairway.

[F] SECTION 3003
EMERGENCY OPERATIONS

3003.1 Standby power. In buildings and structures where standby power is required or furnished to operate an elevator, the operation shall be in accordance with Section 3003.1.1 through 3003.1.4.

3003.1.1 Manual transfer. Standby power shall be manually transferable to all elevators in each bank.

3003.1.2 One elevator. Where only one elevator is installed, the elevator shall automatically transfer to standby power within 60 seconds after failure of normal power.

3003.1.3 Two or more elevators. Where two or more elevators are controlled by a common operating system, all elevators shall automatically transfer to standby power within 60 seconds after failure of normal power where the standby power source is of sufficient capacity to operate all elevators at the same time. Where the standby power source is not of sufficient capacity to operate all elevators at the same time, all elevators shall transfer to standby power in sequence, return to the designated landing and disconnect from the standby power source. After all elevators have been returned to the designated level, at least one elevator shall remain operable from the standby power source.

3003.1.4 Venting. Where standby power is connected to elevators, the machine room ventilation or air conditioning shall be connected to the standby power source.

3003.2 Fire-fighters' emergency operation. Elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1.
SECTION 3004
HOISTWAY VENTING

3004.1 Vents required. Hoistways of elevators and dumbwaiters penetrating more than three stories shall be provided with a means for venting smoke and hot gases to the outer air in case of fire.

Exceptions:

1. In occupancies of other than Groups R-1, R-2, I-1, I-2 and similar occupancies with overnight sleeping quarters, venting of hoistways is not required where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

2. Sidewalk elevator hoistways are not required to be vented.

3004.2 Location of vents. Vents shall be located below the floor or floors at the top of the hoistway, and shall open either directly to the outer air or through noncombustible ducts to the outer air. Noncombustible ducts shall be permitted to pass through the elevator machine room provided that portions of the ducts located outside the hoistway or machine room are enclosed by construction having not less than the fire protection rating required for the hoistway. Holes in the machine room floors for the passage of ropes, cables or other moving elevator equipment shall be limited so as not to provide greater than 2 inches (51 mm) of clearance on all sides.

3004.3 Area of vents. Except as provided for in Section 3004.3.1, the area of the vents shall not be less than 3/12 percent of the area of the hoistway nor less than 3 square feet (0.28 m²) for each elevator car, and not less than 3/4 percent nor less than 0.5 square foot (0.047 m²) for each dumbwaiter car in the hoistway, whichever is greater. Of the total required vent area, not less than one-third shall be of the permanently open type unless all vents activate upon detection of smoke from any of the elevator lobby smoke detectors.

Comm 62.3004 (1) Vent guards. A ventilation opening in a hoistway wall, where provided, shall have guards securely anchored to the supporting structure inside the hoistway. The guards shall consist of a wire-mesh screen of at least 0.0915-inch-diameter steel wire with openings that will reject a ball 1-inch (25.4 mm) in diameter, or expanded metal screen of equivalent strength and open area.

3004.3.1 Reduced vent area. Where mechanical ventilation conforming to the International Mechanical Code is provided, a reduction in the required vent area is allowed provided that all of the following conditions are met:

1. The occupancy is not in Group R-1, R-2, I-1 or I-2 or of a similar occupancy with overnight sleeping quarters.

2. The vents required by Section 3004.2 do not have outside exposure.

3. The hoistway does not extend to the top of the building.

4. The hoistway and machine room exhaust fan is automatically reactivated by thermostatic means.

5. Equivalent venting of the hoistway is accomplished.

3004.4 Closed vents. Closed portions of the required vent area shall consist of windows or duct openings glazed with annealed glass not more than 0.125 inch (3.2 mm) thick.

3004.5 [Comm 62.3004 (2)] Plumbing and mechanical systems.

(a) General. Except as specified in par. (b), plumbing and mechanical systems shall not be located in an elevator shaft.

(b) Elevator pits. Drains or sumps complying with ss. Comm 82.33 and 82.36 shall be provided in elevator pits. Connection of these drains and sumps to a sanitary system is prohibited.

SECTION 3005
CONVEYING SYSTEMS

3005.1 General. Escalators, moving walks, conveyors, personnel hoists and material hoists shall comply with the provisions of this section.

3005.2 Escalators and moving walks. Escalators and moving walks shall be constructed of approved noncombustible and fire-retardant materials. This requirement shall not apply to electrical equipment, wiring, wheels, handrails and the use of Vf-2-inch (0.9 mm) wood veneers on balustrades backed up with noncombustible materials.

3005.3 Conveyors. Conveyors and conveying systems shall comply with ASME B20.1.

3005.3.1 Enclosure. Conveyors and related equipment connecting successive floors or levels shall be enclosed with fire barrier walls and approved opening protectives complying with the requirements of Section 3002 and Chapter 7.

3005.3.2 Conveyor safety devices. Power-operated conveyors, belts and other material-moving devices shall be equipped with automatic limit switches which will shut off the power in an emergency and automatically stop all operation of the device.

3005.4 Personnel and material hoists. Personnel and material hoists shall be designed utilizing an approved method that accounts for the conditions imposed during the intended operation of the hoist device. The design shall include, but is not limited to, anticipated loads, structural stability, impact, vibration, stresses and seismic restraint. The design shall account for the construction, installation, operation and inspection of the hoist tower, car, machinery and control equipment, guide members and hoisting mechanism. Additionally, the design of personnel hoists shall include provisions for field testing and maintenance which will demonstrate that the hoist device functions in accordance with the design. Field tests shall be conducted upon the completion of an installation or following a major alteration of a personnel hoist.
SECTION 3006
MACHINE ROOMS

3006.1 **Access.** An approved means of access shall be provided to elevator machine rooms and overhead machinery spaces.

Comm 62.3006 (1) Note: See ch. Comm 18 for additional machine room access requirements.

3006.2 **Venting.** Elevator machine rooms that contain solid-state equipment for elevator operation shall be provided with an independent ventilation or air-conditioning system to protect against the overheating of the electrical equipment. The system shall be capable of maintaining temperatures within the range established for the elevator equipment.

3006.3 **Pressurization.** The elevator machine room serving a pressurized elevator hoistway shall be pressurized upon activation of a heat or smoke detector located in the elevator machine room.

Comm 62.3006 (2) Exception: An elevator machine room which serves a pressurized elevator hoistway and which is not directly connected to the pressurized elevator shaft is not required to be pressurized.

3006.4 **Machine rooms and machinery spaces.** Elevator machine rooms and machinery spaces shall be enclosed with construction having a fire-resistance rating not less than the required rating of the hoistway enclosure served by the machinery. Openings shall be protected with assemblies having a fire-resistance rating not less than that required for the hoistway enclosure doors.

3006.5 **Shunt trip.** Where elevator hoistways or elevator machine rooms containing elevator control equipment are protected with automatic sprinklers, a means installed in accordance with NFPA 72, Section 3-8.15, Elevator Shutdown, shall be provided to disconnect automatically the main line power supply to the affected elevator prior to the application of water. This means shall not be self-resetting. The activation of sprinklers outside the hoistway or machine room shall not disconnect the main line power supply.

3006.6 [Comm 62.3006 (3)] **Plumbing systems.** Plumbing systems not used in connection with the operation of the elevator may not be located in elevator equipment rooms.
CHAPTER 31
SPECIAL CONSTRUCTION

SECTION 3101
GENERAL

3101.1 Scope. Provisions of this chapter shall govern special building construction including membrane structures, temporary structures, pedestrian walkways and tunnels, awnings and canopies, marquees, signs, and towers and antennas.

Comm 62.3100

(1) Assembly seating facilities. Every bleacher, grandstand, or other assembly seating facility that is intended primarily to support persons for the purpose of spectator seating shall be inspected at least annually. Any loose connections and any defective or broken members shall be repaired before the facility is used. All repairs and maintenance shall conform with this code.

(2) Public mausoleums. Public mausoleums structures shall be designed, constructed and maintained in accordance with this code. Mausoleums shall be classified as a Group S-1 storage occupancy and shall be constructed of reinforced concrete or other materials of similar durability.

Note: Section 157.12 (2) (d), Wisconsin Stats., reads as follows: "A mausoleum shall be constructed to last as long as possible, taking into consideration the technology and economics applicable to mausoleum construction at the time of construction."

SECTION 3102
MEMBRANE STRUCTURES

3102.1 General. The provisions of this section shall apply to air-supported, air-inflated, membrane-covered cable and membrane-covered frame structures, collectively known as membrane structures, erected for a period of 180 days or longer. Those erected for a shorter period of time shall comply with the International Fire Code. Membrane structures covering water storage facilities, water clarifiers, water treatment plants, sewage treatment plants, greenhouses and similar facilities not used for human occupancy, are required to meet only the requirements of Sections 3102.3.1 and 3102.7.

3102.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein:

AIR-INFLATED STRUCTURE. A building where the shape of the structure is maintained by air pressure on the skin to form a barrel vault over the usable area. Occupants of such a structure do not occupy the pressurized area used to support the structure.

AIR-SUPPORTED STRUCTURE. A building wherein the shape of the structure is attained by air pressure and occupants of the structure are within the elevated pressure area. Air-supported structures are of two basic types:

Double skin. Similar to a single skin, but with an attached liner that is separated from the outer skin and provides an air space which serves for insulation, acoustic, aesthetic or similar purposes.

Single skin. Where there is only the single outer skin and the air pressure is directly against that skin.

CABLE-RESTRAINED, AIR-SUPPORTED STRUCTURE. A structure in which the uplift is resisted by cables or webbings which are anchored to either foundations or dead men. Reinforcing cable or webbing is attached by various methods to the membrane or is an integral part of the membrane. This is not a cable-supported structure.

MEMBRANE-COVERED CABLE STRUCTURE. A nonpressurized structure in which a mast and cable system provides support and tension to the membrane weather barrier and the membrane imparts structural stability to the structure.

MEMBRANE-COVERED FRAME STRUCTURE. A nonpressurized building wherein the structure is composed of a rigid framework to support a tensioned membrane which provides the weather barrier.

NONCOMBUSTIBLE MEMBRANE STRUCTURE. A membrane structure in which the membrane and all component parts of the structure are noncombustible.

3102.3 Type of construction. Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers, is not required to be flame-resistant.

3102.3.1 Membrane and interior liner material. Membranes and interior liners shall be either noncombustible as set forth in Section 703.4, or flame-resistant as determined in accordance with NFPA 701 and the manufacturer's test protocol.

Exception: Plastic less than 20 mil (500 mm) in thickness used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers, is not required to be flame-resistant.

3102.4 Allowable floor areas. The area of a membrane structure shall not exceed the limitations set forth in Table 503, except as provided in Section 506.
3102.5 *Maximum height.* Membrane structures shall not exceed one story nor shall such structures exceed the height limitations in feet set forth in Table 503.

**Exception:** Noncombustible membrane structures serving as roofs only.

3102.6 *Mixed construction.* Membrane structures shall be permitted to be utilized as specified in this section as a portion of buildings of other types of construction. Height and area limits shall be as specified for the type of construction and occupancy of the building.

3102.6.1 *Noncombustible membrane.* A noncombustible membrane shall be permitted for use as the roof or as a skylight of any building or atrium of a building of any type of construction provided it is at least 20 feet (6096 mm) above any floor, balcony or gallery.

3102.6.1.1 *Flame-resistant membrane.* A flame-resistant membrane shall be permitted to be used as the roof or as a skylight on buildings of Types IIB, III, IV and V construction provided it is at least 20 feet (6096 mm) above any floor, balcony or gallery.

3102.7 *Engineering design.* The structure shall be designed and constructed to sustain dead loads; loads due to tension or inflation; live loads including wind, snow or flood; and seismic loads and in accordance with Chapter 16.

3102.8 *Inflation systems.* Air-supported and air-inflated structures shall be provided with primary and auxiliary inflation systems to meet the minimum requirements of Sections 3102.8.1 through 3102.8.3.

3102.8.1 *Equipment requirements.* This inflation system shall consist of one or more blowers and shall include provisions for automatic control to maintain the required inflation pressures. The system shall be so designed as to prevent over-pressurization of the system.

3102.8.1.1 *Auxiliary inflation system.* In addition to the primary inflation system, in buildings exceeding 1,500 square feet (140 m²) in area, an auxiliary inflation system shall be provided with sufficient capacity to maintain the inflation of the structure in case of primary system failure. The auxiliary inflation system shall operate automatically when there is a loss of internal pressure and when the primary blower system becomes inoperative.

3102.8.1.2 *Blower equipment.* Blower equipment shall meet the following requirements:

1. Blowers shall be powered by continuous-rated motors at the maximum power required for any flow condition as required by the structural design.
2. Blowers shall be provided with inlet screens, belt guards and other protective devices as required to provide protection from injury.
3. Blowers shall be housed within a weather-protecting structure.
4. Blowers shall be equipped with back draft check dampers to minimize air loss when inoperative.
5. Blower inlet shall be located to provide protection from air contamination. The location of inlets shall be approved.

3102.8.2 *Standby power.* Wherever an auxiliary inflation system is required, an approved standby power-generating system shall be provided. The system shall be equipped with a suitable means for automatically starting the generator set upon failure of the normal electrical service and for automatic transfer and operation of all of the required electrical functions at full power within 60 seconds of such service failure. Standby power shall be capable of operating independently for a minimum of 4 hours.

3102.8.3 *Support provisions.* A system capable of supporting the membrane in the event of deflation shall be provided for in air-supported and air-inflated structures having an occupant load of more than 50 or where covering a swimming pool regardless of occupant load. The support system shall be capable of maintaining membrane structures used as a roof for Type I construction not less than 20 feet (6096 mm) above floor or seating areas. The support system shall be capable of maintaining other membranes at least 7 feet (2134 mm) above the floor, seating area or surface of the water.

### SECTION 3103

**TEMPORARY STRUCTURES**

3103.1 *General.* The provisions of this section shall apply to structures erected for a period of less than 180 days. Tents and other membrane structures erected for a period of less than 180 days shall comply with the *International Fire Code*. Those erected for a longer period of time shall comply with applicable sections of this code.

**Exception:** Provisions of the *International Fire Code* shall apply to tents and membrane structures erected for a period of less than 180 days.

3103.1.1 *Permit required.* Temporary structures that cover an area in excess of 120 square feet (11.16 m²), including connecting areas or spaces with a common means of egress or entrance which are used or intended to be used for the gathering together of ten or more persons, shall not be erected, operated or maintained for any purpose without obtaining a permit from the building official.

Comm 62.3103 *Local requirements.* Under IBC Sections 3103.1.1 and 3103.2, the requirements for permits and construction documents for temporary structures are at the option of the local code official.

3103.2 *Construction documents.* A permit application and construction documents shall be submitted for each installation of a temporary structure. The construction documents shall include a site plan indicating the location of the temporary structure and information delineating the means of egress and the occupant load.

3103.3 *Location.* Temporary structures shall be located in accordance with the requirements of Table 602 based on the fire-resistance-rating of the exterior walls for the proposed type of construction.
3103.4 Means of egress. Temporary structures shall conform to the means of egress requirements of Chapter 10 and shall have a maximum exit access travel distance of 100 feet (30480 mm).

SECTION 3104
PEDESTRIAN WALKWAYS AND TUNNELS

3104.1 General. This section shall apply to connections between buildings such as pedestrian walkways or tunnels, located at, above, or below grade level, that are used as a means of travel by persons. The pedestrian walkway shall not contribute to the building area or the number of stories or height of connected buildings.

3104.2 Separate structures. Buildings that are connected in accordance with IBC Section 3104 shall be considered to be separate structures.

3104.3 Construction. The pedestrian walkway shall be of noncombustible construction.

Exception: Combustible construction shall be permitted where connected buildings are of combustible construction.

3104.4 Deleted.

3104.5 Fire barriers between pedestrian walkways and buildings. Walkways shall be separated from the interior of the building by fire barrier walls with a fire-resistance rating of not less than 2 hours. This protection shall extend vertically from a point 10 feet (3048 mm) above the walkway roof surface or the connected building roof line, whichever is lower, down to a point 10 feet (3048 mm) below the walkway and horizontally 10 feet (3048 mm) from each side of the pedestrian walkway. Openings within the 10-foot (3048 mm) horizontal extension of the protected walls beyond the walkway shall be equipped with devices providing a Vf-hour fire protection rating in accordance with Section 714.

Exception: The walls separating the pedestrian walkway from a connected building are not required to have a fire-resistance rating by this section where any of the following conditions exist:

1. The distance between the connected buildings is more than 10 feet (3048 mm), the pedestrian walkway and connected buildings are equipped throughout with an automatic sprinkler system in accordance with NFPA 13, and the wall is constructed of a tempered, wired or laminated glass wall and doors subject to the following:

   1.1. The glass shall be protected by an automatic sprinkler system in accordance with NFPA 13 and the sprinkler system shall completely wet the entire surface of interior sides of the glass wall when actuated.

2. The distance between the connected buildings is more than 10 feet (3048 mm), and both side walls of the pedestrian walkway are at least 50 percent open with the open area uniformly distributed to prevent the accumulation of smoke and toxic gases.

3. Buildings are on the same lot, in accordance with Section 503.1.3.

4. Where exterior walls of connected buildings are required by Section 704 to have a fire-resistance rating greater than 2 hours, the walkway shall be equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.

The previous exceptions shall apply to pedestrian walkways having a maximum height above grade of three stories or 40 feet (12192 mm), or five stories or 55 feet (16764 mm) where sprinklered. The minimum height above grade shall be 8 feet (2438 mm).

3104.6 Public way. Pedestrian walkways over a public way shall also comply with Chapter 32.

3104.7 Egress. Access shall be provided at all times to a pedestrian walkway that serves as a required exit.

3104.8 Width. The unobstructed width of pedestrian walkways shall not be less than 36 inches (914 mm). The total width shall not exceed 30 feet (9144 mm).

3104.9 Exit access travel. The length of exit access travel shall not exceed 200 feet (60960 mm).

Exceptions:

1. Exit access travel distance on a pedestrian walkway equipped throughout with an automatic sprinkler system in accordance with NFPA 13 shall not exceed 250 feet (76200 mm).

2. Exit access travel distance on a pedestrian walkway constructed with both sides at least 50 percent open shall not exceed 300 feet (91440 mm).

3. Exit access travel distance on a pedestrian walkway constructed with both sides at least 50 percent open, and equipped throughout with an automatic sprinkler system in accordance with NFPA 13, shall not exceed 400 feet (122 m).

3104.10 Tunneled walkway. Separation between the tunneled walkway and the building to which it is connected shall not be less than 2-hour fire-resistant construction and openings therein shall be protected in accordance with Table 714.2.

3104.11 Ventilation. Smoke and heat venting shall be provided for enclosed walkways and tunneled walkways. Such venting shall be in accordance with NFPA 204 or other accepted engineering practice.
SECTION 3105
AWNINGS AND CANOPIES

3105.1 General. Awnings or canopies shall comply with the requirements of this section and other applicable sections of this code.

3105.2 Design and construction. Awnings and canopies shall be designed and constructed to withstand wind or other lateral loads and live loads as required by Chapter 16 with due allowance for shape, open construction and similar features that relieve the pressures or loads. Structural members shall be protected to prevent deterioration. Awnings shall have frames of noncombustible material, fire-retardant-treated wood, wood of Type IV sizes, or 1-hour construction with combustible or noncombustible covers and shall be either fixed, retractable, folding or collapsible.

3105.3 Canopy materials. Canopies shall be constructed of a rigid framework with an approved covering, that is flame resistant in accordance with NFPA 701 or that has a flame spread rating not greater than 25 when tested in accordance with ASTM E 84.

SECTION 3106
MARQUEES

3106.1 General. Marquees shall comply with this section and other applicable sections of this code.

3106.2 Thickness. The maximum height or thickness of a marquee measured vertically from its lowest to its highest point shall not exceed 3 feet (914 mm) where the marquee projects more than two-thirds of the distance from the property line to the curb line, and shall not exceed 9 feet (2743 mm) where the marquee is less than two-thirds of the distance from the property line to the curb line.

3106.3 Roof construction. Where the roof or any part thereof is a skylight, the skylight shall comply with the requirements of Chapter 24. Every roof and skylight of a marquee shall be sloped to down spouts that shall conduct any drainage from the marquee in such a manner so as not to spill over the sidewalk.

3106.4 Location prohibited. Every marquee shall be so located as not to interfere with the operation of any exterior standpipe, and such that the marquee does not obstruct the clear passage of stairways or exit discharge from the building or the installation or maintenance of street lighting.

3106.5 Construction. A marquee shall be supported entirely from the building and constructed of noncombustible materials. Marquees shall be designed as required in Chapter 16. Structural members shall be protected to prevent deterioration.

SECTION 3107
SIGNS

3107.1 General. Signs shall be designed, constructed and maintained in accordance with this code.

SECTION 3108
RADIO AND TELEVISION TOWERS

3108.1 General. Subject to the provisions of Chapter 16 and the requirements of Chapter 15 governing the fire-resistance-ratings of buildings for the support of roof structures, radio and television towers shall be designed and constructed as herein provided.

3108.2 Location and access. Towers shall be located and equipped with step bolts and ladders so as to provide ready access for inspection purposes. Guy wires or other accessories shall not cross or encroach upon any street or other public space, or over above-ground electric utility lines, or encroach upon any privately owned property without written consent of the owner of the encroached-upon property, space or above-ground electric utility lines.

3108.3 Construction. Towers shall be constructed of approved corrosion-resistant noncombustible material. The minimum type of construction of isolated radio towers not more than 100 feet (30 480 mm) in height shall be Type IIB.

3108.4 Loads. Towers shall be designed to resist wind loads in accordance with EIA/TIA 222-E. Consideration shall be given to conditions involving wind load on ice-covered sections in localities subject to sustained freezing temperatures.

3108.4.1 Dead load. Towers shall be designed for the dead load plus the ice load in regions where ice formation occurs.

3108.4.2 Wind load. Adequate foundations and anchorage shall be provided to resist two times the calculated wind load.

3108.5 Grounding. Towers shall be permanently and effectively grounded.

SECTION 3109
SWIMMING POOL ENCLOSURES

Comm 62.3109 Note: See ch. Comm 90 for requirements for swimming pool enclosures.
CHAPTER 32
ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY

Deleted
CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION

SECTION 3301
GENERAL
Deleted

SECTION 3302
CONSTRUCTION SAFEGUARDS

3302.1 Remodeling and additions. Required exits, existing structural elements, fire protection devices and sanitary safeguards shall be maintained at all times during remodeling, alterations, repairs or additions to any building or structure.

Exceptions:
1. When such required elements or devices are being remodeled, altered or repaired, adequate substitute provisions shall be made.
2. When the existing building is not occupied.

3302.2 Deleted.

SECTION 3303
DEMOLITION

3303.1 - 3303.4 Deleted.

3303.5 Water accumulation. Provision shall be made to prevent the accumulation of water or damage to any foundations on the premises or the adjoining property.

3303.6 Deleted.

SECTION 3304 - 3306
Deleted

SECTION 3307
PROTECTION OF ADJOINING PROPERTY

Comm 62.3307 Note: Sections 101.111 (1) to (6), Wisconsin Stats., read as follows:

1) DEFINITION. In this section 'excavator' means any owner of an interest in land making or causing to be made an excavation.

2) CAVE-IN-PREVENTION. Any excavator shall protect the excavation site in such a manner so as to prevent the soil of adjoining property from caving in or settling.

3) LIABILITY FOR UNDERPINNING AND FOUNDATION EXTENSIONS.
(a) If the excavation is made to a depth of 12 feet (3658 mm) or less below grade, the excavator may not be held liable for the expense of any necessary underpinning or extension of the foundations of buildings on adjoining properties.
(b) If the excavation is made to a depth in excess of 12 feet (3658 mm) below grade, the excavator shall be liable for the expense of any necessary underpinning or extension of the foundations of any adjoining buildings below the depth of 12 feet (3658 mm) below grade. The owners of adjoining buildings shall be liable for the expense of any necessary underpinning or extension of the foundations of their buildings to the depth of 12 feet (3658 mm) below grade.

4) NOTICE. Unless waived by adjoining owners, at least 30 days prior to commencing the excavation the excavator shall notify, in writing, all owners of adjoining buildings of his or her intention to excavate. The notice shall state that adjoining buildings may require permanent protection. The owners of adjoining property shall have access to the excavation site for the purpose of protecting their buildings.

5) EMPLOYEES NOT LIABLE. No worker who is an employee of an excavator may be held liable for his or her employer's failure to comply with this section.

6) FAILURE TO COMPLY; INJUNCTION. If any excavator fails to comply with this section, any aggrieved person may commence an action to obtain an order under ch. 813 directing such excavator to comply with this section and restraining the excavator from further violation thereof. If the aggrieved person prevails in the action, he or she shall be reimbursed for all his or her costs and disbursements together with such actual attorney fees as may be approved by the court.
CHAPTER 34
EXISTING STRUCTURES

Comm 62.3400 (2) Community-based residential facilities serving 20 or fewer unrelated residents. Where an existing building or portion thereof is converted to a community-based residential facility serving 20 or fewer residents who are not related to the operator or administrator, the building or portion thereof shall be classified as Group R-4. The building or portion thereof shall comply with the provisions of this code that are applicable to a Group R-4 occupancy.

SECTIONS 3401 - 3405
Deleted

SECTION 3406
HISTORIC BUILDINGS


SECTION 3407
MOVED STRUCTURES
Deleted

SECTION 3408
ACCESSIBILITY FOR EXISTING BUILDINGS

3408.1 [Comm 62.3408 (1)] Scope.
(a) General. Except as specified in par. (b), the requirements in Sections 3408.2 to 3408.7.14 apply to maintenance, change of occupancy, additions and alterations to existing buildings, including those identified as historic buildings.

(b) Exception. When dwelling units are remodeled in housing with three or more dwelling units, the dwelling units shall comply with sub. (4). The term "remodeled" has the meaning given in s. 101.132 (1) (h), Stats., and the term "housing" has the meaning given in s. 106.50 (1) (L), Stats.

Note: Under section 101.132 (1) (b), Wisconsin Stats., "remodel" means to substantially improve, alter, extend or otherwise change the structure of a building or change the location of exits, but does not include maintenance, redecoration, re roofing or alteration of mechanical or electrical systems.

Note: Under section 106.50 (1) (L), Wisconsin Stats., "housing" means any improved property, or any portion thereof, including a mobile home as defined in s. 66.0435 (1) (d) or condominium, that is used or occupied, or is intended, arranged or designed to be used or occupied, as a home or residence. "Housing" includes any vacant land that is offered for sale or rent for the construction or location thereon of any building, structure or portion thereof that is used or occupied, or is intended, arranged or designed to be used or occupied, as a home or residence.

3408.2 Maintenance of facilities. A building, facility or element that is constructed or altered to be accessible shall be maintained accessible during occupancy.

3408.3 [Comm 62.3408 (2)] Change of occupancy.
(a) General. Except as specified in par. (b), existing buildings, or portions thereof, that undergo a change of group or occupancy shall have all of the following accessible features:
1. At least one accessible building entrance.
2. At least one accessible route from an accessible building entrance to primary function areas.
4. Accessible parking, where parking is provided.
5. At least one accessible passenger loading zone, when loading zones are provided.
6. At least one accessible route connecting accessible parking and accessible passenger loading zones to an accessible entrance.

(b) Exception. Where it is technically infeasible to comply with the new construction standards for any of these requirements for a change of group or occupancy, the items specified in subs. 1. to 6. shall conform to the requirements to the maximum extent technically feasible. Change of group or occupancy that incorporates any alterations or additions shall comply with par. (a), subs. (3) and (4), and IBC Sections 3408.4, 3408.5, 3408.6 and 3407.

3408.4 Additions. Provisions for new construction shall apply to additions. An addition that affects the accessibility to, or contains an area of primary function, shall comply with the requirements in Section 3408.6 for accessible routes.

3408.5 [Comm 62.3408 (3)] Alterations.
(a) General. A building, facility or element that is altered shall comply with the applicable provisions in ss. Comm 62.1100 to 62.1110 and ICC/ANSI A117.1, unless technically infeasible. Where compliance with this section is technically infeasible, the alteration shall provide access to the maximum extent technically feasible.

(b) Exceptions.
1. The altered element or space is not required to be on an accessible route, unless required by IBC Section 3408.6.
2. Accessible means of egress required by IBC Chapter 10 are not required to be provided in existing buildings or facilities.

3408.5.1 Extent of application. An alteration of an existing element, space, or area of a building or facility shall not impose a requirement for greater accessibility than that which would be required for new construction.
3408.6 Alterations affecting an area containing a primary function. Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities or drinking fountai

3408.7 Scoping for alterations. The provisions of Section 3408.7.1 through 3408.7.14 shall apply to alterations to existing buildings and facilities.
EXISTING STRUCTURES

provided. Where separate sex facilities are provided, accessible rooms for each sex shall be provided. Separate sex facilities are not required where only unisex rooms are provided.

3408.7.11 Check-out aisles. Where check-out aisles are altered in facilities having a selling space of 5,000 square feet (465 m²) or more, at least one check-out aisle serving each function shall be made accessible.

3408.7.12 Dispersion of seating at fixed or built-in tables, counters, or work surfaces. Accessible seating at fixed or built-in tables, counters or work surfaces shall be distributed throughout the space or facility as much as technically feasible.

3408.7.13 Sales and service counters. Where it is technically infeasible for existing counters for sales or distribution of goods or services to be made accessible, an accessible auxiliary counter shall be provided.

3408.7.14 Thresholds. The maximum height of thresholds at doorways shall be ¾ inch (19.1 mm). Such threshold shall have beveled edges on each side.

3408.8 Historic buildings. These provisions shall apply to buildings and facilities designated as historic structures that undergo alterations or a change of occupancy, unless technically infeasible. Where compliance with the requirements for accessible routes, ramps, entrances or toilet facilities would threaten or destroy the historic significance of the building or facility, as determined by the authority having jurisdiction, the alternative requirements of Section 3408.8.1 through 3408.8.5 for that element shall be permitted.

3408.8.1 Site arrival points. At least one accessible route from a site arrival point to an accessible entrance shall be provided.

3408.8.2 Multilevel buildings and facilities. An accessible route from an accessible entrance to public spaces on the level of the accessible entrance shall be provided.

3408.8.3 Entrances. At least one main entrance shall be accessible.

   Exception: If a main entrance cannot be made accessible, an employee or service entrance that is unlocked while the building is occupied shall be made accessible.

   The accessible entrance shall have a notification system or be provided with remote monitoring.

3408.8.4 [Comm 62.3408 (6)] Toilet and bathing facilities. Where toilet rooms are provided, at least one accessible toilet room complying with s. Comm 62.1109 (2) (c) shall be provided.

3408.8.5 Ramps. The slope of a ramp run of 24 inches (610 mm) maximum shall not be steeper than one unit vertical in eight units horizontal (12-percent slope).

Comm 62.3408 (7) Definition. TECHNICALLY INFEASIBLE. An alteration of a building or a facility that has little likelihood of being accomplished because the existing structural conditions require the removal or alteration of a loadbearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modification or addition of elements, spaces or features that are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

SECTION 3409
COMPLIANCE ALTERNATIVES
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CHAPTER 35

REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Section 102.4.

### AA

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# REFERENCED STANDARDS

## AF&PA
American Forest & Paper Association  
1111 19th St, NW Suite 800  
Washington, DC 20036

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## AHA
American Hardwood Association  
1210 West N.W. Highway  
Palatine, IL 60067

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## AISC
American Institute of Steel Construction  
One East Wacker Drive, Suite 3100  
Chicago, IL 60601-2001

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## AISI
American Iron and Steel Institute  
1101 - 17th Street, N.W., Suite 1300  
Washington, DC 20036-4700

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American Institute of Timber Construction  
Suite 140  
7012 S. Revere Parkway  
Englewood, CO 80112

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### ALI
Automotive Lift Institute  
P.O. Box 33116  
Indialantic, FL 32903-3116

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### ANSI
American National Standards Institute  
25 West 43rd Street, Fourth Floor  
New York, NY 10036

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#### AWPA

**American Wood-Preservers' Association**  
P.O. Box 5690  
Grandbury, TX 76049

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#### AWS

**American Welding Society**  
550 N.W. LeJeune Road  
Miami, FL 33126

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#### BHMA

**Builders Hardware Manufacturers' Association**  
355 Lexington Avenue, 17th Floor  
New York, NY 10017-6603

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#### FEMA

Federal Emergency Management Agency
Federal Center Plaza
500 C Street S.W.
Washington, DC 20547

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#### FM

Factory Mutual
Standards Laboratories Department
1151 Boston-Providence Turnpike
Norwood, MA 02062

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#### GA

Gypsum Association
810 First Street N.E. #510
Washington, DC 20002-4268

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<td>Table 719.1(1), Table 719.1(2), Table 719.1(3)</td>
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#### HPVA

Hardwood Plywood Veneer Association
1825 Michael Faraday Drive
Reston, VA 20190-5350

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### NBS

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#### NCMA
National Concrete Masonry Association
2302 Horse Pen Road
Herndon, VA 22071-3499

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National Electrical Manufacturers Association
1 Batterymarch Park
Quincy, MA 02269-9101

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1 Batterymarch Park
Quincy, MA 02269-9101

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<td>Manufacture, Transportation, and Storage of Fireworks and Pyrotechnic Articles</td>
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**PCI**

Precast Prestressed Concrete Institute  
175 W. Jackson Boulevard, Suite 1859  
Chicago, IL 60604-9773

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<td>Design for Fire Resistance of Precast Prestressed Concrete</td>
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**PTI**

Post-Tensioning Institute  
1717 W. Northern Avenue, Suite 114  
Phoenix, AZ 85021

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<td>Design and Construction of Post-tensioned Slabs-on-ground, 2nd Edition</td>
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**RMA**

Rubber Manufacturers Association  
1400 K. Street, N.W. #900  
Washington, DC 20005

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<td>Minimum Requirements for Fabric-reinforced Black EPDM Rubber Sheets</td>
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<td>Rack Manufacturers Institute, 8720 Red Oak Boulevard, Suite 201, Charlotte, NC 28217</td>
<td>Design, Testing and Utilization of Industrial Steel Storage Racks</td>
<td>2210, 1622.3.4</td>
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<td>SAE</td>
<td>Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096</td>
<td>Steel Self Drilling Tapping Screws</td>
<td>2211.2, 2211.3.3</td>
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<td>SJI</td>
<td>Steel Joist Institute, 3127 10th Avenue, North, Myrtle Beach, SC 29577-6760</td>
<td>Standard Specification, Load Tables and Weight Tables for Steel Joists and Joist Girders</td>
<td>1604.3.3, 2206</td>
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<td>SMACNA</td>
<td>Sheet Metal &amp; Air Conditioning Contractors National Assn., Inc., 4201 Lafayette Center Drive, Chantilly, VA 20151</td>
<td>HVAC Duct Construction Standards, Metal and Flexible</td>
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<td>TIA</td>
<td>Telecommunications Industry Association, 2500 Wilson Boulevard, Arlington, VA 22201-3834</td>
<td>Structural Standards for Steel Antenna Towers and Antenna Supporting Structures</td>
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<td>TMS</td>
<td>The Masonry Society, 3970 Broadway, Unit 201-D, Boulder, CO 80304-1135</td>
<td>Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies</td>
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United States Code  
c/o Superintendent of Documents  
U.S. Government Printing Office  
Washington, DC 20402-9325

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Wire Reinforcement Institute, Inc.  
203 Loudon Street, S.W.  
2nd Floor, Suite 203C  
Leesburg, VA 22075
APPENDICES A & B

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APPENDIX C
GROUP U - AGRICULTURAL BUILDINGS

SECTION C101
GENERAL

C101.1 [Comm 62.3600 (2)] Scope. The provisions of IBC Appendix C apply to Group U agricultural buildings, as described in IBC Section C101.1, that are not exempt from this code as outlined in ss. Comm 61.01 and Comm 61.02 (2) and (3).

1. Livestock shelters or buildings, including shade structures and milking barns.
2. Poultry buildings or shelters.
4. Storage of equipment and machinery used exclusively in agriculture.
5. Horticultural structures, including detached production greenhouses and crop protection shelters.
7. Grain silos.
8. Stables.

SECTION C102
ALLOWABLE HEIGHT AND AREA

C102.1 General. Buildings classified as Group U Agricultural Building shall not exceed the area or height limits specified in Table C102.1.

C102.2 One-story unlimited area. The area of a one-story Group U agricultural building shall not be limited if the building is surrounded and adjoined by public ways or yards not less than 60 feet in width.

C102.3 Two-story unlimited area. The area of a two-story Group U agricultural building shall not be limited if the building is surrounded and adjoined by public ways or yards not less than 60 feet (18 288 mm) in width and is provided with an approved automatic sprinkler system throughout in accordance with Section 903.3.1.1.

SECTION C103
MIXED USES

C103.1 Mixed uses. Mixed uses shall be protected in accordance with Chapter 3.

SECTION C104
EXITS

C104.1 Exit facilities. Exits shall be provided in accordance with Chapters 10 and 11.

Exceptions:
1. The maximum travel distance from any point in the building to an approved exit shall not exceed 300 feet (91 440 mm).
2. One exit is required for each 15,000 square feet (1393.5 m²) of area or fraction thereof.

TABLE C102.1—BASIC ALLOWABLE AREA FOR A GROUP U, ONE STORY IN HEIGHT AND MAXIMUM HEIGHT OF SUCH OCCUPANCY

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<th>II</th>
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<th>V</th>
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<tr>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Unlimited</td>
<td>60,000</td>
<td>27,100</td>
<td>18,000</td>
</tr>
<tr>
<td>Unlimited</td>
<td>12</td>
<td>4</td>
<td>2</td>
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ALLOWABLE AREA (square feet)*

MAXIMUM HEIGHT IN STORIES

MAXIMUM HEIGHT IN FEET

For SI: 1 square foot = 0.0929 m².

a. See Section C102 for unlimited area under certain conditions.
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