



Department of Commerce

Division of Industrial Compliance
John R. Kasich, Governor
Andre T. Porter, Director

April 2014

At its meeting on April 4, 2014, the Ohio Board of Building Standards adopted the rule changes identified as Amendments Group 88. These rule amendments were adopted for an **effective date of July 1, 2014.**

Amendments Group 88 included the following amended Ohio Building Code (OBC) rules. For your use, a summary of the changes is provided below and the text of the rules can be found immediately following this coversheet:

Rule Number	OBC Chapter	Chapter Title	Effective date
4101:1-1-01	1	Administration.	July 1, 2014
4101:1-2-01	2	Definitions.	July 1, 2014
4101:1-3-01	3	Use and occupancy classification.	July 1, 2014
4101:1-10-01	10	Means of egress.	July 1, 2014
4101:1-11-01	11	Accessibility.	July 1, 2014
4101:1-13-01	13	Energy efficiency.	July 1, 2014
4101:1-17-01	17	Structural tests and special inspections.	July 1, 2014

Reason for Amendments: **4101:1-1-01** to clarify the exemption for amusement park rides, to clarify that the installing contractor of fire protection systems is to be certified by the State Fire Marshal, to replace product approval language, and to make general editorial corrections; **4101:1-2-01** to amend or add definitions of “Amusement Park Ride”, “Approved Agency”, “Custodial Care”, “Dwelling”, “Dwelling Unit”, “Special Inspection Agency”, and “Special Inspector”; **4101:1-3-01** to clarify applicability of RCO application to Group R-1 and R-2, to amend or add definitions of “Dwelling”, “Dwelling Unit”, and “Custodial Care”, and to make general editorial corrections; **4101:1-10-01** to modify the means of egress width requirements in response to Petition #12-01 and to modify the controlled egress lock provisions for Group I-2 in response to Petition #13-01; **4101:1-11-01** to further update provisions of the chapter consistent with the federal accessibility guidelines; **4101:1-13-01** to modify the 2009 IECC related to fireplace doors, air barriers, and swimming pool accessories; and **4101:1-17-01** to revise and move definition of “Approved Agency”, to add definition of “Special Inspection Agency”, to add definition of “Special Inspector”, to delete Section 1703 and refer to Section 114.3, to clarify Section 1704.1, and to clarify fabricator requirements consistent with new Section 114 and Section 1702.1 definitions.

If you should have any questions regarding these rule changes, please call BBS staff at (614)644-2613.

4101:1-1-01 Administration.**Section 101
General**

101.1 Title. Chapters 4101:1-1 to 4101:1-35 of the Administrative Code shall be designated as the "Ohio Building Code" for which the designation "OBC" may be substituted. The "International Building Code 2009, first printing, Chapters 2 to 35," as published by the "International Code Council, Inc." is used as the basis of this document and is incorporated fully except as modified herein. References in these chapters to "this code" or to the "building code" in other sections of the Administrative Code shall mean the "Ohio Building Code."

101.2 Scope. The provisions of the "Ohio Building Code", the "Ohio Mechanical Code", and the "Ohio Plumbing Code" shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures. As provided in division (B) of section 3791.04 of the Revised Code, no plans or specifications shall be approved or inspection approval given unless the building represented by those plans or specifications would, if constructed, repaired, erected, or equipped according to those plans or specifications, comply with Chapters 3781. and 3791. of the Revised Code and any rules adopted by the board. An owner may exceed the requirements of the "Ohio Building Code" in compliance with section 102.9.

Exceptions:

1. This code applies to detached one-, two-, and three-family dwellings and structures accessory to those dwellings, only to the extent indicated in section 310 of this code.
2. Buildings owned by and used for a function of the United States government.
3. Buildings or structures which are incident to the use for agricultural purposes of the land on which said buildings or structures are located, provided such buildings or structures are not used in the business of retail trade; for the purposes of this section, a building or structure is not considered used in the business of retail trade if fifty per cent or more of the gross income received from sales of products in the building or structure by the owner or operator is from sales of products produced or raised in a normal crop year on farms

- owned or operated by the seller (see sections 3781.06 and 3781.061 of the Revised Code).*
4. *Agricultural labor camps.*
 5. *Type A or Type B family day-care homes, except for the inspection required for licensure by the “Ohio Department of Jobs and Family Services (ODJFS)”. This required inspection shall be conducted by the certified building department having jurisdiction or the division of industrial compliance and labor in accordance with the inspection checklist found on the board of building standard’s website.*
 6. *Buildings or structures which are designed, constructed, and maintained in accordance with federal standards and regulations and are used primarily for federal and state military purposes where the U.S. secretary of defense, pursuant to 10 U.S.C. Sections 18233(A)(1) and 18237, has acquired by purchase, lease, or transfer, and constructs, expands, rehabilitates, or corrects and equips, such buildings or structures as he determines to be necessary to carry out the purposes of Chapter 1803 of the U.S.C.*
 7. *Manufactured homes constructed under “24 CFR Part 3280,” “Manufactured Home Construction and Safety Standards” and within the scope of the rules adopted by the Ohio Manufactured Home Commission.*
 8. *Sewerage systems, treatment works, and disposal systems (including the tanks, piping, and process equipment associated with these systems) regulated by the legislative authority of a municipal corporation or the governing board of a county or special district owning or operating a publicly owned treatment works or sewerage system as stated in division (A) of section 6111.032 of the Revised Code.*
 9. *Building sewer piping.*
 10. *Portable Amusement rides and portable electric generators and wiring supplying carnival and amusement ~~park~~ rides regulated by the Ohio Department of Agriculture pursuant to sections 1711.50 to 1711.57 of the Revised Code.*
 11. *Structures directly related to the operation of a generating plant or major utility facilities regulated by the power siting board. As a condition of the power siting board’s approval, the building department may be requested to*

review and inspect these structures for compliance with the rules of the board of building standards. However, the building department has no enforcement authority.

101.2.1 Appendices. *The content of the appendices to the Administrative Code is not adopted material but is approved by the board of building standards (BBS) and provided as a reference for code users.*

101.3 Intent. *The purpose of this code is to establish uniform minimum requirements for the erection, construction, repair, alteration, and maintenance of buildings, including construction of industrialized units. Such requirements shall relate to the conservation of energy, safety, and sanitation of buildings for their intended use and occupancy with consideration for the following:*

- 1. Performance.** *Establish such requirements, in terms of performance objectives for the use intended.*
- 2. Extent of use.** *Permit to the fullest extent feasible, the use of materials and technical methods, devices, and improvements which tend to reduce the cost of construction without affecting minimum requirements for the health, safety, and security of the occupants of buildings without preferential treatment of types or classes of materials or products or methods of construction.*
- 3. Standardization.** *To encourage, so far as may be practicable, the standardization of construction practices, methods, equipment, material and techniques, including methods employed to produce industrialized units.*

The rules of the board and proceedings shall be liberally construed in order to promote its purpose. When the building official finds that the proposed design is a reasonable interpretation of the provisions of this code, it shall be approved. Materials, equipment and devices approved by the building official pursuant to section 114 shall be constructed and installed in accordance with such approval.

101.4 Referenced codes. *The other codes listed in sections 101.4.1 to 101.4.7 and referenced elsewhere in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference.*

101.4.1 Mechanical. *Chapters 4101:2-1 to 4101:2-15 of the Administrative Code, designated as the “Ohio Mechanical Code,” shall apply to the installation, alterations, repairs, and replacement of mechanical systems, including equipment, appliances, fixtures, fittings and/or appurtenances,*

including ventilating, heating, cooling, air-conditioning and refrigeration systems, incinerators, and other energy-related systems.

101.4.2 Plumbing. *Chapters 4101:3-1 to 4101:3-13 of the Administrative Code, designated as the “Ohio Plumbing Code,” shall apply to the installation, alterations, repairs and replacement of plumbing systems, including equipment, appliances, fixtures, fittings and appurtenances, and where connected to a water or sewerage system and all aspects of a medical gas system.*

101.4.3 Elevator. *The provisions of the “Ohio Elevator Code” (Chapters 4101:5-1 to 4101:5-3 of the Administrative Code) shall apply to the design, construction, repair, alteration and maintenance of elevators and other lifting devices as listed and defined therein.*

101.4.4 Fire prevention. *The provisions of the “Ohio Fire Code” (Chapters 1301:7-1 to 1301:7-7 of the Administrative Code) shall apply to the preventive measures which provide for fire-safe conduct and operations in buildings and includes the maintenance of fire-detection, fire alarm, and fire extinguishing equipment and systems, exit facilities, opening protectives, safety devices, good housekeeping practices and fire drills.*

101.4.5 Boiler. *The provisions of the “Ohio Boiler and Pressure Vessel Rules” (Chapters 4101:4-1 to 4101:4-10 of the Administrative Code) shall apply to the design, construction, repair, alteration and maintenance of boilers and unfired pressure vessels as listed and defined therein.*

Section 102

Applicability and Jurisdictional Authority

102.1 General. *Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.*

102.2 Other laws. *The provisions of this code shall not be deemed to nullify any provisions of state or federal law. Municipal corporations may make further and additional regulations, not in conflict with Chapters 3781. and 3791. of the Revised Code or with the rules of the board of building standards. However approval by the board of building standards of any fixture, device, material, system, assembly or product of a manufacturing process, or method or manner of*

construction or installation shall constitute approval for their use anywhere in Ohio.

102.3 Other rules. *As provided in division (B) of section 3781.11 of the Revised Code, the rules of the board of building standards shall supersede and govern any order, standard, or rule of the divisions of the fire marshal or industrial compliance in the department of commerce, and the department of health and of counties and townships, in all cases where such orders, standards or rules are in conflict with the rules of the board of building standards, except that rules adopted and orders issued by the fire marshal pursuant to Chapter 3743. of the Revised Code prevail in the event of a conflict.*

The rules of the board of building standards adopted pursuant to section 3781.10 of the Revised Code shall govern any rule or standard adopted by the board pursuant to sections 4104.02 and 4105.011 of the Revised Code.

102.4 Application of references. *References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.*

102.5 Referenced codes and standards. *When a reference is made within the building, mechanical, or plumbing codes to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in Chapter 35 of the building code, Chapter 15 of the mechanical code, or Chapter 13 of the plumbing code.*

The codes and standards referenced in the building, mechanical, and plumbing codes shall be considered part of the requirements of these codes as though the text were printed in this code, to the prescribed extent of each such reference. Where differences occur between provisions of these codes and the referenced standards, the provisions of these codes shall apply.

102.6 Partial invalidity. *In the event any part or provision of this code is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions thereof, and it shall be presumed that this code would have been adopted without such illegal or invalid parts or provisions.*

102.7 Existing structures. *The provisions of Chapter 34 shall control the alteration, repair, addition, maintenance, and change of occupancy of any existing structure.*

The occupancy of any structure currently existing on the date of adoption of this code shall be permitted to continue without change provided there are no orders of the building official pending, no evidence of fraud, or no serious safety or sanitation hazard. When requested, such approvals shall be in the form of a "Certificate of Occupancy for an Existing Building" in accordance with section 111.2.

Buildings constructed in accordance with plans which have been approved prior to the effective date of this code are existing buildings.

102.8 Temporary Structures. *The building official is authorized to issue approvals for temporary structures. Such approvals shall be in the form of a "Certificate of Occupancy for a Temporary Building" in accordance with section 111.1.6. This section does not apply to time-limited occupancies in existing structures. See section 111.1.5 for time-limited occupancies.*

102.8.1 Conformance. *Temporary structures shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare. Temporary tents and membrane structures shall also comply with the applicable provisions in section 3103.*

102.8.2 Termination of approval. *The building official is authorized to terminate approval for a temporary structure and to order the temporary structure to be discontinued if conditions of the approval have been violated or the structure or occupancy poses an immediate hazard to the public or occupants of the structure.*

102.9 Non-required work. *Any component, building element, equipment, system or portion thereof not required by this code shall be permitted to be installed as a partial or complete system provided that it is constructed or installed in accordance with this code to the extent of the installation.*

102.10 Work exempt from approval. *Approval shall not be required for the following:*

Building:

- 1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed one hundred twenty square feet (11.15 m²) and playground structures.*

2. *Fences not over six feet (1829 mm) high.*
3. *Oil derricks.*
4. *Retaining walls which are not over four feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or III-A liquids.*
5. *Water tanks supported directly upon grade if the capacity does not exceed five thousand gallons (18 927 L) and the ratio of height to diameter or width does not exceed two to one.*
6. *Sidewalks and driveways not more than thirty inches (762 mm) above grade and not over any basement or story below and which are not part of an accessible route.*
7. *Finishes not regulated by this code, decorating, or other work defined as maintenance or minor repair.*
8. *Temporary motion picture, television and theater stage sets and scenery.*
9. *Window awnings supported by an exterior wall of Group R-3.*
10. *Tents and membrane structures exempted in section 3102.1.1.*

Electrical:

1. *Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.*
2. *Electrical equipment used for radio and television transmissions except equipment and wiring for power supply, and the installations of towers and antennas.*
3. *The installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.*

4. *Electrical wiring, devices, appliances, apparatus or equipment operating at less than twenty-five volts and not capable of supplying more than fifty watts of energy, unless specifically addressed in this code.*
5. *Process equipment and the associated wiring on the load side of the power disconnect to the equipment.*

Gas:

1. *Portable heating appliances;*
2. *Replacement of any part that does not alter approval of equipment or make such equipment unsafe.*
3. *Gas distribution piping owned and maintained by public or municipal utilities and located upstream of the point of delivery.*

Mechanical:

1. *Portable heating appliances;*
2. *Portable ventilation equipment;*
3. *Portable cooling units;*
4. *Replacement of any part which does not alter its approval or make it unsafe;*
5. *Portable evaporative cooler;*
6. *Process equipment and the associated piping. For combination building services/process or power piping systems, the power or process piping located downstream of the control valve which separates the process from the building services piping is exempt from approval.*
7. *Heating and cooling distribution piping installed and maintained by public or municipal utilities.*

Plumbing:

1. *The repair of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drain-pipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and an approval shall be obtained and inspection made as provided in this code.*
2. *The clearance of stoppages or the repair of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.*
3. *Process equipment and the associated piping. For combination building services/process or power piping systems, the power or process piping located downstream of the control valve which separates the process from the building services piping is exempt from approval.*

102.10.1 Emergency repairs. *Where equipment replacements and repairs must be performed in an emergency situation, an application for approval shall be submitted within the next working business day to the building official.*

102.10.2 Minor repairs. *Minor repairs to structures may be made without application or notice to the building official. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.*

102.11 Building department jurisdictional limitations. *A municipal, township, or county building department that has been certified by the board of building standards, pursuant to section 103.2, shall enforce provisions of the rules of the board and of Chapters 3781. and 3791. of the Revised Code, relating to construction, arrangement, and the erection of buildings or parts thereof as defined in the rules of the board in accordance with the certification except as follows:*

1. **Fire.** *The state fire marshal or fire chief of municipal corporations or townships, having fire departments, shall enforce all provisions of the rules of the board relating to fire prevention.*
2. **Health.** *The department of health, or the boards of health of city or general health districts, the division of industrial compliance of the department of commerce, or the departments of building inspection of municipal corporations, townships, or counties shall enforce such provisions relating to sanitary construction.*
3. **Sewerage and drainage system.** *In accordance with Section 3781.03 of the Revised Code, the department of the city engineer, in cities having such departments, the boards of health of health districts, or the sewer purveyor, as appropriate, shall have complete supervision and regulation of the entire sewerage and drainage system of the jurisdiction, including the building sewer and all laterals draining into the street sewers. Such department or agency shall have control and supervision of the installation and construction of all drains and sewers that become a part of the sewerage system of the jurisdiction and shall issue all the necessary permits and licenses for the construction and installation of all building sewers and of all other lateral drains that empty into the main sewers. Such department or agency shall keep a permanent record of the installation and location of every drain and sewerage system of the city.*
4. **Power Generation.** *Structures directly related to the operation of a generating plant or major utility facilities regulated by the power siting board. As a condition of the power siting board's approval, the building department may be requested to review and inspect these structures for compliance with the rules of the board of building standards. However, the building department has no enforcement authority.*
5. **State Projects.** *Certification does not confer any jurisdiction to a certified building department to regulate:*
 - 5.1 *The construction of buildings by the state of Ohio or on land owned by the state of Ohio including, but is not limited to, its agencies, authorities, boards, commissions, administrative departments, instrumentalities, community or technical college districts, but does not include other political subdivisions.*

Exception: *Local school district building projects funded by the Ohio school facilities commission in accordance with Chapter 3318. of the Revised Code where the local certified building department is authorized by the board to regulate construction of school facilities.*

5.2 *Park districts created pursuant to Chapter 1545. of the Revised Code.*

5.3 *The construction of buildings or structures within the scope of the building code on the premises of, and directly related to the operation of, natural gas liquids fractionation or natural gas processing facilities.*

Note: *The lands owned by Miami university in the city of Oxford and Oxford township in Butler County and leased to private individuals or corporations under the land rent provisions of the Act of February 17, 1809, as set forth at 7 Ohio laws 184, are subject to local certified building department jurisdiction and are exempt from these provisions.*

Section 103

Certified building departments, personnel, and appeals boards

Refer to division 4101:7 of the Administrative Code for existing relocated building department, building department personnel, and boards of building appeals certification requirements.

Section 104

Duties and responsibilities

104.1 General. *Personnel of building departments and local boards of appeals that have been certified by the board of building standards, pursuant to section 103, shall be responsible for performing the duties described in this section.*

104.2 Building department personnel duties and responsibilities. *Municipal, township, or county building departments certified by the board shall have personnel qualified to perform the enforcement duties and responsibilities described in this section.*

104.2.1 Building official. *The building official is responsible for the enforcement of the rules of the board and of Chapters 3781. and 3791. of the Revised Code relating to the construction, arrangement, and the erection of buildings or parts thereof. All building officials shall conduct themselves in a professional, courteous, impartial, responsive, and*

cooperative manner. The building official shall render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies, and procedures shall be in compliance with the intent and purpose of this code. Building officials shall be responsible to assure that a system is in place to track and audit all projects, to assure that all building department personnel perform their duties in accordance with this section, and for the overall administration of a building department as follows:

104.2.1.1 Applications and plan approvals. *The building official shall receive applications, require or cause the submitted construction documents to be examined, ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code, and shall issue plan approvals for the construction, erection, alteration, demolition, and moving of buildings and structures.*

104.2.1.1.1 Plan examination by the building official. *When the building department does not have in its full-time employ a certified master plans examiner, the certified building official shall examine construction documents to determine compliance with the rules of the board if the registered design professional elects to submit construction documents that contain a written certification by the registered design professional indicating conformance with the requirements of the rules of the board and Chapters 3781. and 3791. of the Revised Code.*

104.2.1.2 Orders. *The building official shall issue all orders in accordance with section 109 to ensure compliance with this code.*

104.2.1.3 Inspections. *If the plans for the erection, construction, repair, alteration, relocating, or equipment of a building are subject to inspection by the building official, under section 108, the building official shall cause to be made such inspections, investigations, and determinations as are necessary to determine whether or not the work which has been performed and the installations which have been made are in conformity with the approved construction documents.*

Exception: *Special inspections required under section 1704.*

104.2.1.4 Department records. *The building official shall keep official records of applications received, certificates of plan approval issued, notices and orders issued, certificates of occupancy, and other such records required by the rules of the board of building standards. Such information shall be retained in the official permanent record for each project. One set of approved construction documents shall be retained by the building official for a period of not less than one hundred eighty days from date of completion of the permitted work, or as required by document retention regulations.*

104.2.1.5 Department reports. *The building official shall be responsible for the submission of reports and any requested special information to the board of building standards as required in section 103.2.6. Failure to submit these reports as required by rule or by special request or inquiry of the board of building standards may be grounds for board action as described in section 103.3.10.*

104.2.2 Plans Examiners. *A plans examiner is responsible for the examination of construction documents in accordance with section 107, within the limits of their certification, to determine compliance with the rules of the board. All plan examiners shall effectively communicate the results of their plan review as designated by the building official. A plans examiner shall conduct themselves in a professional, courteous, impartial, responsive, and cooperative manner.*

104.2.2.1 Master plans examiner. *A master plans examiner is responsible for the examination of all types of construction documents to determine compliance with the rules of the board, except when the building official examines the construction documents pursuant to section 104.2.1.1.1.*

104.2.2.1.1 Master plans examiner trainee. *A master plans examiner trainee is responsible for the examination of all types of construction documents to determine compliance with the rules of the board under the direct supervision of an individual holding a master plans examiner certification.*

104.2.2.1.2 Electrical plans examiner. *An electrical plans examiner is responsible for the examination of construction documents related to electrical systems to determine compliance with the rules of the board.*

If the department does not have in its employ or under contract persons holding the electrical plans examiner certification, then the examination of the construction documents for compliance with the electrical provisions of the code shall be done by the master plans examiner.

104.2.2.1.3 Plumbing plans examiner. *A plumbing plans examiner is responsible for the examination of construction documents related to plumbing systems to determine compliance with the rules of the board.*

If the department does not have in its employ or under contract persons holding the plumbing plans examiner certification, then the examination of the construction documents for compliance with the plumbing provisions of the code shall be done by the master plans examiner.

104.2.2.1.4 Mechanical plans examiner. *A mechanical plans examiner is responsible for the examination of construction documents related to heating, ventilating, and air conditioning (“HVAC”) systems and the associated refrigeration, fuel gas, and heating piping to determine compliance with the rules of the board.*

If the department does not have in its employ or under contract persons holding the mechanical plans examiner certification, then the examination of the construction documents for compliance with the mechanical provisions of the code shall be done by the master plans examiner.

104.2.3 Inspectors. *An inspector is responsible for performing inspections and determining that work, for which they are certified to make inspections, is performed in compliance with the approved construction documents. All inspectors shall inspect the work to the extent of the approval given when construction documents were approved by the building official and for which the inspection was requested. All inspectors shall effectively communicate the results of their inspections as required by section 108, and shall conduct themselves in a professional, courteous, impartial, responsive, and cooperative manner.*

104.2.3.1 Building inspector. *A building inspector is responsible to determine compliance with the approved construction documents in accordance with section 108.*

A building inspector trainee is designated to determine compliance with approved construction documents, in accordance with section 108, under the direct supervision of an individual holding a building inspector certification.

104.2.3.2 Plumbing inspector. *A plumbing inspector is responsible to determine plumbing system compliance with approved construction documents in accordance with section 108.*

A plumbing inspector trainee is designated to determine plumbing system compliance with approved construction documents, in accordance with section 108, under the direct supervision of an individual holding a plumbing inspector certification.

104.2.3.3 Electrical safety inspector. *An electrical safety inspector is responsible to determine electrical systems compliance with approved construction documents in accordance with section 108.*

An electrical safety inspector trainee is designated to determine electrical systems compliance with approved construction documents, in accordance with section 108, under the direct supervision of an individual holding an electrical safety inspector certification.

104.2.3.4 Elective inspectors. *Building departments may elect to employ inspectors designated as responsible for determining that work, for which they are certified, to make inspections is performed in compliance with approved construction documents.*

104.2.3.4.1 Mechanical inspector. *A mechanical inspector is responsible to determine compliance with the approved construction documents for heating, ventilating and air conditioning (HVAC) systems, and the associated refrigeration, fuel gas, and heating piping systems in accordance with section 108.*

If the department does not have in its employ or under contract persons holding the mechanical inspector certification, then the enforcement of the mechanical provisions shall be done by the

building inspector;

A mechanical inspector trainee is designated to determine compliance with the approved construction documents for heating, ventilating and air conditioning (HVAC) systems, and the associated refrigeration, fuel gas, and heating piping systems, in accordance with section 108, under the direct supervision of an individual holding a mechanical inspector certification.

104.2.3.4.2 Fire protection inspector. *A fire protection inspector is responsible to determine compliance with approved construction documents for fire protection systems (automatic sprinkler systems, alternative automatic fire-extinguishing systems, standpipe systems, fire alarm and detection systems, and fire pump) in accordance with section 108.*

If the department does not have in its employ or under contract persons holding the fire protection inspector certification, then the enforcement of the fire protection provisions shall be done by the building inspector.

104.2.3.4.3 Medical gas piping inspector. *A medical gas piping inspector is responsible to determine compliance with approved construction documents for non-flammable medical gas, medical oxygen, and medical vacuum systems in accordance with section 108.*

If the department does not have in its employ or under contract persons holding a medical gas piping inspector certification, then all enforcement of medical gas piping systems shall be deferred to either of the following: the local health district when that district requests to enforce those piping systems and the district has employed or hired under contract a person holding the medical gas piping inspector certification; or the superintendent of the division of industrial compliance in the department of commerce.

104.2.4 Liability. *Liability of certified building department personnel for any tortious act will be determined by Ohio courts to the applicable provisions of Chapter 2744. of the Revised Code.*

104.3 Certified boards of building appeals duties and responsibilities. *Before performing its duties, a jurisdiction wishing to establish a local board of building*

appeals shall receive certification by the board of building standards as required in section 103.14.

104.3.1 Powers, local boards of building appeals. *Certified municipal and county boards of building appeals shall hear and decide the adjudication hearings referred to in section 109.1 within the jurisdiction of and arising from orders of the local building official in the enforcement of Chapters 3781. and 3791. of the Revised Code and rules adopted thereunder. The orders may be reversed or modified by the board if it finds:*

- 1. The order contrary to such laws or rules;*
- 2. The order contrary to a fair interpretation or application thereof; or*
- 3. That a variance from the provisions of such laws or rules, in a specific case, will not be contrary to the public interest where literal enforcement of such provisions will result in unnecessary hardship.*

104.3.2 State board of building appeals. *The Ohio board of building appeals shall conduct the adjudication hearings in political subdivisions without certified boards or without contracts with certified boards.*

104.3.3 Materials. *A certified board of building appeals may not prohibit the use of materials or assemblages authorized for statewide use by the board of building standards pursuant to section 3781.12 of the Revised Code.*

104.4 Violation of duties. *Any person affected by the improper actions of any building department, building official, plans examiner, inspector, fire protection system designer, or local board of building appeals certified by the board of building standards may file a written complaint with the board. Complaints will be processed by the board in accordance with the procedures outlined in the applicable certification rule found in division 4101:7 of the Administrative Code.*

Section 105

Approvals

105.1 Approvals required. *Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, or change the occupancy of a building or structure, or portion thereof, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, plumbing system, other*

building service equipment, or piping system the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required approval.

105.1.1 Nonconformance approval. *When construction documents are submitted which do not conform with the requirements of the rules of the board, such documents may be approved by the building official provided such nonconformance is not considered to result in a serious hazard and the owner or owner's representative subsequently submits revised construction documents showing evidence of compliance with the applicable provisions of the rules of the board. In the event such construction documents are not received within thirty days, the building official shall issue an adjudication order revoking the plan approval.*

105.1.2 Conditional approval. *When construction documents are submitted which cannot be approved under the other provisions of this rule, the building official, may at the request of the owner or owner's representative, issue a conditional plan approval when an objection to any portion of the construction documents results from conflicting interpretations of the code, or compliance requires only minor modifications to the building design or construction. No conditional approval shall be issued where the objection is to the application of specific technical requirements of the code or correction of the objection would cause extensive changes in the building design or construction. A conditional approval is a conditional license to proceed with construction or materials up to the point where construction or materials objected to by the agency are to be incorporated into the building. The conditions objected to shall be in writing from the building official which shall be an adjudication order denying the issuance of a license and may be appealed in accordance with section 3781.19 of the Revised Code. In the absence of fraud or a serious safety or sanitation hazard, all items previously examined shall be conclusively presumed to comply with Chapters 3781. and 3791. of the Revised Code and the rules of the board. Reexamination of the construction documents shall be limited to those items in the adjudication order. A conditional plan approval is not a phased plan approval.*

105.1.3 Previous approvals. *This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful approval has previously been issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within one year of the approval of construction documents. One extension shall be granted for an additional year if requested by the owner at least ten*

days in advance of the expiration of the approval and upon payment of any fee not to exceed one hundred dollars. If, after the start of construction, work is delayed or suspended for more than six months, the approval is invalid. Two extensions shall be granted for six months if requested by the owner at least ten days in advance of the expiration of the approval and upon payment of any fee for each extension not to exceed one hundred dollars.

105.1.4 Phased approval. *The building official shall issue an approval for the construction of foundations or any other part of a building, structure, or building service equipment before the construction documents for the whole building, structure or building service equipment have been submitted, provided that adequate information and detailed statements have been filed complying with applicable requirements of this code. The holder of such approval for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that an approval for the entire structure will be granted. Such approvals shall be issued for various stages in the sequence of construction provided that all information and data required by the code for that portion of the building or structure has been submitted. The holder of a phased plan approval may proceed only to the point for which approval has been given.*

105.1.5 Annual approval. *In lieu of an individual approval for each alteration to an existing electrical, gas, mechanical, plumbing, or piping installation, the building official may issue an annual approval upon application to any person, firm or corporation regularly employing individuals holding the related board certification in the building, structure or on the premises owned or operated by the applicant for the approval.*

105.1.5.1 Annual approval records. *The person to whom an annual approval is issued shall keep a detailed record of alterations made under such annual approval. The building official shall have access to such records at all times or such records shall be filed with the building official as designated. These records shall include the applicable construction documents in accordance with section 106.1.*

105.2 Validity of approval. *The construction, erection, and alteration of a building, and any addition thereto, and the equipment and maintenance thereof, shall conform to required plans which have been approved by the building official, except for minor deviations which do not involve a violation of the rules of the board. In the absence of fraud or a serious safety or sanitation hazard, any structure built in accordance with approved plans shall be conclusively presumed*

to comply with Chapters 3781. and 3791. of the Revised Code and the rules of the board.

Exception: *Industrialized units shall be constructed to conform to the plans approved by the board.*

105.3 Expiration. *The approval of plans or drawings and specifications or data in accordance with this rule is invalid if construction, erection, alteration, or other work upon the building has not commenced within twelve months of the approval of the plans or drawings and specifications.*

One extension shall be granted for an additional twelve-month period if requested by the owner at least ten days in advance of the expiration of the approval and upon payment of a fee not to exceed one hundred dollars.

105.4 Extension. *If, in the course of construction, work is delayed or suspended for more than six months, the approval of plans or drawings and specifications or data is invalid. Two extensions shall be granted for six months each if requested by the owner at least ten days in advance of the expiration of the approval and upon payment of a fee for each extension of not more than one hundred dollars.*

105.5 Certificate of plan approval. *After plans have been approved in accordance with section 107, the building official shall furnish the owner/applicant a certificate of plan approval.*

105.5.1 Content. *The form of the certificate shall be as prescribed by the building official and shall show the serial number of the certificate, the address at which the building or equipment under consideration is or is to be located, the name and address of the owner, the signature of the building official who issued the certificate, and such other information as is necessary to facilitate and ensure the proper enforcement of the rules of the board.*

105.5.2 Duplicate issued upon request. *Upon application by the owner, the building official shall issue a duplicate certificate of plan approval to replace a lost or destroyed original.*

Section 106

Construction documents

106.1 Submittal documents. *Construction documents, statement of special inspections required and other data shall be submitted in two or more sets with*

each application for an approval. Before beginning the construction of any building for which construction documents are required under section 105, the owner or the owner's representative shall submit construction documents to the building official for approval. When construction documents have been found to be in compliance with the rules of the board of building standards in accordance with section 107 by a certified building department, that determination of compliance shall be deemed sufficient to obtain approval for construction pursuant to section 105.2 and the building official shall issue the certificate of plan approval. Construction documents for the installation of industrialized units shall be submitted to the building official for approval in accordance with the provisions of section 106.1.2(1).

Exception: *No construction documents need be filed with the division of industrial compliance for site installation of industrialized units used exclusively as one-, two-, or three-family dwellings.*

106.1.1 Information on construction documents. *Construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the building official. Construction documents shall be coordinated and of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code. Construction documents, adequate for the scope of the project, shall include information necessary to determine compliance with the building, mechanical, plumbing, fire, electrical, energy, and fuel gas codes such as:*

1. **Index.** *An index of drawings located on the first sheet which shall also include all occupancy classification(s), type(s) of construction, the area in gross square feet for each level, the maximum design occupant load, the structural design loads, and the seismic design category and site class;*
2. **Site plan.** *A site plan showing a north orientation arrow, the size and location of new construction and all existing structures on the site, all property and interior lot line locations with setback and side yard dimensions and distances from buildings to lot lines, the locations of the nearest streets, the established street grades, the locations, types and sizes of all utility lines, the location of any fences, and the elevations of all proposed finished grades; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and*

the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for approval is for alteration or repair or when otherwise warranted.

2.1 Buildings or structures located in flood hazard areas.

Construction documents submitted for buildings or structures located in communities with identified flood hazard areas, pursuant to section 1612, shall include the current FEMA "Flood Hazard Boundary Map" (FHBM), "Flood Insurance Rate Map" (FIRM) or "Flood Boundary Floodway Map" (FBFM) for the project location. The required site plan shall include building elevations using the same datum as the related flood hazard map. The owner shall be responsible for the compliance with local flood damage prevention regulations for additional critical elevation information for the project site.

2.2 Site Accessibility Plan. *Information in plan view and details shall be submitted indicating compliance with the accessibility provisions of this code for the exterior of the building in addition to accessible features of the interior. When applicable, the plans shall include: the exterior accessible route between all facilities required to be connected; ramp locations and elevations along the exterior accessible route; number of and details for the required accessible van and car parking spaces and passenger loading areas; location and detail of required accessibility signage; grade/topographic elevations before and after proposed grading when site impracticality is intended to be applied.*

3. Floor plans. *Building configuration layout drawings with all walls and partitions shown including: plans of full or partial basements and full or partial attics and penthouses, grade elevations at the building perimeter, and references to other details and elevations. Floor plans must show all relevant information such as door swings, stairs and ramps, windows, shafts, all portions of the means of egress, plumbing fixtures, built-in fixtures, special equipment, vertical transportation, etc., and shall be sufficiently dimensioned to describe all relevant space sizes. Spaces shall be identified by appropriate code appellations (an "auditorium" may not be identified as a "meeting room" if its attributes indicate that it is an auditorium). The*

construction documents shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces;

4. **Demolition.** *In the case of demolition, the floor plan shall identify construction to be demolished and the location, arrangement, and dimensions of existing construction that is to remain.*
5. **Roof plan.** *Roof outline, overall dimensions and dimensions of setbacks, slope of roof, drainage, reference to other details, roof materials, penetrations through roof, and roof-mounted equipment;*
6. **Exterior elevations.** *Vertical dimensions, floor-to-floor heights, opening heights, references to other details, floor lines, elevations of major elements, grade lines, foundation lines, material indications and notes, symbols for window schedule, gutters, signs and windows, doors, and all other openings.*
7. **Building sections.** *Vertical dimensions, elevations of the top of structural components and finish floor lines, materials, footings and foundations, reference to other details, ceiling lines, and major mechanical services.*
8. **Exterior building envelope.** *The exterior envelope shall be described in sufficient detail to determine compliance with this code and the referenced standards. Details shall be provided which describe flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves, or parapets, means of drainage, water-resistive membrane details around openings, location and type of vapor retarders, window and door “U”-values, and insulation location and “R”-values. The supporting documentation shall fully describe the exterior wall system, which was tested, where applicable, as well as the test procedure used.*
9. **Wall Sections.** *Face of wall dimensions to other components, vertical dimensions from foundations to parapet relating all elements to top of structural elements, all connection methods, wall, ceiling, floor, foundation, and roof materials and construction details.*
10. **Interior elevations.** *Vertical dimensions to critical elements, references to other details, openings in walls, wall finishes,*

built-in items, and locations of switches, thermostats, and other wall-mounted equipment.

11. **Schedules.** *Information or tables that describe the room finishes, doors, windows, and door hardware and controls. Wall and floor materials shall be described by cross-hatching (with explanatory key), by notation, or by other clearly understandable method.*
12. **Structure.** *Complete structural description of the building including size and location of all structural elements and a table of live, wind, snow, and seismic loads used in the design of the building and other data as required to fully describe the structural system.*
13. **Fire suppression system.** *Areas of protection, fire suppression system occupancy hazard classification, and water supply data.*
14. **Fire-resistance Ratings.** *The fire-resistance ratings of all structural elements as required by this code, data substantiating all required fire-resistance ratings including details showing how penetrations will be made for electrical, mechanical, plumbing, and communication conduits, pipes, and systems, and the materials and methods for maintaining the required structural integrity, fire-resistance rating, and firestopping.*
15. **System descriptions.** *Complete description of the plumbing, mechanical and electrical systems, including: materials, insulation "R"-values, general routing and sizes of all piping; location and type of plumbing fixtures and equipment; plumbing schematics and isometrics; materials, insulation "R"-values, general routing and sizes of all ductwork, vents, and louvers; location and type of heating, ventilation, air conditioning, and other mechanical equipment; location and type of all fire alarm, lighting and power equipment; type and size of all electrical conductors.*
16. **Operations.** *Information shall be provided regarding operations, the types, quantities, and arrangement of flammable, combustible, or hazardous materials proposed to be produced, used, dispensed, or stored in the facility; material safety data sheets for hazardous materials produced, used, or stored in the facility, the commodity and arrangement of high piled or rack storage, control areas, etc.*

17. **Additional information.** Additional graphic or text information as may be reasonably required by the building official to allow the review of special or extraordinary construction methods or equipment.

106.1.1.1 Fire protection system drawings. Construction documents shall be approved prior to the start of system installation. Related product listing information shall be provided and drawings shall contain all information as required by the installation standards referenced in Chapter 9. The individual and company installing the fire protection systems, who shall be certified by the state fire marshal pursuant to section 3737.65 of the Revised Code, shall be identified on the drawings. In the event that the product listing information is not known or the certified installer is not known at the time of plan examination, conditional plan approval shall be granted subject to subsequent submission of the listing information and the name of the certified installer prior to installation of any part of the fire protection systems

106.1.1.2 Special inspections. Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall identify those special inspections needed during construction on the types of work listed under section 1704.

106.1.2 Special provisions. The following are special provisions:

1. When construction includes the use of industrialized units or alternative materials, designs and methods of construction or equipment approved by the board, documentation shall be provided to the building official describing how they are to be used. Before these items are installed or used, the following shall be submitted:

1.1 A copy of the construction documents approved by the board; and

1.2 Details pertaining to on-site interconnection of modules or assemblies.

Exception: When construction includes the use of industrialized units for one-, two-, and three- family dwellings and their accessory structures, the documents shall be provided to the residential building official. If no residential department is certified in a jurisdiction, construction documents for one-, two-,

or three-family dwellings comprised of industrialized units are not required to be submitted for approval.

- 2. Construction documents submitted that include construction of public swimming pools shall include documentation indicating approval of the pool construction documents by the Ohio department of health in accordance with section 3109.1.1 of the "OBC".*
- 3. Construction documents submitted that include alterations or construction of, or additions to buildings where sales, display, storage or manufacture of consumer fireworks, 1.4g or display fireworks, 1.3g shall include documentation indicating that the applicant has received preliminary approval for construction issued by the state fire marshal pursuant to sections 3743.04 and 3743.17 of the Revised Code.*
- 4. The elevation certification provided by a registered surveyor and dry floodproofing certification, when required in section 1612.5 for buildings or structures located in communities with identified flood hazard areas, shall be submitted to the building official.*
- 5. When a certified building department receives an application for plan approval in a jurisdiction in which the local fire official has requested an opportunity to provide input to the certified building department on issues related to fire protection, the building official shall require that the applicant provide a set of relevant construction documents for the local fire official. The building official shall evaluate the local fire official's comments related to fire protection provisions of this code that are received within the timeframe established by the building official and section 3791.04 of the Revised Code prior to issuing the plan approval certification.*
- 6. Construction documents submitted that include alterations or construction of, or additions to jails, workhouses, or municipal lockups shall include documentation indicating that the applicant has received preliminary approval for construction issued by the Ohio department of rehabilitation and corrections.*
- 7. When, as a part of work subject to this code, construction includes or relates to the temporary or permanent storage of flammable or combustible liquids, such construction shall be in accordance with the provisions of this code and the fire code.*

106.2 Evidence of responsibility. *Required construction documents, when submitted for review as required under section 107, shall bear the identification of the person primarily responsible for their preparation.*

106.2.1 Seal requirements. *When it is required that documents be prepared by a registered design professional, the building official shall be authorized to require the owner to engage and designate on the approval application a registered design professional who shall act as the registered design professional in responsible charge. The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.*

Where structural observation is required by section 1709, the inspection program shall name the individual or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur. See also duties specified in section 1704.

Construction documents shall bear the seal of a registered design professional pursuant to section 3791.04 of the Revised Code.

Exception: *The seal of a registered design professional is not required on construction documents for:*

- 1. Buildings or structures classified as one-, two-, or three-family dwellings and accessory structures;*
- 2. Energy conservation design for buildings or structures classified as one-, two-, or three-family dwellings;*
- 3. Fire protection system designs submitted under the signature of an individual certified in accordance with section 107.4.4;*
- 4. Installation of replacement devices, equipment or systems that are equivalent in type and design to the replaced devices, equipment or systems; and*
- 5. Alterations, construction or repairs to any buildings or structures subject to sections 3781.06 to 3781.18 and 3791.04 of the Revised Code where the building official determines that the proposed work does not involve*

the technical design analysis of work affecting public health or general safety in the following areas: means of egress, structural, mechanical, electrical, plumbing, or fire protection.

5.1 For the purpose of this exception, technical design analysis is defined as the development of integrated solutions using analytical methods in accordance with established scientific and engineering principles.

106.3 Amended construction documents. *If substantive changes to the building are contemplated after first document submission, or during construction, those changes must be submitted to the building official for review and approval prior to those changes being executed. The building official may waive this requirement in the instance of an emergency repair, or similar instance.*

106.4 Alternative materials and methods of construction and equipment. *For approval of a device, material or assembly that does not conform to the performance requirements in this code, section 114 shall apply.*

106.5 Alternative engineered design. *The design, documentation, inspection, testing and approval of an alternative engineered system shall comply with sections 106.5.1 to 106.5.3 of this rule.*

106.5.1 Design criteria. *An alternative engineered design shall conform to the intent of the provisions of this code and shall provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety. Materials, equipment or components shall be designed and installed in accordance with the manufacturer's installation instructions.*

106.5.2 Submittal. *The registered design professional shall indicate on the application that the system is an alternative engineered design. The approval and permanent approval records shall indicate that an alternative engineered design was part of the approved installation. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.*

106.5.3 Technical data. *The registered design professional shall submit sufficient technical data to substantiate the proposed alternative engineered design and to prove that the performance meets the intent of this code.*

Exception: Approval of alternative materials, products, assemblies and methods of construction in accordance with Section 114.3.2.

Section 107
Plan approval process

107.1 Plan review required. *Where the rules of the board are applicable under section 101.2, before a building or addition to a building is constructed or erected, and before a building is altered or relocated, or building equipment is installed, or there is a change of occupancy, or a resubmission of construction documents is required or received, construction documents relating to the work and equipment under consideration shall be prepared in conformity with section 106 and be submitted to the building department for examination and approval.*

107.2 Application for plan approval. *To obtain a plan approval, the owner or the owner's representative shall first file an application in writing on a form furnished by the building department for that purpose. Such application shall:*

- 1. Identify and describe the work to be covered for which application is made for approval.*
- 2. Describe the land on which the proposed work is to be done, street address or similar description that will readily identify and locate the proposed building or work.*
- 3. Indicate the use and occupancy(ies) for which the proposed work is intended.*
- 4. Be accompanied by construction documents and other information as required in section 106.1.*
- 5. Be signed by the owner, or the owner's authorized agent.*
- 6. Give such other data and information as required by the building official.*
- 7. Identify and clearly indicate whether the project or portion of a project intends to utilize an industrialized unit, as defined in section 113.2.*
- 8. Identify and clearly indicate whether the project or portion of a project intends to utilize an assembly of individually listed or labeled products.*

107.2.1 Time limitation of application. *The approval of plans under this section is a “license” and the failure to approve such plans as submitted within thirty days after filing or the disapproval of such plans is an “adjudication order denying the issuance of a license” requiring the opportunity for an “adjudication hearing” as provided by sections 119.07 to 119.13 of the Revised Code and as modified by sections 3781.031 and 3781.19 of the Revised Code. In accordance with section 109, an adjudication order denying the issuance of a license shall specify the reasons for such denial.*

If construction documents have been reviewed for compliance with the rules of the board, an adjudication order has been issued to the owner and the owner’s representative, and the owner has neither exercised the right to appeal pursuant to section 110 nor resubmitted corrected documents, the application is invalid six months from the date of the issuance of the adjudication order.

107.3 Order of plan review. *Construction documents submitted for approval shall be examined for compliance with the rules of the board in the order received, unless otherwise consented to by the building owners affected by deferred examination.*

107.4 Review of plans. *When construction documents have been submitted to the building department for review and approval, the building official shall cause the construction documents to be examined for compliance with the rules of the board by assigning the examination duty to an appropriately certified plans examiner. The plans examiner shall first determine whether the construction documents are adequate as required in section 106. If so, the plans examiner shall examine the construction documents to determine compliance with the rules of the board.*

107.4.1 Inadequate construction documents. *If construction documents are determined to be incomplete or inadequate for examination, the plans examiner shall report the findings to the building official. The plans examiner shall examine the construction documents to the extent possible and identify what information from section 106 is missing and needed to complete the required examination. Upon receipt and review of the report, the building official shall proceed as required in section 107.6.*

107.4.2 Resubmitted documents. *If construction documents are resubmitted in response to an adjudication order, the review for*

compliance shall be limited to determining that the item of non-compliance, and any work affected, has been corrected and shall not be deemed to authorize another review of unmodified construction documents previously determined to comply.

107.4.3 Sealed construction documents. *Construction documents which have been prepared by an Ohio registered design professional who prepared the same as conforming to the requirements of the rules of the board pertaining to design loads, stresses, strength, and stability, or other requirements involving technical analysis, need be examined only to the extent necessary to determine conformity of such construction documents with other requirements of the rules of the board.*

107.4.4 Fire protection system construction documents. *Construction documents for fire protection systems authorized to be submitted by individuals certified pursuant to Chapter 4101:7-5 of the Administrative Code shall:*

- 1. When submitted under the signature of an individual certified under section 3781.105 of the Revised Code, be processed in the same manner as construction documents submitted under the signature of a registered design professional. Any statistical data, reports, explanations, plan description, or information that would not also be required for a similar submission by a registered design professional need not be submitted by a certified designer.*
- 2. If certified by a registered design professional or individual certified under section 3781.105 of the Revised Code as conforming to requirements of the rules of the board pertaining to design loads, stresses, strength, stability, or other requirements involving technical analysis, be examined by the building department official only to the extent necessary to determine conformity of such construction documents with other requirements adopted by the board under Chapters 3781. and 3791. of the Revised Code.*

107.5 Plan review, compliance with rules of the board. *If the construction documents are determined to comply with the rules of the board, the plans examiner shall communicate the findings and recommend the conditions and type of approval to the building official.*

107.5.1 Building official approval. *The building official shall evaluate the*

plans examiner's recommendations and any communications received from the fire official as described in section 106.1.2. When the construction documents have been determined to conform to the applicable provisions of the rules of the board, the building official shall endorse or stamp such plans as approved and issue the certificate of plan approval in accordance with section 105.5.

107.5.2 Posting. *The certificate of plan approval shall be posted in a conspicuous location on the site. The owner and the contractor shall preserve and keep the certificate posted until the final inspections have been completed.*

107.6 Plan review, items of noncompliance. *When the construction documents are examined and items of noncompliance with the rules of the board are found by the plans examiner, the building official shall proceed as required in either section 107.6.1 or section 107.6.2.*

107.6.1 Communication process for items of non-compliance.

1. *Item(s) of non-compliance shall be communicated to the owner or the owner's representative and offer the following options:*
 - 1.1. *The owner will revise the drawings and resubmit to the department.*
 - 1.2 *The items of noncompliance will not be brought into compliance and will be referred to the building official as indicated in item 4 below.*
2. *The owner or the owner's representative shall indicate which option (item 1 above) will be exercised.*
3. *Notations of the communication shall be made on a plan review record. The notations shall include the plans examiner's name, the date of the communication with the owner or the owner's representative, the observed items of noncompliance, the code citation related to the item(s) of noncompliance, the action necessary to correct the item(s) of noncompliance, the option chosen by the owner or the owner's representative, the name of the person communicated with, and the estimated dates of compliance and resubmission, if applicable.*
4. *If the owner or the owner's representative indicates that the work will not be brought into compliance with the rules of the board or requests an*

adjudication order, the plans examiner shall report to the building official in accordance with section 107.6.2.

107.6.2 Building official determination of noncompliance. *The building official shall evaluate the plans examiner's report and any reports received from the fire official as described in section 106.1.2 and render a final determination as to whether the items of non-compliance are to be communicated to the owner in the form of an adjudication order complying with section 109. The building official shall also determine whether any approvals are possible, and issue the appropriate approval as described in section 105.*

107.7 Approved construction document sets. *One set of approved construction documents shall be kept by the building official. The other set(s) shall be returned to the applicant, kept at the work site, along with manufacturers' installation instructions and product information, and shall be available for use by the inspector.*

Section 108

Inspection process

108.1 General. *After construction documents have been approved, construction or work may proceed in accordance with the approved documents. Construction or work for which an approval is required shall be subject to inspection. It shall be the duty of the owner or the owner's duly authorized representative to notify the building department when work is ready for inspection. Access to and means for inspection of such work shall be provided for any inspections that are required by this code.*

It shall be the duty of the owner or the owner's authorized representative to cause the work to remain accessible and exposed for inspection purposes. Such construction or work shall remain accessible and exposed for inspection purposes until the work has been inspected to verify compliance with the approved construction documents, but failure of the inspectors to inspect the work within four days, exclusive of Saturdays, Sundays, and legal holidays, after the work is ready for inspection, allows the work to proceed.

Subsequent work is allowed to proceed only to the point of the next required inspection.

108.2 Required inspections. *At the time that the certificate of plan approval is issued, the building official shall provide, to the owner or the owner's representative, a list of all required inspections for each project. The required inspection list shall be created from the applicable inspections set forth in sections 108.2.1 to 108.2.14. The building official, upon notification from the owner or the owner's agent that the work is ready for inspection, shall cause the inspections set forth in the required inspection list to be made by an appropriately certified inspector in accordance with the approved construction documents.*

108.2.1 Lot line markers required. *Before any work is started in the construction of a building or an addition to a building to which the rules of the board are applicable under section 101.2, all boundary lines shall be clearly marked at their intersections with permanent markers or with markers which are offset at a distance which is of record with the owner.*

108.2.2 Footing or foundation inspection. *Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready mixed in accordance with "ASTM C 94", the concrete need not be on the job.*

108.2.3 Concrete slab and under-floor inspection. *Concrete slab and under-floor inspections shall be made after in-slab and under-floor reinforcing steel and building service equipment, conduit, insulation, vapor retarder, piping accessories and other ancillary equipment items are in place, but before any concrete is placed or floor sheathing installed, including the subfloor.*

108.2.4 Lowest floor elevation. *The elevation certification required in section 1612.5 shall be submitted to the building official.*

108.2.5 Frame inspection. *Framing inspections shall be made after the roof deck or sheathing, all framing, fire blocking and bracing are in place and pipes, chimneys and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes and ducts are approved.*

108.2.6 Lath or gypsum board inspection. *Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place, but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.*

Exception: *Gypsum board that is not part of a fire-resistive assembly or a shear assembly.*

108.2.7 Fire-resistant penetrations. *Protection of joints and penetrations in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved.*

108.2.8 Energy efficiency inspections. *Inspections shall be made to determine compliance with Chapter 13 of the “OBC” and shall include, but not be limited to, inspections for: envelope insulation “R” and “U” values, fenestration “U” value, duct system “R” value, infiltration air barriers, caulking/sealing of openings in envelope and ductwork, and “HVAC” and water heating equipment efficiency.*

108.2.9 Building services equipment inspections. *Inspections shall be made of all building services equipment to ensure that it has been installed in accordance with the approved construction documents, the equipment listings, and the manufacturer’s installation instructions. Inspections shall include, but not be limited to, inspections for the following systems and their associated components: mechanical heating and ventilating systems, mechanical exhaust systems, plumbing systems, fire protection systems, and electrical systems.*

108.2.10 Other inspections. *In addition to the inspections specified above, the building official is authorized to cause to be made or require other inspections of any construction work to be made to ascertain compliance with the provisions of this code.*

Where applications are submitted for projects of unusual magnitude of construction, the building official may require inspections or full-time project representation by a registered design professional or inspection agency. This inspector/project representative shall keep daily records and submit reports as required by the building official.

Exception:

Where the building official requires full-time project inspection, the installation of a fire protection system may be inspected by a person certified under section 3781.105 of the Revised Code. The person shall be certified in the appropriate subfield of fire protection systems being inspected – water-based fire protection systems (formerly automatic sprinkler systems), fire alarm, or special hazards systems design.

108.2.11 Special inspections. *For special inspections, see section 1704.*

108.2.12 Inspections, completion. *When all of the required successive inspections have been satisfactorily completed and the inspectors have verified compliance with the approved construction documents, the inspectors shall communicate their findings to the building official. The building official, after review of the findings, shall issue the certificate of occupancy as described in section 111.*

108.2.13 Industrialized unit inspections. *Approved industrialized units and the on-site construction to complete the installation of the industrialized units shall be inspected. Such inspections shall include:*

- 1. Connection to on-site construction, interconnection of modules, connection to utilities. The inspections and conducting of required tests shall not require the destruction or disassembly of any factory-constructed component authorized by the board.*
- 2. Inspection of the unit for damage resulting from transportation, improper protection of exposed parts from inclement weather or other causes. Damage shall be repaired as required by the building official to comply with the applicable provisions of the rules of the board;*
- 3. Inspection of the unit to determine if it is marked by an insignia furnished by the board; and*
- 4. Inspect the unit to determine if the floor plan, exterior elevations, and exposed details are in conformance with the plans approved by the board.*

108.3 Inspection agencies. *The building official is authorized to accept reports of approved inspection agencies, provided such agencies are approved in accordance with the rules of the board of building standards.*

108.4 Right of entry. *The building official, or the building official's designee, is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that credentials are presented to the occupant and that entry is requested and obtained. Where permission to enter has not been obtained, is denied, or the building official has probable cause to believe that there exists in a structure or upon a premises a condition which is*

a serious hazard the building official shall proceed as required in section 109 and shall also have recourse to the remedies provided by law to secure entry.

108.5 Inspections, compliance with construction documents. *When an inspector from the department having jurisdiction finds that completed work is in accordance with the approved construction documents, the inspector shall communicate the findings to the owner's on-site representative, shall make a note of the satisfactory inspection on an on-site inspection record and in the inspector's log, and communicate their findings to the building official. The building official, after review of the findings, shall issue the certificate of occupancy in accordance with section 111.*

108.6 Inspections, observation of violations, unsafe conditions, or serious hazards. *When an inspector from the department having jurisdiction finds that any work in connection with the location, erection, construction, repair, alteration, moving, or equipment of a building is contrary to the approved construction documents for the same, the building inspector shall proceed as required in either section 108.6.1 or 108.7.*

108.6.1 Communication process for work contrary to approved construction documents.

1. *Communicate the nature of the differences to the owner or the owner's on-site representative and offer the following options*
 - 1.1 *The owner will bring the item of noncompliance into compliance,*
 - 1.2 *The owner will revise the drawings and resubmit to the department,*
 - 1.3 *The items of noncompliance will not be brought into compliance and will be referred to the building official as indicated in item 4 below.*
2. *The owner or the owner's on-site representative shall indicate which option (item 1 above) will be exercised*
3. *Notations on the on-site inspection record and in the inspector's log shall be made. The notations shall include the inspector's name, the date of the inspection, the type of inspection, the observed items of noncompliance, the option chosen by the owner or the owner's on-site*

representative, the name of the person communicated with, and the estimated dates of compliance and follow-up inspections, if applicable.

4. *If the owner or the owner's on-site representative indicates that the work will not be brought into compliance with the approved construction documents, the inspector shall submit a report to the building official for the final determination of noncompliance in accordance with section 108.7.*

108.6.2 Observation of violations not shown on plans. *If an inspector, in the course of performing the assigned or requested inspections, observes a code violation that was either shown incorrectly or not adequately addressed or detailed in the approved construction documents, the inspector shall communicate the finding to the building official so that the building official can make a determination of whether the code violation is of such significance to warrant communicating the finding to the owner or the owner's representative as a recommended change.*

108.6.3 Observation of unsafe conditions or serious hazards. *If an inspector, in the course of performing the assigned or requested inspections, observes an unsafe condition or a serious hazard, the inspector shall communicate that condition to the owner or the owner's on-site representative and shall report the findings immediately to the building official so that the building official can make a final determination of whether the violation constitutes a serious hazard which requires the issuance of an adjudication order as required in section 109.*

108.6.4 Industrialized units, observations of noncompliance. *When an inspector from the department having jurisdiction finds that an industrialized unit has been constructed contrary to the plans approved by the board, the inspector shall report the nonconformance to the building official. The building official shall notify the board of all violations of section 108.2.13. The board or its designee and the building official shall determine the corrective action to be taken before the building is approved to be occupied.*

108.7 Building official determination of noncompliance. *The building official shall evaluate the inspector's report and render a final determination as to whether the items of non-compliance are to be communicated to the owner in the form of an adjudication order complying with section 109. The building official shall also determine whether any approvals are possible.*

108.8 Testing of building service equipment Acceptance, performance, and operational testing. ~~Building service equipment~~ Acceptance, performance, and operational testing shall be tested ~~conducted~~ as required in the applicable code or referenced standard. Advanced notice of the test schedule shall be given to the building official. The building official may require that the tests be conducted in the presence of the building official or certified inspector. Testing and inspection records shall be made available to the building official or inspector, upon request, at all times during the fabrication of the systems and the erection of the building.

108.8.1 New, altered, extended or repaired systems. New systems and parts of existing systems, which have been altered, extended, renovated or repaired, shall be tested as prescribed herein to disclose leaks and defects.

108.8.2 Apparatus, material and labor for tests. Apparatus, material and labor required for testing a system or part thereof shall be furnished by the owner or the owner's representative. Required tests shall ~~be made by the owner and shall~~ be conducted by and at the expense of the owner or the owner's representative.

108.8.3 Reinspection and testing. Where any work or installation does not pass an initial test or inspection, the inspector shall proceed as outlined in section 108.6.

Section 109 Orders, Violations, and Unsafe Buildings

109.1 Adjudication orders required. When the building official denies any approval or takes action in response to findings of non-compliance, such action shall be initiated by issuing an adjudication order, prior to seeking any remedy, civil or criminal. Every adjudication order shall:

1. Clearly identify the section of law or rules violated;
 - 1.1 Clearly identify, in a contrasting and obviously marked manner, all violations related to accessibility.
2. Specifically indicate which detail, installation, site preparation, material, appliance, device, addition, alteration to structures, construction

- documents, assemblages or procedures are necessary to change to comply with the order;*
- 2.1 When issued to stop work, the order shall also clearly indicate the specific work that is required to cease, when the work must cease and the conditions under which the cited work will be permitted to resume. The order to stop work shall be given to the owner of the property involved, to the owner's agent and the person doing the work.*
 - 3. Include notice of the procedure for appeal and right to a hearing if requested within thirty days of the mailing of the order. The order shall also indicate that, at the hearing, the owner may be represented by counsel, present arguments or contentions orally or in writing, and present evidence and examine witnesses appearing for or against the owner;*

 - 3.1 Any hearing(s) scheduled for accessibility issues shall cause the building official or the appeals board to notify a local advocate organization for people with disabilities of the scheduled hearing. When a local advocate organization is not available, a state organization representing people with disabilities, such as the "Governor's Council on People with Disabilities" shall be notified;*
 - 4. Specify a reasonable period of time in which to bring the item(s) on the order into compliance;*
 - 5. Include the signature of the building official;*
 - 6. The order shall be sent by certified mail, return receipt requested, to the owner and any individual designated as a representative or agent by the owner in such matters.*

109.2 Response to orders. *The person receiving an order shall exercise their right to appeal within 30 days of the mailing of the order, comply with the order, or otherwise be released from the order by the building official.*

109.3 Prosecution and penalties. *When an owner fails to comply with section 109.2, the owner may be prosecuted and is subject to a fine of not more than five hundred dollars as provided for in section 3791.04 of the Revised Code.*

109.3.1 Unlawful continuance. *Failure to cease work after receipt of an order to stop work is hereby declared a public nuisance.*

109.4 Unsafe buildings. *Structures or existing equipment that are unsafe or unsanitary due to inadequate means of egress facilities, inadequate light and ventilation, or which constitute a fire hazard, or are otherwise dangerous to human life, shall be deemed a serious hazard. Where a building is found to be a serious hazard, such hazard shall be eliminated or the building shall be vacated, and where such building, when vacated, remains a serious hazard, it shall be razed.*

109.4.1 Orders, injunction proceedings. *Where the building official finds that a building is a serious hazard and the owner of such building fails, in the time specified in an order from the building official, to eliminate such hazard, or to vacate or raze the building, the building official shall proceed under section 3781.15 of the Revised Code.*

109.4.2 Restoration. *Where the structure or equipment is determined to be unsafe by the building official, it is permitted to be restored to a safe condition. To the extent that repairs, alterations or additions are intended to be made or a change of occupancy occurs during the restoration of the structure, such repairs, alterations, additions or change of occupancy shall comply with Chapter 34 and this chapter.*

Section 110

Appeals

110.1 Hearing and right of appeal, local board of building appeals. *Adjudication hearings shall be in accordance with sections 119.09 to 119.13 of the Revised Code, as required by section 3781.031 of the Revised Code, and the following:*

1. *Requests for hearing shall be within thirty days of the mailing date of an adjudication order. The local board shall schedule a hearing and notify the party. If the hearing concerns section 3781.111 of the Revised Code or rules adopted thereunder, reasonable notice of time, date, place, and subject of the hearing shall be given to any local organization composed of or representing persons with disabilities, as defined in section 3781.111 of the Revised Code, or if there is no local organization, then to any statewide organization composed of or representing persons with disabilities.*
 - 1.1 *For purposes of conducting adjudication hearings, the local board may require attendance of witnesses, production of records and*

papers, and may take depositions of witnesses in accordance with section 119.09 of the Revised Code.

- 1.2 Testimony shall be under oath and, as outlined in section 109.1, a stenographic or mechanical record of testimony and other evidence submitted shall be taken at the expense of the local board of building appeals.*
- 1.3 The local board may postpone or continue any adjudication hearing on its own motion or upon the application of any party.*
- 1.4 The board shall keep a full and complete record of all proceedings which shall be open to public inspection.*
- 2. The Board shall render its decision within thirty days after the hearing.*
- 3. Following the hearing, an order shall be entered on its journal, and the local board shall serve by certified mail, return receipt requested, upon the party affected thereby, a certified copy of the order and a statement of the time and method by which an appeal may be perfected. A copy of the order shall be mailed to the attorney or other representatives of record representing the party.*
- 4. Any municipal or county officer, official municipal or county board, or person who was a party to the hearing before the municipal or county board of building appeals, may apply to the state board of building appeals for a de novo hearing, or may appeal to the court of common pleas of the county in which he is a resident or in which the premises affected by such order is located.*
- 5. In addition, when the adjudication hearing concerns section 3781.111 of the Revised Code, or any rule made thereunder, any local organization composed of or representing persons with disabilities, or if no local organization exists, then any statewide organization representing persons with disabilities may file appeals as indicated in paragraph 4. of this section.*
- 6. Application for a de novo hearing before the state board shall be made no later than thirty days after the municipal or county board renders its decision.*

Section 111
Certificate of occupancy

111.1 Approval required to occupy. *No building or structure, in whole or in part, shall be used or occupied until the building official has issued an approval in the form of a certificate of occupancy. The certificate of occupancy shall indicate the conditions under which the building shall be used. The building owner shall only use the structure in compliance with the certificate of occupancy and any stated conditions. The structure and all approved building service equipment shall be maintained in accordance with the approval.*

When a building or structure is entitled thereto, the building official shall issue a certificate of occupancy provided there are not violations of law or orders of the building official pending or as permitted in this section.

111.1.1 New buildings. *A building or structure erected shall not be used or occupied, in whole or in part, until the certificate of occupancy has been issued by the building official. Occupancy of spaces within a building which are unaffected by the work shall be allowed to continue if the building official determines the existing spaces can be occupied safely until the completion of the alteration.*

111.1.2 Building alterations or additions. *A building or structure enlarged, extended or altered, in whole or in part, shall not be occupied or used until a certificate of occupancy has been issued. Occupancy of spaces within a building which are unaffected by the work of alteration shall be allowed to continue if the building official determines the existing spaces can be occupied safely until the completion of the alteration.*

111.1.3 Change in occupancy. *Changes in occupancy of an existing structure shall not be made except as specified in Chapter 34. A building or structure hereafter changed, in whole or in part, from one occupancy to another shall not be occupied for the new occupancy until the certificate of occupancy has been issued by the building official reflecting such changed portions. Existing occupancy of spaces within the building which are unaffected by the change of occupancy and any related alterations shall be allowed to continue if the building official determines the existing spaces can be occupied safely until the completion of the alterations.*

111.1.4 Partial occupancy. *Upon the request of the owner or owner's representative, a building official shall issue a certificate of occupancy before the completion of the entire work, provided that the building official*

determines that the space can be safely occupied prior to full completion of the building, structure, or portion without endangering life or public welfare. The certificate shall indicate the extent of the areas approved for occupancy and any time limits for completion of the work.

111.1.5 Time-limited occupancy. *A building or structure hereafter changed in part from one occupancy to another for a limited time may receive a certificate of occupancy reflecting that time-limited occupancy provided:*

- 1. There are no violations of law or orders of the building official pending;*
- 2. It is established after inspection and investigation that the proposed use is not deemed to endanger public safety and welfare safely;*
- 3. The building official has approved the use for an alternative purpose on a temporary basis;*
- 4. The building official has issued a certificate of occupancy indicating any special conditions under which the building or part of the building can be used for the alternative purpose within the time limit specified.*

111.1.6 Temporary structures occupancy. *A building intended to be erected, placed and used for a period of time not to exceed one hundred eighty days that has been determined by the building official to be in compliance with section 102.8 shall be issued a “Certificate of Occupancy for Temporary Structures.” The building official is authorized to grant extensions for demonstrated cause.*

111.2 Existing buildings. *Upon written request from the owner of an existing building or structure, the building official shall issue a certificate of occupancy, provided there are not violations of law or orders of the building official pending, and it is established after inspection and investigation that the alleged occupancy of the building or structure has previously existed. This code shall not require the removal, alteration or abandonment of, or prevent the continuance of, the occupancy of a lawfully existing building or structure, unless such use is deemed to endanger public safety and welfare.*

111.3 Certificate issued. *The certificate shall certify compliance with the provisions of this code, Chapters 3781. and 3791. of the Revised Code, and the purpose for which the building or structure may be used in its several parts. The certificate of occupancy shall contain the following:*

1. *The plan approval application number.*
2. *The address.*
3. *A description of that portion of the structure for which the certificate is issued.*
4. *The signature of all building officials having jurisdiction. When more than one building official has jurisdiction for a building (when the certification of the building department is limited for such systems as plumbing or piping systems) each shall sign the certificate of occupancy with an indication of the scope of their individual approvals.*
5. *The edition of the code under which the plan approval was issued.*
6. *The use and occupancy, in accordance with the provisions of Chapter 3.*
7. *The type of construction as defined in Chapter 6.*
8. *The design occupant load.*
9. *If an automatic sprinkler systems is provided, whether the sprinkler system is required.*
10. *The hazard classification or storage configuration, including aisle widths, for which the automatic sprinkler system is designed.*
11. *The automatic sprinkler and standpipe system demand at the base of the riser.*
12. *Any special stipulations and conditions of the plan approval including any variances granted to the requirements of this code.*

111.4 Validity of a certificate of occupancy. *The certificate of occupancy represents an approval that is valid only when the building or structure is used as approved and certifies conformance with applicable provisions of the “Ohio Building Code” and Chapters 3781. and 3791. of the Revised Code. The approval is conditioned upon the building systems and equipment being maintained and tested in accordance with the approval, the “Ohio Building Code”, and applicable equipment and systems schedules.*

111.5 Connection of service utilities. *No connections shall be made from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a plan approval and inspections are required, until approved by the building official.*

111.6 Temporary connection. *The building official shall approve the temporary connection of the building or system to the utility source of energy, fuel or power.*

Section 112 **Changes to the code**

112.1 Changes, board of building standards. *The board may, on its own motion, in accordance with section 3781.10 of the Revised Code adopt, amend, or rescind rules through the administrative rule process.*

112.2 Changes, applications for. *Any person may apply to the board to adopt, amend, or rescind rules of the board. The application for rule change shall be on forms and in format prescribed by the board. Twelve printed copies of the application shall be filed with the secretary of the board.*

112.3 Processing applications for changes. *When the secretary of the board receives a conforming application for an adoption, amendment, or annulment of a provision of the rules of the board, the secretary shall promptly deliver or mail a copy of the application to each member of the board.*

After receiving an application for the adoption, amendment, or annulment of a provision of the rules of the board, the board shall proceed under sections 3781.101 and 3781.12 of the Revised Code.

Section 113 **Industrialized units**

113.1 Industrialized units. *Industrialized units shall be approved by the board in accordance with the provisions in this section.*

Exceptions:

1. *Alternative materials, design and methods of construction and equipment approved by the board in accordance with section 114.2.*

2. *Construction for which the provisions of section 1704 applies. Where panels or components are constructed to include elements not provided for or accounted for in section 1704, then this section shall apply. (For example, engineered gluelam beams, precast concrete panels or welded steel components that have been constructed offsite with electrical or mechanical components in them so that a detailed inspection of the mechanical or electrical components cannot be done on the site of their intended use would be required to comply with this section.)*
3. *Foam plastic insulation conforming to the provisions of section 2603. (However, a foam plastic insulation panel that is constructed, listed and labeled in accordance with section 2603, is required to comply with this section if structural, electrical or other components not covered by section 2603 are enclosed within the panel).*
4. *Materials, devices and products in directories listed in Table 114.3 used for building service equipment systems in accordance with the listing and this code.*

113.2 Definitions.

Closed construction. *An assembly of materials or products manufactured in such a manner that its structural, plumbing, electrical, environmental control, or fire protection elements or components are concealed and are not readily accessible for inspection at the site of its erection, without disassembly, damage, or destruction. Closed construction includes assemblies where only one of the components is not accessible for inspection. (For example, an equipment enclosure where all the electrical conductors and components are exposed for inspection and its roof and wall panels have exposed structural members but the floor panel structural members are not exposed, would be required to comply with this section.)*

Industrialized units. *Industrialized units are prefabricated components comprised of closed construction manufactured at a location remote from the site of intended use and transported to a building site for its subsequent use. Industrialized units are not restricted to housing for one-, two-, and three-family dwellings, but includes all prefabricated forms of building elements and assembled construction units, intended for both structural and service equipment purposes in all buildings of all groups. Prefabricated shop assemblies may be shipped in structurally complete units ready for installation in the building structure or in knock-down and packaged form for*

assembly at the site.

113.2.1 General terms. *Such terms as heart modules or cores, modules, modulars, service cores, prefabs, sectional or sectionalized, panels or panelized construction, and specific terms including "prefabricated-subassembly, -building, -unit, -unit service equipment" shall be considered industrialized units. They may be self-sufficient or interdependent as a unit or group of units and used together or incorporated with standard construction methods to form a completed structural entity.*

113.3 Application. *The application for approval, including revisions and renewals for existing approvals, shall be submitted to the board together with the fee required in section 113.8 of this chapter. The required information shall be provided as prescribed by the board on its website. Construction documents shall be included in conformity with the applicable provisions of section 106, and shall describe all essential elements of the structure or assembly and details of interconnection of: assemblies; service equipment; electrical wiring; plumbing; mechanical; and any other equipment whether installed at the site or in the manufacturing facility. The design and construction of the units shall be in conformance with the provisions of the Ohio building, mechanical and plumbing codes based on the intended use and/or occupancy type. Industrialized units intended to be used exclusively for one-, two-, or three- family dwellings shall comply with the applicable provisions of the "Residential Code of Ohio for One-, Two-, and Three- Family Dwellings" listed in section 3501.2 or shall meet the provisions of the board's rules applicable to "Group R-3". Only the person holding an approval may apply to the board for a revision or renewal of the approval.*

113.3.1 Manufacturers with facilities outside Ohio. *Each application for manufacturers with manufacturing facilities outside Ohio shall also identify the individual or agency that will be performing in-plant inspections of the units intended for placement in Ohio. The application shall also include a letter from the designated individual or agency indicating that they have a contractual relationship with the manufacturer to perform the inspections. This letter shall include the name(s) and board certification(s) of the individual(s) who will be assigned to perform the inspections.*

113.3.2 Manufacturers with facilities in Ohio. *Each application for manufacturers with manufacturing facilities in Ohio shall include the same information required in section 113.3.1 or, as an alternative, the manufacturer shall indicate their intention to have the inspections conducted*

by inspectors designated by the board.

113.4 Evaluation. *After receipt of the application, the board or such agency designated by the board shall proceed with review of the industrialized unit construction documents and cause such inspections of the manufacturer's quality control processes used to ensure compliance with the rules of the board.*

113.4.1 Tests. *The board shall have the authority to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the board shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the board for the period required for retention of public records.*

113.4.2 Plant evaluations. *An initial plant evaluation inspection shall be required at each plant of manufacture to observe and ensure that the manufacturer's facilities and quality control program maintains acceptable control of materials and processes used in the manufacture of industrialized units to ensure conformance with the approved construction documents. The plant evaluation inspection shall include all subassembly plants supplying the manufacturer, as the board may deem necessary.*

113.5 Approval. *The board, upon determination of compliance, shall issue an approval to the applicant. Industrialized units approved by the board may be used anywhere in Ohio subject to the conditions for their use and application as indicated in the approval.*

113.5.1 Revisions. *Any changes to board approved construction documents affecting the conditions listed in the approval shall require a revision of the approval.*

113.5.2 Code changes. *When any changes to the rules of the board are adopted which affect the use, safety or sanitation of any approved industrialized unit, the holder of the approval shall apply to the board for a revision of the approval. Failure to apply for revision of approvals within the time specified by the board, shall constitute failure to comply with the conditions of the approval.*

113.5.3 Revocation of approval. *Upon failure of the holder of an approval to comply with the conditions of the approval and this chapter, the board, on its own motion, shall order a hearing in accordance with section 119.03 of*

the Revised Code to revoke an existing approval.

113.6 Inspections and insignia. *Each industrialized unit shall be inspected during each phase of the manufacturing process by inspectors certified by the board or such persons designated by the board until inspections demonstrate that the manufacturer's quality control program is capable of assuring that the industrialized units produced are built in accordance with the construction documents approved by the board. When it has been determined that the manufacturer's quality control program is capable of assuring compliance with the board approved construction documents, at least one phase of construction shall be inspected for each unit by an inspector certified or designated by the board.*

Exception: *When a manufacturer with manufacturing facilities in Ohio has chosen to have inspections conducted by designees of the board, the inspection frequency shall be based upon the reliability or effectiveness of the manufacturer in maintaining sufficient control of the materials and processes to ensure that the units are constructed in accordance with the approved construction documents.*

An insignia shall be obtained from the board for each industrialized unit module to be used within the state of Ohio. The insignia shall be affixed to each unit after a determination is made that the unit is constructed in accordance with the construction documents approved by the board, which shall constitute final approval of the unit.

113.6.1 Increased inspection. *When an inspection determines that the quality control program does not sufficiently ensure compliance with the construction documents approved by the board, the certified inspector or person designated by the board shall, by written notification, inform the manufacturer that the inspection frequency will be increased so that each assembly or component affected by the nonconforming item will be inspected. These inspections shall continue until an inspection determines that the manufacturer's control of the materials and processes used is sufficient to ensure that the units are constructed in accordance with the approved construction documents.*

113.7 Manufacturer responsibility. *The manufacturer shall maintain responsibility over all work completed in the factory until the unit is approved for first occupancy and shall rectify any deviations from the approved construction documents, which are found either in the field or at the place of manufacture.*

The manufacturer shall submit to the board such periodic reports, notifications and information as required by board procedures.

113.7.1 Document submission to building departments. *The manufacturer shall ensure that the construction documents approved by the board are presented to the building official in accordance with section 106.1.2(1) before placing the industrialized unit on site.*

Exception: *Industrialized units construction documents previously approved by the board and site related construction documents are not required to be submitted to the division of industrial compliance where industrialized units are used exclusively as one-, two, or three family dwellings.*

113.7.2 Change in personnel. *Whenever there are changes in company name, ownership, subsidiary status, address or change in the manufacturer's management personnel who are responsible for making policy concerning quality control, the manufacturer shall immediately notify the board, in writing, and the manufacturing plant(s) affected by the change will be subject to a plant evaluation inspection.*

113.8 Fees. *All costs associated with industrialized unit approval applications, processing, construction document review, inspections and insignias shall be in accordance with sections 113.8.1 to 113.8.5.*

113.8.1 Applications. *Each initial application or revision submittal to the board shall be accompanied by nonrefundable fees, designated by the board to include: application processing fee; one-hour minimum plan review fee; and other costs, when incurred, such as mailing and check processing.*

113.8.2 Evaluation of construction documents. *All costs of application processing, evaluation of construction documents or other documentation submitted to the board shall be paid by the applicant.*

113.8.3 Plant evaluation and inspection costs. *All costs of plant evaluations and inspections shall be paid by the manufacturer of the unit including travel, food, lodging, and administrative costs.*

113.8.4 Insignias. *The fee for insignia for all assembled modular units manufactured for use in the state of Ohio shall be fifty dollars per unit (any preassembled combination of walls to floor, ceilings, roof, and other such*

components).

The fee for insignia for all panelized units manufactured for use in the state of Ohio shall be one dollar for each twenty square feet of surface area of preassembled individual components (wall, floor, ceiling or roof sections, and other such components) intended to be shipped to the site and attached to other components at the site of intended use.

113.8.5 Tests. *Tests required by the board to be performed to determine compliance pursuant to section 113.4.1, shall be conducted at no expense to the board. Costs associated with any required testing or research necessary to provide evidence of compliance shall be the responsibility of the applicant.*

Section 114

~~Products and materials~~

~~114.1 Approved materials, products, assemblies and methods of construction.~~ *Materials, products, assemblies and methods of construction approved by the building official shall be constructed and installed in accordance with such approval. Materials, devices, products and assemblies listed in directories indicated in Table 114.3 are authorized for use in accordance with all of the following:*

- 1. Approved by the building official;*
- 2. Installed/used in accordance with the listing;*
- 3. When used as an assembly, installed/used in compliance with this code;*
- 4. The listing is current;*
- 5. The extent of the listing does not include in its scope, elements of design, construction or installation otherwise in conflict with the provisions of this code such as fire resistance, structural design, etc.*

~~114.1.1 Definitions.~~ *The following words and terms shall, for the purposes of this section, have the meanings shown herein:*

~~Assembly.~~ *A preassembled grouping of materials, products and/or devices designed to act as a whole. This does not include industrialized units regulated by section 113.*

~~**Insignia.** A mark or label prescribed in accordance with board procedures.~~

~~**Material.** A manufactured form or substance designed to act as a whole.~~

~~**Method of construction.** A procedure or system intended to result in a finished building, structure or portion thereof.~~

~~**Product.** A material or device designed and manufactured to perform a predetermined function. Appliances, assemblies and equipment are also considered products.~~

~~**114.1.2 Used materials and products.** The use of used materials and products which meet the requirements of this code for new materials and products is permitted. Used products and materials shall not be reused unless approved by the building official.~~

~~**114.2 Alternative materials, products, assemblies and methods of construction.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any material, product, assembly or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, product or method of construction shall be approved in accordance with either section 114.2.1 or section 114.2.2.~~

~~**Exception:** Industrialized units constructed in accordance with section 113.1 of this chapter.~~

~~**114.2.1 Research reports and listings.** Any material, product, assembly or method of construction not specifically provided for in this code, shall have a valid research report or listing from an evaluation service recognized by the board and published on a list titled "Approved National Evaluation and Accreditation Services" found on the board's website. The alternative material, product, assembly, or method of construction shall be deemed to be approved provided it complies with the conditions listed in the research report or listing and Chapters 3781. and 3791. of the Revised Code.~~

~~**114.2.2 Board approval.** Any material, product, assembly or method of construction not specifically provided for in this code may be approved by the board of building standards upon application under the procedures~~

prescribed by the board.

~~**114.2.2.1 Application.** The application for approval including revisions and renewals for existing approvals shall be submitted in two copies to the secretary of the board together with the fee required in section 114.2.2.11 of this chapter. The required information shall be on forms prescribed by the board. Construction documents in conformance with the applicable provisions of section 106 shall be included to adequately describe and show how equivalent compliance is achieved. Only the person holding an approval issued by the board may apply for a revision or renewal of the approval.~~

~~**114.2.2.2 Evaluation.** The board, upon receipt and evaluation of the completed application, shall have the authority to require such additional information as necessary to determine compliance with the requirements of this section.~~

~~**114.2.2.3 Tests.** The board shall have the authority to require tests as evidence of compliance to be made at no expense to the board. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the board shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the board for the period required for retention of public records.~~

~~**114.2.2.4 Approval process.** When the board deems it advisable to permit the use of an alternative material, product, or method of construction, a public hearing shall be conducted in accordance with section 119.03 of the Revised Code. After such hearing, the board shall set an effective date and issue an approval for its use.~~

~~**114.2.2.5 Conditions of approval.** The approval of the alternative material, product, assembly or method of construction issued by the board constitutes an authorization for its use anywhere in Ohio subject to the conditions for its use and application as indicated in the approval. An insignia shall be affixed to each material, product and assembly after it is determined that it is constructed in accordance with the construction documents approved by the board. A certificate shall be issued for each approved method of construction. The approval for use is valid for a period of one year after the effective date established by the board.~~

~~**114.2.2.6 Revisions.** Any changes to an approved alternative material, product, assembly or method of construction affecting the conditions listed in the approval shall require approval by the Board.~~

~~**114.2.2.7 Renewals.** In order to retain the approval, the holder shall apply to the board for a renewal on an annual basis.~~

~~**114.2.2.8 Code changes.** When any changes to the rules of the board are adopted which affect the use, safety or sanitation of any approved alternative material, product, assembly or method of construction, the holder of such approval shall apply to the board for a revision of the approval. Failure to apply for revision of approvals within three months of the effective date of such rule changes shall constitute failure to comply with the conditions of the approval.~~

~~**114.2.2.9 Compliance.** After approval, each holder of an approval is required to maintain acceptable control of the materials and processes used in the manufacture of an approved alternative material, product, assembly or method of construction as a condition of the approval. The board or its designee shall have the right to make inspections at the place of manufacture to observe compliance. Each holder of an approval shall maintain responsibility over all work completed in their manufacturing facilities until the approved material, product and assembly is installed for initial use and shall rectify any deviations from the approved construction documents and other defects found either in the field or at the place of manufacture. The manufacturer shall submit to the board such periodic reports, notifications and information as required by board procedures. The holder of an approval shall be required to pay all associated expenses incurred by the board or its designee.~~

~~**114.2.2.10 Revocation of approval.** Whenever an approved alternative material, product, assembly or method of construction fails to comply with the conditions of the approval and this chapter, the board, upon its own motion, shall order a hearing in accordance with section 119.03 of the Revised Code to revoke an existing approval.~~

~~**114.2.2.11 Fees.** Fees for approved alternative materials, products, assemblies and methods of construction shall be in accordance with sections 114.2.2.11.1 to 114.2.2.11.6.~~

~~**114.2.2.11.1 New application.** An application for approval shall be~~

~~accompanied by a nonrefundable processing fee of one hundred dollars, and the applicant shall bear the cost of the evaluation.~~

~~**114.2.2.11.2 Code changes.** An application to modify an existing approval due to code changes under section 114.2.2.8 shall not require a processing fee; however, the applicant shall bear the cost of the evaluation.~~

~~**114.2.2.11.3 Revisions.** An application to revise an existing approval shall require a nonrefundable processing fee of one hundred dollars and the applicant shall bear the cost of the evaluation.~~

~~**114.2.2.11.4 Renewals** An application to revise an existing approval shall require a nonrefundable processing fee of one hundred dollars. The renewal application shall be received by the board within thirty days after the end of each calendar year.~~

~~**114.2.2.11.5 Tests.** Tests required by the board to be performed to determine compliance pursuant to section 114.2.2.3, shall be conducted at no expense to the board. Costs associated with any required testing or research necessary to provide evidence of compliance shall be the responsibility of the applicant.~~

~~**114.2.2.11.6 Unit fee.** The fee for insignias for each material, product and assembly manufactured for use in the state of Ohio shall be one dollar per unit.~~

~~The fee for a certificate for each method of construction in the state of Ohio shall be one thousand dollars.~~

~~**114.3 Materials, products and assembly directories.** “Table 114.3” lists directories for materials, products and assemblies accepted for specified performances.~~

Table 114.3

Title	Agency	Edition⁶
<i>Building Materials Directory</i>	<i>UL</i>	<i>2009</i>
<i>Electrical Appliances and Utilization Equipment Directory</i>	<i>UL</i>	<i>2008</i>
<i>Electrical Construction Materials Directory</i>	<i>UL</i>	<i>2008</i>

<i>Fire Protection Equipment Directory</i>	<i>UL</i>	<i>2009</i>
<i>Fire Resistance Directory Vols. 1, 2A, 2B, and 3</i>	<i>UL</i>	<i>2009</i>
<i>Flammable and Combustible Liquids and Gases Equipment Directory</i>	<i>UL</i>	<i>2008</i>
<i>Hazardous Location Equipment Directory</i>	<i>UL</i>	<i>2008</i>
<i>CSA Website — http://directories.csa-international.org/</i>	<i>CSA^{1,4}</i>	<i>N/A</i>
<i>Intertek ETL — www.intertek-etlsemko.com</i>	<i>Intertek²</i>	<i>N/A</i>
<i>Approval Guide — www.approvalguide.com</i>	<i>FM⁵</i>	<i>N/A</i>
<i>Fire Resistance Design Manual (GA 600 18th ed.)</i>	<i>GA³</i>	<i>2006</i>

Footnotes:

- 1. — Canadian Standards Association or CSA International (formerly AGA)*
- 2. — Website only — Select “ETL Listed Directory or WH&OPL Mark Directory”*
- 3. — Gypsum Association*
- 4. — Website only — Select “Gas Appliances.”*
- 5. — Website only — free registration*

Section 114 **Products and materials**

114.1 General. *Any material, product, assembly or method of construction used in a building or structure shall be approved by the building official. The provisions of this section describe the product approval process intended by the board of building standards in accordance with Section 3781.10 (C) of the Revised Code.*

114.2 Definitions. *The following words and terms shall, for the purposes of this section, have the meanings shown herein:*

Accreditation. *The formal recognition of a conformity assessment body’s adherence and operation under a documented quality system whereby a third party (Accreditation Body) attests to technical competence and the specific scope of accreditation of the conformity assessment body .*

Accreditation body. *An authoritative body that is an established, independent, internationally recognized, third-party organization that performs accreditation to ascribe initial recognition and monitors, on an cyclical basis, the competency, integrity, and performance of conformity assessment bodies in accordance with established standards.*

Assembly. A preassembled grouping of materials, products and/or components designed to act as a whole. This does not include industrialized units regulated by section 113.

Calibration laboratory. An established, independent, nationally recognized and accredited, third-party organization that regularly provides calibration services such as, but not limited to, tolerance testing to ensure the accuracy of measuring equipment used in construction.

Conformity assessment body. A body that performs conformity assessment services and can be an object of accreditation, such as a testing laboratory, inspection body, product certification body.

Evaluation service. An established, independent, nationally recognized and accredited, third-party conformity assessment body that is accredited as a product certification body and performs technical evaluations of building materials, products, and methods of construction where code requirements are not clear or the innovative products do not have national consensus standards. The evaluation of the product results in the issuance of a research report establishing the code compliance and conditions of its use based upon multiple sources of information including test reports, test data, performance data, or acceptance criteria, and can be approved for installation by the building official in accordance with the rules of the board.

Fabricator inspection agency. An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in fabrication of construction materials and methods of construction.

Field evaluation body. An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in furnishing field inspection, observation, testing, or reporting services for construction materials, products, and methods of construction.

Industry trade association certification program. A certification program operated by an established and nationally recognized organization, founded and funded by businesses that operate in a

specific industry, where the main focus is to monitor quality assurance among associated members.

Insignia. A mark or label prescribed in accordance with board procedures.

Inspection body. An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in furnishing inspection, observation, testing, or reporting services for construction materials, products, and methods of construction. Such services include, but are not limited to geotechnical inspections, environmental inspections, mechanical and metallurgical analysis, non-destructive testing and evaluation, chemical analysis, and structural and product testing.

Listing agency. An established, independent, nationally recognized and accredited, third-party conformity assessment body that is accredited as a product certification body and conducts tests on materials, products, or methods of construction to certify products that meet the criteria for compliance with nationally recognized codes and standards. The product certification body allows its insignia of conformity to be placed on a material or product by the manufacturer, identifying that the material or product has been certified by the product certification body. The product certification body maintains a list or directory of all of the materials and products that they have certified and the conditions of their use.

Material. A manufactured form or substance designed to act as a whole.

Method of construction. A procedure or system intended to result in a finished building, structure or portion thereof.

Product. A material or device designed and manufactured to perform a predetermined function. Appliances, assemblies and equipment are also considered products.

Product certification body. An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in conducting evaluation services, inspections and tests on materials and products to certify compliance with nationally

recognized codes and standards. Product Certification Bodies are sub-classified as either Evaluation Services or Listing Agencies.

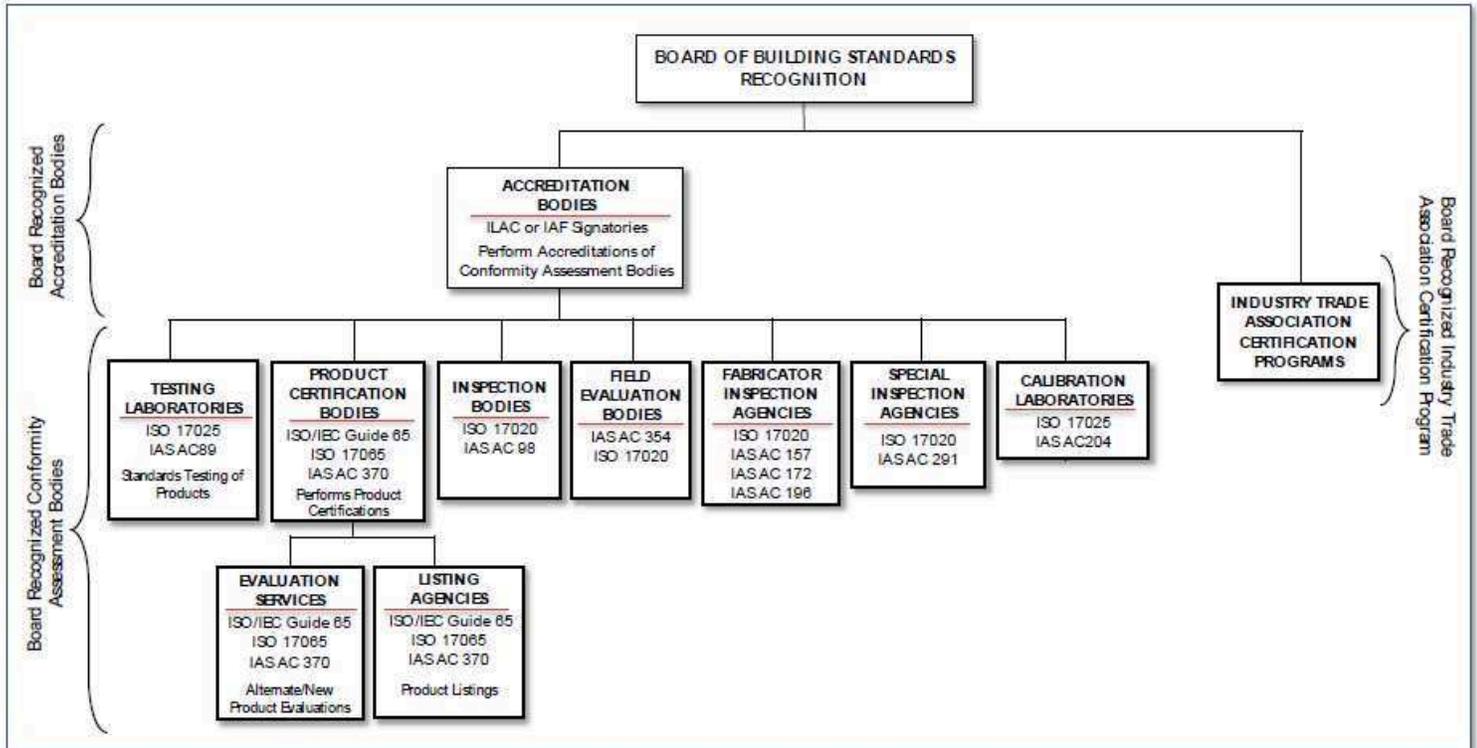
Recognition. An acceptance by the board of building standards of an accreditation body, a conformity assessment body, or an industry trade association certification program in accordance with the rules of the board of building standards.

Special inspection agency. An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in performing special inspections as required by Chapter 17.

Testing laboratory. An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in conducting tests of materials, products, or methods of construction to determine compliance with a specification or testing standard. The testing laboratory issues a report documenting the test results.

Figure 114.2

ORGANIZATION OF BOARD RECOGNIZED BODIES AND CERTIFICATION PROGRAMS



ILAC – International Laboratory Accreditation Cooperation
 IAF – International Accreditation Forum
 ISO – International Organization for Standardization
 IAS – International Accreditation Service
 IEC – International Electrotechnical Commission

114.3 Building official approval process. *The building official shall approve the use of products in accordance with Sections 114.3.1 through 114.3.3.*

114.3.1 Materials, products, assemblies and methods of construction prescribed in the code.

114.3.1.1 Testing laboratories. *When test reports are required to be submitted or when the rules of the Board require materials, products, assemblies and methods of construction to conform to specific referenced standards, the building official shall verify that the proposed material, product, assembly, and method of construction has been tested by a testing laboratory recognized by the board and published on the list titled “Recognized Conformity Assessment Bodies” found on the board’s website at <http://www.com.ohio.gov/dico/bbs>.*

The building official shall verify that the testing laboratory is accredited to perform the specific tests prescribed in the code by verifying the testing laboratory's "scope of accreditation" found on the testing laboratory's website.

Exceptions:

1. Acceptance, performance, and operational testing reports submitted in accordance with Section 108.8 are permitted to be prepared and submitted by the individual performing the acceptance, performance, and operational tests. Board recognition is not required for persons conducting acceptance, performance, or operational tests.
2. Special inspection reports submitted in accordance with Section 1704.1.2 are permitted to be prepared and submitted by the special inspector defined in Section 1702.1 and qualified in accordance with Section 1704.1. Board recognition is not required for all special inspectors.

114.3.1.2 Listing agencies. When the rules of the Board require materials, products, assemblies and methods of construction to be marked or listed and labeled in accordance with a specific referenced standard, the building official shall verify that the proposed material, product, assembly, and method of construction has been listed and labeled by a listing agency recognized by the board and published on the list titled "Recognized Conformity Assessment Bodies" found on the board's website at <http://www.com.ohio.gov/dico/bbs>.

Building officials are authorized to approve listed and labeled materials, products, assemblies and methods of construction after verifying all of the following additional information:

1. The product is listed on the product certification body's website directory.
2. The listing is current.
3. The product is proposed to be installed/used in accordance with the listing.

4. When used as an assembly, the assembly is proposed to be installed/used in compliance with this code.

5. The extent of the listing does not include in its scope, elements of design, construction or installation otherwise in conflict with the provisions of this code such as fire-resistance and structural design.

114.3.2 Alternative materials, products, assemblies and methods of construction not prescribed in the code. The provisions of this code are not intended to prevent the installation of any material or to prohibit any material, product, assembly or method of construction not specifically prescribed by this code, provided that any such alternative shall have a valid research report or listing from an evaluation service recognized by the board and published on a list titled “Recognized Conformity Assessment Bodies” found on the board’s website at <http://www.com.ohio.gov/dico/bbs>.

The alternative material, product, assembly, or method of construction shall be deemed to be approved provided it complies with the conditions listed in the research report or listing found on the evaluation service’s website.

Exceptions:

1. Alternative materials, products, assemblies, or methods of construction submitted pursuant to section 106.5.
2. Industrialized units shall be approved and constructed in accordance with section 113.1 of this chapter.

114.3.3 Used materials and products. The use of used materials and products which meet the requirements of this code for new materials and products is permitted. Used products and materials shall not be reused unless approved by the building official.

114.4 Process for board-recognition of “Accreditation Bodies,” “Conformity Assessment Bodies,” and “Industry Trade Association Certification Programs.” All accreditation bodies, conformity assessment bodies, and industry trade association certification programs shall be recognized by the board in accordance with division 4101:7 of the Administrative Code.

Section 115
Construction documents examination and inspection fees

115.1 ~~Payment of Certified building department~~ fees. Fees for construction documents submitted to and inspections made by certified building departments shall be in accordance with the locally adopted fee schedule.

115.2 ~~Schedule~~ Division of industrial compliance schedule of fees. The fees for examination and processing of construction documents when required to be submitted to the division of industrial compliance, except medical gas piping systems, shall be in accordance with Table 115.2. The filing process for an application for plan approval specified in section 107.2 will not be considered complete until the applicable fees have been paid in accordance with table 115.2.

Exception: Fees for alteration or change of occupancy as determined by the building official shall be based on the actual area affected by the alteration or change of occupancy which may extend beyond the limits of construction.

115.2.1 Additional inspections. The division of industrial compliance may establish a written policy for the maximum number of inspections required by sections 108.2 and 105.1.5 that may be included in the fees set forth in Table 115.2. Inspections in excess of the maximum number established by the division of industrial compliance shall be subject to fee of one hundred fifty dollars per inspection.

115.2.2 Resubmissions. The fees set forth in Table 115.2 shall include one initial plan review and up to two resubmission plan reviews to resolve issues resulting from correction letters. The fee for plan review after the second resubmission shall be of one hundred dollars for each additional resubmission.

115.2.3 Re-stamping. The processing fee for re-stamping additional sets of construction documents after initial plan approval shall be one hundred dollars.

115.2.4 Amended construction documents. The processing fee for amended construction documents submitted to the division of industrial compliance in accordance with section 106.3 shall be two hundred fifty dollars. The fee for plans examination of amended construction documents submitted to the division of industrial compliance in accordance with section 106.3 shall be one hundred dollars per hour for each submission.

115.2.5 Phased plan approval. *The fees for plan examination and processing of a phased plan approval request per section 105.1.4 shall be in accordance with Table 115.2 and section 115.2.1 for the initial phase submission of each scope of work. The processing fee for plan examination of each subsequent phase of submission shall be two hundred fifty dollars.*

Table 115.2

Scope of Work	Processing Fee	Fee for Plans Examination and a minimum of Five Inspections
<i>(1) Structural</i>	\$250.00	\$9.50/100 sq. ft. gross area of each floor level
<i>(2) Mechanical</i>	\$250.00	\$5.75/100 sq. ft. gross area of each floor level
<i>(3) Electrical</i>	\$250.00	\$5.75/100 sq. ft. gross area of each floor level
<i>(4) Fire alarm systems</i>	\$250.00	\$5.75 per device
<i>(5) Automatic sprinkler and other fire suppression systems (all suppressed areas)</i>	\$250.00	\$5.75/100 sq. ft. gross area of each floor level
<i>(6) Industrial unit</i>	\$200.00	\$1.75/100 sq. ft. gross area of each floor level

115.3 Medical gas piping systems. *The fees for examination and processing of construction documents for medical gas piping systems when required to be submitted to the division of industrial compliance shall be in accordance with Table 115.3.*

115.3.1 Additional inspections. *The division of industrial compliance may establish a written policy for the maximum number of inspections required by sections 104.4 and 105.1 that may be included in the fees set forth in Table 115.3 for medical gas piping systems. Inspections in excess of the maximum number established by the division of industrial compliance shall be subject to a fee of one hundred fifty dollars per inspection.*

Table 115.3

Medical Gas Piping System Processing, Plans Examination, and Inspections	Fee (includes a minimum of two inspections)
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<i>Processing</i>	\$250.00
<i>Plans Examination</i>	\$250.00
<i>Per room (with outlets) and equipment rooms</i>	\$10.00
<i>Per zone valve assembly</i>	\$25.00
<i>Per system</i>	\$25.00
<i>Per "tie-in"</i>	\$25.00

115.4 Preliminary review. *The fee for preliminary construction document examination for the purpose of determining compliance with the provisions of the rules of the board by the division of industrial compliance shall be one hundred thirty dollars per hour.*

115.5 Inspection fees. *The fee for each inspection, other than those required by section 108.2 and 105.1.5 shall be two hundred twenty-five dollars per inspection. Requests for all inspections shall be in writing to the division of industrial compliance and the fee shall be paid prior to the inspection.*

Fees for an application pursuant to section 105.1.5 shall include a processing fee of one hundred fifty dollars. The fee for periodic inspections conducted by the division of industrial compliance shall include the hourly inspection rate and expenses such as food, lodging, and administrative costs. All such fees shall be paid by the holder of an annual approval.

115.6 Reinspection fee. *The fee for each reinspection shall be one hundred fifty dollars. A reinspection shall be required when the inspector must return to inspect work that was not ready or had failed a previous inspection.*

115.7 Related fees. *In addition to the fees required by sections 115.2, 115.3 and 115.4, the superintendent of the division of industrial compliance shall collect a fee, on behalf of the board of building standards, of three dollars and twenty-five cents for each application for acceptance and approval of construction documents and for making inspections.*

The fee shall be deposited by the division of industrial compliance, pursuant to section 121.084 of the Revised Code, to the credit of the board. The superintendent of the division shall report on the amount of the fees collected and deposited to the credit of the board not later than forty-five days following the end of the first full month's collection and then monthly afterward.

115.8 Late fee. *Any person who fails to pay an inspection fee required for any inspection conducted by the department of commerce pursuant to Chapters 3781.*

and 3791. of the Revised Code, except for fees charged for the examination and processing of construction documents, within forty-five days after the inspection is conducted shall pay a late payment fee equal to twenty-five per cent of the inspection fee.

115.9 Certificate of occupancy. The fee for each certificate of occupancy issued in accordance with section 111 shall be sixty-five-dollars.

115.10 Annual approval for alterations. The fee for each annual approval for an individual applicant issued in accordance with section 105.1.5 shall be six hundred fifty dollars.

115.11 Welding and brazing procedure specification review. The fee for the review of each piping welding and brazing specification submitted in accordance with section 313.5 of the mechanical code and section 315.5 of the plumbing code shall be sixty dollars.

115.12 Welding and brazing procedure qualification record review. The fee for the review of each procedure qualification record submitted in accordance with section 313.5 of the mechanical code and section 315.5 of the plumbing code shall be fifteen dollars.

115.13 Welding and brazing performance qualification review. The fee for the review of each performance qualification submitted in accordance with section 313.5 of the mechanical code and section 315.5 of the plumbing code shall be fifteen dollars.

Section 116 Board Organization

116.1 Meetings.

1. **Meeting schedule.** No later than December thirty-first of each year, the board shall establish a schedule of the dates, times, and locations of all regular board meetings and meetings of board committees for the following calendar year. Such schedule shall be posted on the board's website: <http://www.com.ohio.gov/dico/BBS.aspx> <http://www.com.ohio.gov/dico/bbs>.
2. **Meeting location.** All meetings of the board shall be held in offices of the Ohio department of commerce, training room #1, 6606 Tussing Rd.,

Reynoldsburg, Ohio, 43068, unless otherwise designated.

116.2 Notices. *Prior to all regular or special meetings of the board, the executive secretary shall distribute the agenda, including meeting date, time, and location, by electronic mail to any person who has requested such information.*

116.3 Rules. *All rules of the board shall be adopted in accordance with Chapter 119. of the Revised Code.*

116.4 Board committees and duties. *The board shall have three standing committees.*

1. Code committee. *The code committee provides general oversight of the board's rule promulgation and code development activities. The committee reviews proposed rule changes and petitions for code changes and shall make recommendations to the board for action.*

2. Education committee. *The education committee provides general oversight to the board's continuing education program. The committee reviews continuing education course applications submitted for approval pursuant to paragraph (G) of rule 4101:7-3-01 of the Administrative Code and shall make recommendations to the board for action on the applications.*

3. Certification committee. *The certification committee provides general oversight to the board's personnel and building department certification program. The committee reviews personnel and building department certification applications submitted for approval pursuant to paragraph (G) of rule 4101:7-3-01 of the Administrative Code and shall make recommendations to the board for action on the applications.*

Effective: 07/01/2014

R.C. 119.032 review dates: 11/01/2016

CERTIFIED ELECTRONICALLY

Certification

04/14/2014

Date

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Statutory Authority: 3781.10(A), 4104.43(A)(1)
Rule Amplifies: 2744., 3781.03, 3781.031, 3781.10, 3781.11, 3791.04
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1/1/83, 1/1/84, 3/1/84, 3/5/84, 3/1/85, 7/1/85, 12/1/85,
3/1/86, 9/1/86, 7/1/87, 1/1/88, 10/1/88, 1/1/89, 1/1/90,
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1/1/97, 7/1/97, 1/1/98, 3/1/98, 4/1/99, 10/1/99,
7/15/00, 12/1/00, 4/1/01, 1/1/02, 7/1/02, 1/1/03,
4/1/03, 7/1/03, 8/15/03, 1/1/04, 7/1/04, 3/1/05, 9/6/05,
3/1/06, 7/1/06, 7/1/07, 1/1/09, 7/1/09, 11/1/11,
3/11/12, 3/12/12(Emer.), 6/8/12, 3/01/13

4101:1-2-01 Definitions.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

**SECTION 201
GENERAL**

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words stated in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

Terms defined in other codes. Where terms are not defined in this code and are defined in the “*International Fuel Gas Code*”, *fire code*, *mechanical code* or *plumbing code*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

**SECTION 202
DEFINITIONS**

AAC MASONRY. See Section 2102.1.

ACCESSIBLE. See Section 1102.1.

ACCESSIBLE MEANS OF EGRESS. See Section 1002.1.

ACCESSIBLE ROUTE. See Section 1102.1.

ACCESSIBLE UNIT. See Section 1102.1.

ACCREDITATION BODY. See Section 2302.1.

ADDITION. An extension or increase in floor area or height of a building or structure.

ADHERED MASONRY VENEER. See Section 1402.1.

ADOBE CONSTRUCTION. See Section 2102.1.

Adobe, stabilized. See Section 2102.1.

Adobe, unstabilized. See Section 2102.1.

ADULT FAMILY HOME. *A residence or facility that provides accommodations for three to five unrelated adults and supervision and personal care services to at least three of those adults. All adults to whom the residence or facility provides accommodations shall be considered in determining the total number. (Adult family homes are not regulated by the OBC, OMC or OPC - see section 3722.01 of the Revised Code and the Residential Code of Ohio.)*

AEROSOL. See Section 307.2.

Level 1 aerosol products. See Section 307.2.

Level 2 aerosol products. See Section 307.2.

Level 3 aerosol products. See Section 307.2.

AEROSOL CONTAINER. See Section 307.2.

AGGREGATE. See Section 1502.1.

AGRICULTURAL, BUILDING. A structure designed and constructed to house farm implements, hay, grain, poultry, livestock or other horticultural products. (see “**AGRICULTURAL PURPOSES**”, section 101.2, and section 312 of this code).

AGRICULTURAL LABOR CAMPS. *Camps as defined in section 3733.41 of the Revised Code.*

AGRICULTURAL PURPOSES: *Includes agriculture, farming, dairying, pasturage, apiculture, horticultural, floriculture, viticulture, ornamental horticulture, olericulture, pomiculture, animal and poultry husbandry, etc.*

AIR-INFLATED STRUCTURE. See Section 3102.2.

AIR-SUPPORTED STRUCTURE. See Section 3102.2.

Double skin. See Section 3102.2.

Single skin. See Section 3102.2.

AIRCRAFT HANGER, RESIDENTIAL. *See section 412.3.1.*

AISLE. See Section 1002.1.

AISLE ACCESSWAY. See Section 1002.1.

ALARM NOTIFICATION APPLIANCE. See Section 902.1.

ALARM SIGNAL. See Section 902.1.

ALARM VERIFICATION FEATURE. See Section 902.1.

ALLOWABLE STRESS DESIGN. See Section 1602.1.

ALTERATION. Any construction or renovation to an existing structure other than repair or *addition*.

ALTERNATING TREAD DEVICE. See Section 1002.1.

AMBULATORY HEALTH CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation.

AMUSEMENT ~~PARK RIDES~~ RIDE. *Any mechanical ~~device~~, aquatic, or inflatable device, or combination of those devices ~~which~~ that carries or conveys*

passengers on, along, around, over, or through a fixed or restricted course or within a defined area for the purpose of ~~giving its passengers~~ providing amusement, pleasure, or excitement and includes carnival rides, bungee jumping facilities, and fair rides (for regulation and definition, see sections 1711.50 to 1711.57 of the Revised Code) but does not include passenger tramways as defined in section 4169.01 of the Revised Code or amusement rides operated solely at trade shows for a limited period of time. For regulation and definitions, see sections 1711.50 to 1711.57 of the Revised Code. Amusement park rides are not regulated by this code but are regulated by the Ohio department of agriculture. ~~(also~~ Also see section 411, Special Amusement Buildings).

ANCHOR. See Section 2102.1.

ANCHOR BUILDING. See Section 402.2.

ANCHORED MASONRY VENEER. See Section 1402.1.

ANNULAR SPACE. See Section 702.1.

ANNUNCIATOR. See Section 902.1.

APPROVED. *Determined to be in compliance by the authority having jurisdiction in accordance with the rules of the board.*

APPROVED AGENCY. ~~See Section 1702.1. An established and accredited testing laboratory, listing agency, inspection body, or field evaluation body recognized by the board of building standards providing services consistent with their accreditation and the code section requiring the approved agency service.~~

APPROVED FABRICATOR. See Section 1702.1.

APPROVED NATIONAL AND ACCREDITATION SERVICE. *An established and nationally recognized service regularly engaged in evaluating the competency of agencies to conduct tests and inspections required by the rules of the board.*

APPROVED SOURCE. *Deleted.*

ARCHITECTURAL TERRA COTTA. See Section 2102.1.

AREA (for masonry). See Section 2102.1.

Bedded. See Section 2102.1.

Gross cross-sectional. See Section 2102.1.

Net cross-sectional. See Section 2102.1.

AREA, BUILDING. See Section 502.1.

AREA OF REFUGE. See Section 1002.1.

AREAWAY. A subsurface space adjacent to a building open at the top or protected at the top by a grating or guard.

ASSISTED LIVING FACILITIES. See Section 310.2, “Residential Care/Assisted living facilities.”

ATRIUM. See Section 404.1.1.

ATTIC. The space between the ceiling beams of the top story and the roof rafters.

AUDIBLE ALARM NOTIFICATION APPLIANCE. See Section 902.1.

AUTOCLAVED AERATED CONCRETE (AAC). See Section 2102.1.

AUTOMATIC. See Section 902.1.

AUTOMATIC FIRE-EXTINGUISHING SYSTEM. See Section 902.1.

AUTOMATIC SMOKE DETECTION SYSTEM. See Section 902.1.

AUTOMATIC SPRINKLER SYSTEM. See Section 902.1.

AVERAGE AMBIENT SOUND LEVEL. See Section 902.1.

AWNING. An architectural projection that provides weather protection, identity or decoration and is wholly supported by the building to which it is attached. An awning is comprised of a lightweight frame structure over which a covering is

attached.

BACKING. See Section 1402.1.

BALED COTTON. See Section 307.2.

BALED COTTON, DENSELY PACKED. See Section 307.2.

BALLAST. See Section 1502.1.

BARRICADE. See Section 307.2.

Artificial barricade. See Section 307.2.

Natural barricade. See Section 307.2.

BASE FLOOD. See Section 1612.2.

BASE FLOOD ELEVATION. See Section 1612.2.

BASEMENT (for other than flood loads). See Section 502.1.

BASEMENT (for flood loads). See Section 1612.2.

BEARING WALL STRUCTURE. See Section 1614.2.

BED JOINT. See Section 2102.1.

BLEACHERS. See Section 1002.1.

BOARDING HOUSE. See Section 310.2.

BOILING POINT. See Section 307.2.

BOND BEAM. See Section 2102.1.

BRACED WALL LINE. See Section 2302.1.

BRACED WALL PANEL. See Section 2302.1.

BRICK. See Section 2102.1.

Calcium silicate (sand lime brick). See Section 2102.1.

Clay or shale. See Section 2102.1.

Concrete. See Section 2102.1.

BUILDING. *Any structure consisting of foundations, walls, columns, girders, beams, floors, and roof, or a combination of any number of these parts, with or without other parts or appurtenances.*

BUILDING DEPARTMENT. *An agency, department or division of the state or of the government of a municipal corporation, township, or county, which has been created and authorized in conformity with law for the purpose of enforcing construction code provisions of the board's rules applicable to structures specified in section 3781.06 of the Revised Code.*

BUILDING LINE. *The line established by law, beyond which a building shall not extend, except as specifically provided by law.*

BUILDING OFFICIAL. *The superintendent of the division of industrial compliance of the Ohio department of commerce or the person appointed by the superintendent to enforce this code in that division, or the designated authority charged with the administration and enforcement of this code, approved by the board in accordance with section 103 of this code, in a municipal corporation, township or county having a building department, certified by the board pursuant to section 3781.10 of the Revised Code, or the health commissioner or his authorized representative in health districts, whichever one has jurisdiction.*

BUILDING SERVICE EQUIPMENT. *Equipment, materials, devices, and systems integrated into a building which provide air conditioning, fire protection, lighting, electricity, sanitation, water, space heating, ventilation and other media such as gases and fluids for use within a building. Processing equipment is not part of the building service equipment. Building service equipment begins from the utility supply/connection point through point of use but does not include processing equipment.*

BUILDING SERVICES PIPING. *All piping systems and their component parts that are part of a building system and that promote the safe, sanitary, and energy efficient occupancy of a building. Building services piping includes, but is not limited to, cold and hot potable water distribution for plumbing fixtures; sanitary lines from plumbing fixtures; nonflammable medical gas systems; medical oxygen systems; medical vacuum systems; fire protection piping systems and compressed air in dry systems; refrigeration, chilled water, condenser and cooling tower water, brine, and water/antifreeze systems; steam, steam condensate, and hot*

water piping systems; and fuel oil piping and fuel gas piping for heating, cooling, and cooking applications.

BUILT-UP ROOF COVERING. See Section 1502.1.

CABLE-RESTRAINED, AIR-SUPPORTED STRUCTURE. See Section 3102.2.

CANOPY. A permanent structure or architectural projection of rigid construction over which a covering is attached that provides weather protection, identity or decoration, and shall be structurally independent or supported by attachment to a building on one end and by not less than one stanchion on the outer end.

CARBON DIOXIDE EXTINGUISHING SYSTEMS. See Section 902.1.

CAST STONE. See Section 2102.1.

CEILING LIMIT. See Section 902.1.

CEILING RADIATION DAMPER. See Section 702.1.

CELL. See Section 408.1.1.

CELL (masonry). See Section 2102.1.

CELL TIER. See Section 408.1.1.

CEMENT PLASTER. See Section 2502.1.

CERAMIC FIBER BLANKET. See Section 721.1.1.

CERTIFICATE OF COMPLIANCE. See Section 1702.1.

CHILD CARE FACILITIES. See Section 308.3.1. *Also see TYPE A FAMILY DAY-CARE HOME AND TYPE B FAMILY DAY-CARE HOME.*

CHIMNEY. See Section 2102.1.

CHIMNEY TYPES. See Section 2102.1.

High-heat appliance type. See Section 2102.1.

Low-heat appliance type. See Section 2102.1.

Masonry type. See Section 2102.1.

Medium-heat appliance type. See Section 2102.1.

CIRCULATION PATH. See Section 1102.1.

CLEAN AGENT. See Section 902.1.

CLEANOUT. See Section 2102.1.

CLINIC, OUTPATIENT. See Section 304.1.1.

CLOSED CONSTRUCTION. *See section 114.*

CLOSED SYSTEM. See Section 307.2.

COLLAR JOINT. See Section 2102.1.

COLLECTOR. See Section 2302.1.

COMBINATION FIRE/SMOKE DAMPER. See Section 702.1.

COMBUSTIBLE DUST. See Section 307.2.

COMBUSTIBLE FIBERS. See Section 307.2.

COMBUSTIBLE LIQUID. See Section 307.2.

Class II. See Section 307.2.

Class IIIA. See Section 307.2.

Class IIIB. See Section 307.2.

COMBUSTIBLE MATERIAL. *See section 703.4.*

COMMERCIAL COOKING RECIRCULATING SYSTEM. *Self-contained system consisting of the exhaust hood, the cooking equipment, the filters, and the fire suppression system. The system is designed to capture cooking vapors and residues generated from commercial cooking equipment. The system removes contaminants from the exhaust air and recirculates the air to the space from which it was withdrawn.*

COMMON USE. See Section 1102.1.

COMMON PATH OF EGRESS TRAVEL. See Section 1002.1.

COMPRESSED GAS. See Section 307.2.

COMPRESSIVE STRENGTH OF MASONRY. See Section 2102.1.

CONCRETE, CARBONATE AGGREGATE. See Section 721.1.1.

CONCRETE, CELLULAR. See Section 721.1.1.

CONCRETE, LIGHTWEIGHT AGGREGATE. See Section 721.1.1.

CONCRETE, PERLITE. See Section 721.1.1.

CONCRETE, SAND-LIGHTWEIGHT. See Section 721.1.1.

CONCRETE, SILICEOUS AGGREGATE. See Section 721.1.1.

CONCRETE, VERMICULITE. See Section 721.1.1.

CONGREGATE LIVING FACILITIES. See Section 310.2.

CONNECTOR. See Section 2102.1.

CONSTANTLY ATTENDED LOCATION. See Section 902.1.

CONSTRUCTION DOCUMENTS. *Written, graphic and pictorial documents prepared or assembled for describing the design, location and physical characteristics of the elements of a project necessary for obtaining plan approval in accordance with section 106.*

CONSTRUCTION TYPES. See Section 602.

Type I. See Section 602.2.

Type II. See Section 602.2.

Type III. See Section 602.3.

Type IV. See Section 602.4.

Type V. See Section 602.5.

CONTINUOUS GAS DETECTION SYSTEM. See Section 415.2.

CONTROL AREA. See Section 307.2.

CONTROLLED LOW-STRENGTH MATERIAL. A self-compacted, cementitious material used primarily as a backfill in place of compacted fill.

CONVENTIONAL LIGHT-FRAME CONSTRUCTION. See Section 2302.1.

CORRIDOR. See Section 1002.1.

CORROSION RESISTANCE. The ability of a material to withstand deterioration of its surface or its properties when exposed to its environment.

CORROSIVE. See Section 307.2.

COURT. An open, uncovered space, unobstructed to the sky, bounded on three or more sides by exterior building walls or other enclosing devices.

COVER. See Section 2102.1.

COVERED MALL BUILDING. See Section 402.2.

Mall. See Section 402.2.

Open mall. See Section 402.2.

Open mall building. See Section 402.2.

CREDENTIALS. *The badge of office, certificate, or letter issued by a governmental department to an employee for the identification of said employee in the performance of his duties.*

CRIPPLE WALL. See Section 2302.1.

CRYOGENIC FLUID. See Section 307.2.

CUSTODIAL CARE. *Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. Custodial care includes care for occupants that have the ability to respond to emergency situations and evacuate at a slower rate and/or who have mental and psychiatric complications.*

DALLE GLASS. See Section 2402.1.

DAMPER. See Section 702.1.

DANGEROUS. See Section 3402.1.

DAY BOX. See Section 307.2.

DEAD LOADS. See Section 1602.1.

DECORATIVE GLASS. See Section 2402.1.

DECORATIVE MATERIALS. All materials applied over the building interior finish for decorative, acoustical or other effect (such as curtains, draperies, fabrics, streamers and surface coverings), and all other materials utilized for decorative effect (such as batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items), including foam plastics and materials containing foam plastics. Decorative materials do not include floor coverings, ordinary window shades, interior finish and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

DEEP FOUNDATION. See Section 1802.1.

DEFLAGRATION. See Section 307.2.

DELUGE SYSTEM. See Section 902.1.

DESIGN DISPLACEMENT. See Section 1908.1.1.

DESIGN EARTHQUAKE GROUND MOTION. See Section 1613.2.

DESIGN FLOOD. See Section 1612.2.

DESIGN FLOOD ELEVATION. See Section 1612.2.

DESIGN STRENGTH. See Section 1602.1.

DESIGNATED SEISMIC SYSTEM. See Section 1702.1.

DETACHED BUILDING. See Section 415.2.

DETAILED PLAIN CONCRETE STRUCTURAL WALL. See Section 1908.1.1.

DETECTABLE WARNING. See Section 1102.1.

DETECTOR, HEAT. See Section 902.1.

DETONATION. See Section 307.2.

DETOXIFICATION FACILITY. See Section 308.3.1.

DIAPHRAGM. See Sections 1602.1 and 2302.1.

Diaphragm, blocked. See Section 1602.1.

Diaphragm, boundary. See Section 1602.1.

Diaphragm, chord. See Section 1602.1.

Diaphragm, flexible. See Section 1602.1.

Diaphragm, rigid. See Section 1602.1.

Diaphragm, unblocked. See Section 2302.1.

DIMENSIONS. See Section 2102.1.

Actual. See Section 2102.1.

Nominal. See Section 2102.1.

Specified. See Section 2102.1.

DISPENSING. See Section 307.2.

DOOR, BALANCED. See Section 1002.1.

DORMITORY. See Section 310.2.

DRAFTSTOP. See Section 702.1.

DRAG STRUT. See Section 2302.1.

DRILLED SHAFT. See Section 1802.1.

Socketed drilled shaft. See Section 1802.1.

DRY-CHEMICAL EXTINGUISHING AGENT. See Section 902.1.

DRY FLOODPROOFING. See Section 1612.2.

DURATION OF LOAD. See Section 1602.1.

DWELLING. ~~A structure consisting exclusively of three or fewer dwelling units, with or without garages or accessory spaces, used, intended, or designed to be used, for living purposes~~ Any building that exclusively contains one, two, or three dwelling units, each of which may be occupied by a family and no more than five lodgers or boarders, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that is occupied for living purposes, physically separated from adjacent structures, and with an independent exit from each dwelling unit.

DWELLING, ONE-, TWO-, OR THREE- FAMILY. ~~See section 310.2 Dwelling.~~

DWELLING UNIT. A single unit providing complete, independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation. *The dwelling unit may include any accessory space intended for the exclusive use of the occupants of an individual dwelling unit such as a private garage, greenhouse, etc.*

DWELLING UNIT OR SLEEPING UNIT, MULTISTORY. See Section 1102.1.

DWELLING UNIT OR SLEEPING UNIT, TYPE A. See Section 1102.1.

DWELLING UNIT OR SLEEPING UNIT, TYPE B. See Section 1102.1.

EGRESS COURT. See Section 1002.1.

ELEVATOR GROUP. See Section 902.1.

EMERGENCY ALARM SYSTEM. See Section 902.1.

EMERGENCY CONTROL STATION. See Section 415.2.

EMERGENCY ESCAPE AND RESCUE OPENING. See Section 1002.1.

EMERGENCY VOICE/ALARM COMMUNICATIONS. See Section 902.1.

EMPLOYEE WORK AREA. See Section 1102.1.

EQUIPMENT PLATFORM. See Section 502.1.

ESSENTIAL FACILITIES. See Section 1602.1.

EXHAUSTED ENCLOSURE. See Section 415.2.

EXISTING CONSTRUCTION. See Section 1612.2.

EXISTING STRUCTURE. A structure *regulated by this code that was erected or one for which a plan approval has been issued.* See also Section 1612.2.

EXIT. See Section 1002.1.

EXIT ACCESS. See Section 1002.1.

EXIT ACCESS DOORWAY. See Section 1002.1.

EXIT DISCHARGE. See Section 1002.1.

EXIT DISCHARGE, LEVEL OF. See Section 1002.1.

EXIT ENCLOSURE. See Section 1002.1.

EXIT, HORIZONTAL. See Section 1002.1.

EXIT PASSAGEWAY. See Section 1002.1.

EXPANDED VINYL WALL COVERING. See Section 802.1.

EXPLOSION. See Section 307.2.

EXPLOSIVE. See Section 307.2.

High explosive. See Section 307.2.

Low explosive. See Section 307.2.

Mass detonating explosives. See Section 307.2.

UN/DOtn Class 1 Explosives. See Section 307.2.

Division 1.1. See Section 307.2.

Division 1.2. See Section 307.2.

Division 1.3. See Section 307.2.

Division 1.4. See Section 307.2.

Division 1.5. See Section 307.2.

Division 1.6. See Section 307.2.

EXTERIOR INSULATION AND FINISH SYSTEM (EIFS). See Section 1402.1.

EXTERIOR INSULATION AND FINISH SYSTEM

(EIFS) WITH DRAINAGE. See Section 1402.1.

EXTERIOR SURFACES. See Section 2502.1.

EXTERIOR WALL. See Section 1402.1.

EXTERIOR WALL COVERING. See Section 1402.1.

EXTERIOR WALL ENVELOPE. See Section 1402.1.

F RATING. See Section 702.1.

FABRIC PARTITION. See Section 1602.1.

FABRICATED ITEM. See Section 1702.1.

FABRICATION AREA. See Section 415.2.

FACILITY. See Section 1102.1.

FACTORED LOAD. See Section 1602.1.

FIBER CEMENT SIDING. See Section 1402.1.

FIBER REINFORCED POLYMER. See Section 2602.1.

Fiberglass Reinforced Polymer. See Section 2602.1.

FIBERBOARD. See Section 2302.1.

FIRE ALARM BOX, MANUAL. See Section 902.1.

FIRE ALARM CONTROL UNIT. See Section 902.

FIRE ALARM SIGNAL. See Section 902.1.

FIRE ALARM SYSTEM. See Section 902.1.

FIRE AREA. See Section 902.1.

FIRE BARRIER. See Section 702.1.

FIRE CODE. *“Ohio Fire Code”.*

FIRE COMMAND CENTER. See Section 902.1.

FIRE DAMPER. See Section 702.1.

FIRE DETECTOR, AUTOMATIC. See Section 902.1.

FIRE DOOR. See Section 702.1.

FIRE DOOR ASSEMBLY. See Section 702.1.

FIRE EXIT HARDWARE. See Section 1002.1.

FIRE LANE. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

FIRE PARTITION. See Section 702.1.

***FIRE PREVENTION.** The preventative measures which provide for the safe conduct and operation of hazardous processes, storage of combustible and flammable materials, conducting of fire drills and the maintenance of fire protection, detection and extinguishing service equipment and good housekeeping conditions.*

FIRE PROTECTION RATING. See Section 702.1.

FIRE PROTECTION SYSTEM. See Section 902.1.

FIRE RESISTANCE. See Section 702.1.

FIRE-RESISTANCE RATING. See Section 702.1.

FIRE-RESISTANT JOINT SYSTEM. See Section 702.1.

FIRE SAFETY FUNCTIONS. See Section 902.1.

FIRE SEPARATION DISTANCE. See Section 702.1.

FIRE WALL. See Section 702.1.

FIRE WINDOW ASSEMBLY. See Section 702.1.

FIREBLOCKING. See Section 702.1.

FIREPLACE. See Section 2102.1.

FIREPLACE THROAT. See Section 2102.1.

FIREWORKS. See Section 307.2.

Fireworks, 1.3G. See Section 307.2.

Fireworks, 1.4G. See Section 307.2.

FIXED BASE OPERATOR (FBO). See Section 412.2.

FLAME SPREAD. See Section 802.1.

FLAME SPREAD INDEX. See Section 802.1.

FLAMMABLE GAS. See Section 307.2.

FLAMMABLE LIQUEFIED GAS. See Section 307.2.

FLAMMABLE LIQUID. See Section 307.2.

Class IA. See Section 307.2.

Class IB. See Section 307.2.

Class IC. See Section 307.2.

FLAMMABLE MATERIAL. See Section 307.2.

FLAMMABLE SOLID. See Section 307.2.

FLAMMABLE VAPORS OR FUMES. See Section 415.2.

FLASH POINT. See Section 307.2.

FLIGHT. See Section 1002.1.

FLOOD OR FLOODING. See Section 1612.2.

FLOOD DAMAGE-RESISTANT MATERIALS. See Section 1612.2.

FLOOD HAZARD AREA. See Section 1612.2.

FLOOD HAZARD AREA SUBJECT TO HIGH-VELOCITY WAVE ACTION. See Section 1612.2.

FLOOD INSURANCE RATE MAP (FIRM). See Section 1612.2.

FLOOD INSURANCE STUDY. See Section 1612.2.

FLOODWAY. See Section 1612.2.

FLOOR AREA, GROSS. See Section 1002.1.

FLOOR AREA, NET. See Section 1002.1.

FLOOR FIRE DOOR ASSEMBLY. See Section 702.1.

FLY GALLERY. See Section 410.2.

FOAM-EXTINGUISHING SYSTEMS. See Section 902.1.

FOAM PLASTIC INSULATION. See Section 2602.1.

FOLDING AND TELESCOPIC SEATING. See Section 1002.1.

FOOD COURT. See Section 402.2.

FOUNDATION PIER. See Section 2102.1.

FRAME STRUCTURE. See Section 1614.2.

FURNACE ROOM. *A room primarily utilized for the installation of fuel-burning space-heating and water-heating appliances other than boilers.*

GAS CABINET. See Section 415.2.

GAS ROOM. See Section 415.2.

GASEOUS HYDROGEN SYSTEM. See Section 421.2.

GLASS FIBERBOARD. See Section 721.1.1.

GLUED BUILT-UP MEMBER. See Section 2302.1.

GRADE FLOOR OPENING. A window or other opening located such that the sill height of the opening is not more than 44 inches (1118 mm) above or below the finished ground level adjacent to the opening.

GRADE (LUMBER). See Section 2302.1.

GRADE PLANE. See Section 502.1.

GRANDSTAND. See Section 1002.1.

GRIDIRON. See Section 410.2.

GROSS LEASABLE AREA. See Section 402.2.

GROUTED MASONRY. See Section 2102.1.

Grouted hollow-unit masonry. See Section 2102.1.

Grouted multiwythe masonry. See Section 2102.1.

GUARD. See Section 1002.1.

GYPSUM BOARD. See Section 2502.1.

GYPSUM PLASTER. See Section 2502.1.

GYPSUM VENEER PLASTER. See Section 2502.1.

HABITABLE SPACE. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

HALOGENATED EXTINGUISHING SYSTEMS. See Section 902.1.

HANDLING. See Section 307.2.

HANDRAIL. See Section 1002.1.

HARDBOARD. See Section 2302.1.

HAZARDOUS MATERIALS. See Section 307.2.

HAZARDOUS PRODUCTION MATERIAL (HPM). See Section 415.2.

HEAD JOINT. See Section 2102.1.

HEALTH HAZARD. See Section 307.2.

HEIGHT, BUILDING. See Section 502.1.

HEIGHT, WALLS. See Section 2102.1.

HELICAL PILE. See Section 1802.1.

HELIPORT. See Section 412.2.

HELISTOP. See Section 412.2.

HIGH-RISE BUILDING. A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

HIGHLY TOXIC. See Section 307.2.

HISTORIC BUILDINGS. Buildings that are listed in or eligible for listing in the “National Register of Historic Places,” or designated as historic *by certified local governments in accordance with the National Historic Preservation Act of 1966 as amended.* See sections 3407 and 3409.9.

HOME. *An institution, residence, or facility, required to be licensed by the Ohio Department of Health, that provides, for a period of more than twenty-four hours, whether for a consideration or not, accommodations to three or more unrelated individuals who are dependent upon the services of others, including a nursing home, residential care facility, home for the aging, a veterans' home operated under Chapter 5907. of the Revised Code, and a county home or district home that is or has been licensed as a residential care facility. For the purposes of licensure of homes, pursuant to Chapter 3721. of the Revised Code, any residence, institution, hotel, congregate housing project, or similar facility that meets the definition of a home under this section is such a home regardless of how the facility holds itself out to the public.*

HOME, ADULT FAMILY. *A residence or facility that provides accommodations to three to five unrelated adults and supervision and personal care services to at least three of those adults. Adult Family Homes are exempt from the rules of the board.*

HOME, COUNTY AND DISTRICT. *A county home or district home operated under Chapter 5155. of the Revised Code.*

HOME FOR THE AGING. *A home that provides services as a residential care facility and a nursing home, except that the home provides its services only to individuals who are dependent on the services of others by reason of both age and*

physical or mental impairment. The part or unit of a home for the aging that provides services only as a residential care facility is required to be licensed by the Ohio Department of Health as a residential care facility. The part or unit that may provide skilled nursing care beyond the extent authorized by section 3721.011 [3721.01.1] of the Revised Code is required to be licensed as a nursing home.

HOME, NURSING. *A home used for the reception and care of individuals who by reason of illness or physical or mental impairment require skilled nursing care and of individuals who require personal care services but not skilled nursing care. A nursing home is required to be licensed by the Ohio Department of Health to provide personal care services and skilled nursing care.*

HOME, TYPE A FAMILY DAY-CARE. *A home where the administrator permanently resides and where care is provided for seven to twelve children under six years of age or four to twelve children when at least four are under two years of age. Licensure is required of these homes by the Ohio Department of Job and Family Services when at least one of the children cared for is not a sibling of the others and the home is not the permanent residence of the children. These homes are also referred to as Type A Homes and Type A Child Care and are exempt from the rules of the board. Also see Chapter 5104. of the Revised Code*

HOME, TYPE B FAMILY DAY-CARE. *A home where the administrator permanently resides and where care is provided for one to six children under six years of age with no more than three children under two years of age when at least one of the children cared for is not a sibling of the others and the home is not the permanent residence of the children. These homes are also referred to as Type B Homes and Type B Child Care and are exempt from the rules of the board. Also see Chapter 5104. of the Revised Code.*

HORIZONTAL ASSEMBLY. See Section 702.1.

HOSPITALS AND MENTAL HOSPITALS. See Section 308.3.1.

HOUSING UNIT. See Section 408.1.1.

HPM FLAMMABLE LIQUID. See Section 415.2.

HPM ROOM. See Section 415.2. **HURRICANE-PRONE REGIONS.** See Section 1609.2.

HYDROGEN CUTOFF ROOM. See Section 421.2.

IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH). See Section 415.2.

IMPACT LOAD. See Section 1602.1.

INCOMPATIBLE MATERIALS. See Section 307.2.

INDUSTRIALIZED UNITS. See section 117.

INERT GAS. See Section 307.2.

INITIATING DEVICE. See Section 902.1.

INSPECTION CERTIFICATE. See Section 1702.1.

INTENDED TO BE OCCUPIED AS A RESIDENCE. See Section 1102.1.

INTERIOR FINISH. See Section 802.1.

INTERIOR FLOOR FINISH. See Section 802.1.

INTERIOR FLOOR-WALL BASE. See Section 802.1.

INTERIOR SURFACES. See Section 2502.1.

INTERIOR WALL AND CEILING FINISH. See Section 802.1.

INTERLAYMENT. See Section 1502.1.

INTUMESCENT FIRE-RESISTANT COATINGS. See Section 1702.1.

JOINT. See Section 702.1.

JURISDICTION. *The authority to enforce this code by municipal corporations, townships or counties certified by the board in accordance with section 3781.10 of the Revised Code or the division of industrial compliance in the department of commerce.*

LABEL. An identification applied on a product by the manufacturer that contains the name of the manufacturer, the function and performance characteristics of the product or material, and the name and identification of an approved agency and that indicates that the representative sample of the product or material has been tested and evaluated by an approved agency (see Section 1703.5 and “Inspection certificate,” “Manufacturer’s designation” and “Mark”).

LABELED. Equipment, materials or products to which has been affixed a label, seal, symbol or other identifying mark of a nationally recognized testing laboratory, inspection agency or other organization concerned with product evaluation that maintains periodic inspection of the production of the above-labeled items and whose labeling indicates either that the equipment, material or product meets identified standards or has been tested and found suitable for a specified purpose.

LIGHT-DIFFUSING SYSTEM. See Section 2602.1.

LIGHT-FRAME CONSTRUCTION. A type of construction whose vertical and horizontal structural elements are primarily formed by a system of repetitive wood or cold-formed steel framing members.

LIGHT-TRANSMITTING PLASTIC ROOF PANELS. See Section 2602.1.

LIGHT-TRANSMITTING PLASTIC WALL PANELS. See Section 2602.1.

LIMIT STATE. See Section 1602.1.

LIMITED SPRAYING SPACE. *An area in which spraying operations for touch-up or spot painting of a surface area of nine square feet (0.84 m²) or less are conducted.*

LIQUID. See Section 415.2.

LIQUID STORAGE ROOM. See Section 415.2.

LIQUID USE, DISPENSING AND MIXING ROOM. See Section 415.2.

LISTED. Equipment, materials, products or services included in a list published by an organization acceptable to the code official and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states

either that the equipment, material, product or service meets identified standards or has been tested and found suitable for a specified purpose.

LIVE LOADS. See Section 1602.1.

LIVE LOADS (ROOF). See Section 1602.1.

LIVE/WORK UNIT. *A dwelling unit or sleeping unit in which a significant portion of the space includes a nonresidential use that is operated by the tenant. See Section 419.*

LOAD AND RESISTANCE FACTOR DESIGN (LRFD). See Section 1602.1.

LOAD EFFECTS. See Section 1602.1.

LOAD FACTOR. See Section 1602.1.

LOADS. See Section 1602.1.

LOT. A portion or parcel of land considered as a unit.

LOT LINE. A line dividing one lot from another, or from a street or any public place.

LOWER FLAMMABLE LIMIT (LFL). See Section 415.2.

LOWEST FLOOR. See Section 1612.2.

MAIN WINDFORCE-RESISTING SYSTEM. See Section 1702.1.

MANUAL FIRE ALARM BOX. See Section 902.1.

MANUFACTURER'S DESIGNATION. An identification applied on a product by the manufacturer indicating that a product or material complies with a specified standard or set of rules (see also "Inspection certificate," "Label" and "Mark").

MARK. An identification applied on a product by the manufacturer indicating the name of the manufacturer and the function of a product or material (see also "Inspection certificate," "Label" and "Manufacturer's designation").

MARQUEE. A permanent roofed structure *projecting over an entrance attached to and supported by a building for the purpose of supporting a marquee sign.*

MASONRY. See Section 2102.1.

Ashlar masonry. See Section 2102.1.

Coursed ashlar. See Section 2102.1.

Glass unit masonry. See Section 2102.1.

Plain masonry. See Section 2102.1.

Random ashlar. See Section 2102.1.

Reinforced masonry. See Section 2102.1.

Solid masonry. See Section 2102.1.

Unreinforced (plain) masonry. See Section 2102.1.

MASONRY UNIT. See Section 2102.1.

Clay. See Section 2102.1.

Concrete. See Section 2102.1.

Hollow. See Section 2102.1.

Solid. See Section 2102.1.

MASTIC FIRE-RESISTANT COATINGS. See Section 1702.1.

MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION. See Section 1613.2.

MEANS OF EGRESS. See Section 1002.1.

MECHANICAL-ACCESS OPEN PARKING GARAGES. See Section 406.3.2.

MECHANICAL CODE. *The "Ohio Mechanical Code."*

MECHANICAL EQUIPMENT SCREEN. See Section 1502.1.

MECHANICAL SYSTEMS. See Section 1613.2.

MEMBRANE-COVERED CABLE STRUCTURE. See Section 3102.2.

MEMBRANE-COVERED FRAME STRUCTURE. See Section 3102.2.

MEMBRANE PENETRATION. See Section 702.1.

MEMBRANE-PENETRATION FIRESTOP. See Section 702.1.

MENTAL HOSPITALS. See Section 308.3.1.

MERCHANDISE PAD. See Section 1002.1.

METAL COMPOSITE MATERIAL (MCM). See Section 1402.1.

METAL COMPOSITE MATERIAL (MCM) SYSTEM. See Section 1402.1.

METAL ROOF PANEL. See Section 1502.1.

METAL ROOF SHINGLE. See Section 1502.1.

MEZZANINE. See Section 502.1.

MICROPILE. See Section 1802.1.

MINERAL BOARD. See Section 721.1.1.

MINERAL FIBER. See Section 702.1.

MINERAL WOOL. See Section 702.1.

MINOR REPAIR. See *REPAIR, MINOR.*

MODIFIED BITUMEN ROOF COVERING. See Section 1502.1.

MORTAR. See Section 2102.1.

MORTAR, SURFACE-BONDING. See Section 2102.1.

MULTILEVEL ASSEMBLY SEATING. See Section 1102.1.

MULTIPLE-STATION ALARM DEVICE. See Section 902.1.

MULTIPLE-STATION SMOKE ALARM. See Section 902.1.

MULTISTORY UNITS. See Section 1102.1.

NAILING, BOUNDARY. See Section 2302.1.

NAILING, EDGE. See Section 2302.1.

NAILING, FIELD. See Section 2302.1.

NATURAL GAS PROCESSING FACILITIES – *Installations, including associated buildings, pipes, valves, tanks, and other equipment, used to separate various fluids, hydrocarbons, natural gas liquids, and impurities from the raw natural gas, manufacturing residue gas suitable for transmission and distribution to end users.*

NATURAL GAS LIQUIDS FRACTIONATION FACILITIES – *Installations, including associated buildings, pipes, valves, tanks, and other equipment, used for the separation of mixtures of light hydrocarbons or natural gas liquids into individual, purity natural gas liquid products, which include ethane, propane, normal butane, iso-butane, and natural gasolines.*

NATURALLY DURABLE WOOD. See Section 2302.1.

Decay resistant. See Section 2302.1.

Termite resistant. See Section 2302.1.

NOMINAL LOADS. See Section 1602.1.

NOMINAL SIZE (LUMBER). See Section 2302.1.

NONCOMBUSTIBLE MEMBRANE STRUCTURE. See Section 3102.2.

NORMAL TEMPERATURE AND PRESSURE (NTP). See Section 415.2.

NOSING. See Section 1002.1.

NOTIFICATION ZONE. See Section 902.1.

NUISANCE ALARM. See Section 902.1.

NURSING HOMES. See Section 308.3.1.

OCCUPANCY. *The purpose for which a building, or portion thereof, is used.*

OCCUPANCY, CHANGE OF. See section 3402.

OCCUPANCY CATEGORY. See Section 1602.1.

OCCUPANT LOAD. See Section 1002.1.

OCCUPIABLE SPACE. A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.

OPEN PARKING GARAGE. See Section 406.3.2.

OPEN SYSTEM. See Section 307.2.

OPERATING BUILDING. See Section 307.2.

ORDINARY PRECAST STRUCTURAL WALL. See Section 1908.1.1.

ORDINARY REINFORCED CONCRETE STRUCTURAL WALL. See Section 1908.1.1.

ORDINARY STRUCTURAL PLAIN CONCRETE WALL. See Section 1908.1.1.

ORGANIC PEROXIDE. See Section 307.2.

Class I. See Section 307.2.

Class II. See Section 307.2.

Class III. See Section 307.2.

Class IV. See Section 307.2.

Class V. See Section 307.2.

Unclassified detonable. See Section 307.2.

ORTHOGONAL. See Section 1613.2.

OTHER STRUCTURES. See Section 1602.1.

OWNER. Any person, agent, firm or corporation having a legal or equitable interest in the property.

OXIDIZER. See Section 307.2.

Class 4. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

OXIDIZING GAS. See Section 307.2.

PANEL (PART OF A STRUCTURE). See Section 1602.1.

PANIC HARDWARE. See Section 1002.1.

PARTICLEBOARD. See Section 2302.1.

PENETRATION FIRESTOP. See Section 702.1.

PENTHOUSE. See Section 1502.1.

PERMIT. *Deleted*

PERSON. An individual, heirs, executors, administrators or assigns, and also includes a firm, partnership or corporation, its or their successors or assigns, or the agent of any of the aforesaid. *Whenever the word "person" is used in any section of this code prescribing a penalty or fine, as to partnerships or associations, the word shall include the partners or members thereof, and as to corporations, shall include the officer, agents or members thereof who are responsible for any violation of such section.*

PERSONAL CARE SERVICE. See Section 310.2.

PHOTOLUMINESCENT. See Section 1002.1.

PHYSICAL HAZARD. See Section 307.2.

PHYSIOLOGICAL WARNING THRESHOLD LEVEL. See Section 415.2.

PINRAIL. See Section 410.2.

PLASTIC, APPROVED. See Section 2602.1.

PLASTIC GLAZING. See Section 2602.1.

PLATFORM. See Section 410.2.

PLUMBING CODE. *The “Ohio Plumbing Code.”*

POSITIVE ROOF DRAINAGE. See Section 1502.1.

POWER PIPING. *Piping systems and their component parts that are not building services piping systems, and that may be installed within electric power generating stations, industrial and institutional plants, utility geothermal heating systems, and central and district heating and cooling systems. Power piping includes, but is not limited to, piping used in the distribution of plant and process steam at boiler pressures greater than fifteen pounds per square inch gauge, high temperature water piping from high pressure and high temperature boilers, power boiler steam condensate piping, high pressure and high temperature water condensate piping, and compressed air and hydraulic piping upstream of the first stop valve off a system distribution header.*

PREFABRICATED WOOD I-JOIST. See Section 2302.1.

PREMISES. *A lot, plot or parcel of land, including any structure thereon.*

PRESTRESSED MASONRY. See Section 2102.1.

PRIMARY FUNCTION. See Section 3402.1.

PRIMARY STRUCTURAL FRAME. The primary structural frame shall include all of the following structural members:

- 1 The columns;
- 2 Structural members having direct connections to the columns, including girders, beams, trusses and spandrels;
- 3 Members of the floor construction and roof construction having direct

- connections to the columns; and
- 4 Bracing members that are essential to the vertical stability of the primary structural frame under gravity loading shall be considered part of the primary structural frame whether or not the bracing member carries gravity loads.

PRISM. See Section 2102.1.

PROCESS PIPING. *Piping systems and their component parts that are not building services or power piping systems and that may be installed in petroleum refineries; chemical, pharmaceutical, textile, paper, semiconductor, and cryogenic plants; and related processing plants and terminals.*

PROCESSING EQUIPMENT. *Equipment, machinery and devices specifically intended and used exclusively for manufacturing and other similar purposes. Processing equipment does not include the building electrical service and distribution system, mechanical and plumbing systems related to space heating, air conditioning, ventilation, water distribution and sanitation or other systems regulated by board rules.*

PROSCENIUM WALL. See Section 410.2.

PUBLIC ENTITY. *(1) Any state or local government; (2) Any department, agency, special purpose district, or other instrumentality of Ohio or local government; and (3) The national railroad passenger corporation, and any commuter authority (as defined in section 103(8) of the "Rail Passenger Service Act").*

PUBLIC ENTRANCE. See Section 1102.1.

PUBLIC-USE AREAS. See Section 1102.1.

PUBLIC WAY. See Section 1002.1.

PYROPHORIC. See Section 307.2.

PYROTECHNIC COMPOSITION. See Section 307.2.

RAMP. See Section 1002.1.

RAMP-ACCESS OPEN PARKING GARAGES. See Section 406.3.2.

RECORD DRAWINGS. See Section 902.1.

REFLECTIVE PLASTIC CORE FOIL INSULATION.

An insulation material packaged in rolls, that is less than 0.5 inches thick, with at least one exterior low emittance surface (0.1 or less) and a core material containing voids or cells.

REGISTERED DESIGN PROFESSIONAL. *Any architect holding a certificate issued under sections 4703.10 and 4703.36 of the Revised Code or any engineer holding a certificate issued under section 4733.14 of the Revised Code.*

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
Deleted

RELIGIOUS WORSHIP, PLACE OF. A building or portion thereof intended for the performance of religious services.

REPAIR. The reconstruction or renewal of any part of an existing building for the purpose of its maintenance.

REPAIR, MINOR. *The reconstruction or renewal of any part of an existing building for the purpose of its maintenance when the work has limited impact on access, safety or health. Minor repairs do not include the cutting away of any wall, partition or portions of walls, the removal or cutting of any structural beam or load bearing support, or the removal or change of any required element of accessibility, means of egress, or rearrangement of parts of a structure affecting the egress requirements. Minor repairs do not include addition to, alteration of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.*

REROOFING. See Section 1502.1.

RESIDENTIAL AIRCRAFT HANGAR. See Section 412.2.

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES. See Section 310.2.

RESISTANCE FACTOR. See Section 1602.1.

RESTRICTED ENTRANCE. See Section 1102.1.

RETRACTABLE AWNING. See Section 3105.2.

REVISED CODE. All statutes of a permanent and general nature of this state as revised and consolidated into general provisions, titles, chapters, and sections.

ROOF ASSEMBLY. See Section 1502.1.

ROOF COVERING. See Section 1502.1.

ROOF COVERING SYSTEM. See Section 1502.1.

ROOF DECK. See Section 1502.1.

ROOF RECOVER. See Section 1502.1.

ROOF REPAIR. See Section 1502.1.

ROOF REPLACEMENT. See Section 1502.1.

ROOF VENTILATION. See Section 1502.1.

ROOFTOP STRUCTURE. See Section 1502.1.

RUBBLE MASONRY. See Section 2102.1.

Coursed rubble. See Section 2102.1.

Random rubble. See Section 2102.1.

Rough or ordinary rubble. See Section 2102.1.

RUNNING BOND. See Section 2102.1.

SAFE. As applied to a building, means free from danger or hazard to the life, safety, health or welfare of persons occupying or frequenting it, or of the public, and from danger of settlement, movement, disintegration, or collapse, whether such danger arises from the method or materials of its construction or from

equipment installed therein, for the purpose of lighting, heating, the transmission or utilization of electric current, or from its location or otherwise.

SALLYPORT. See section 408.1.1.

SANITARY. *As applied to a building, means free from danger or hazard to the health of persons occupying or frequenting it or to that of the public, if such danger arises from the method or materials of its construction or from any equipment installed therein for the purpose of lighting, heating, ventilating, or plumbing.*

SALLYPORT. See Section 408.1.1.

SCISSOR STAIR. See Section 1002.1.

SCUPPER. See Section 1502.1.

SECONDARY MEMBERS. The following structural members shall be considered secondary members and not part of the primary structural frame:

- 1 Structural members not having direct connections to the columns;
- 2 Members of the floor construction not having direct connections to the columns; and
- 3 Bracing members other than those that are part of the primary structural frame.

SEISMIC DESIGN CATEGORY. See Section 1613.2.

SEISMIC-FORCE-RESISTING SYSTEM. See Section 1613.2.

SELF-CLOSING. See Section 702.1.

SELF-LUMINOUS. See Section 1002.1.

SELF-SERVICE STORAGE FACILITY. See Section 1102.1.

SERIOUS HAZARD. *A hazard of considerable consequence to safety or health through the design, location, construction, or equipment of a building, or the condition thereof, which hazard has been established through experience to be of*

certain or probable consequence, or which can be determined to be, or which is obviously such a hazard.

SERVICE CORRIDOR. See Section 415.2.

SERVICE ENTRANCE. See Section 1102.1.

SHAFT. See Section 702.1.

SHAFT ENCLOSURE. See Section 702.1.

SHALLOW FOUNDATION. See Section 1802.1.

SHEAR WALL. See Sections 2102.1 and 2302.1.

Detailed plain masonry shear wall. See Section 2102.1.

Intermediate prestressed masonry shear wall. See Section 2102.1.

Intermediate reinforced masonry shear wall. See Section 2102.1.

Ordinary plain masonry shear wall. See Section 2102.1.

Ordinary plain prestressed masonry shear wall. See Section 2102.1.

Ordinary reinforced masonry shear wall. See Section 2102.1.

Perforated shear wall. See Section 2302.1.

Perforated shear wall segment. See Section 2302.1.

Special prestressed masonry shear wall. See Section 2102.1.

Special reinforced masonry shear wall. See Section 2102.1.

SHELL. See Section 2102.1.

SINGLE-PLY MEMBRANE. See Section 1502.1.

SINGLE-STATION SMOKE ALARM. See Section 902.1.

SITE. See Section 1102.1.

SITE CLASS. See Section 1613.2.

SITE COEFFICIENTS. See Section 1613.2.

SITE-FABRICATED STRETCH SYSTEM. See Section 802.1.

SKYLIGHT, UNIT. A factory-assembled, glazed fenestration unit, containing one panel of glazing material that allows for natural lighting through an opening in the roof assembly while preserving the weather-resistant barrier of the roof.

SKYLIGHTS AND SLOPED GLAZING. Glass or other transparent or translucent glazing material installed at a slope of 15 degrees (0.26 rad) or more from vertical. Glazing material in skylights, including unit skylights, solariums, sunrooms, roofs and sloped walls, are included in this definition.

SLEEPING UNIT. A room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

SMOKE ALARM. See Section 902.1.

SMOKE BARRIER. See Section 702.1.

SMOKE COMPARTMENT. See Section 702.1.

SMOKE DAMPER. See Section 702.1.

SMOKE DETECTOR. See Section 902.1.

SMOKE-DEVELOPED INDEX. See Section 802.1.

SMOKE-PROTECTED ASSEMBLY SEATING. See Section 1002.1.

SMOKEPROOF ENCLOSURE. See Section 902.1.

SOLID. See Section 415.2.

SPECIAL AMUSEMENT BUILDING. See Section 411.2.

SPECIAL FLOOD HAZARD AREA. See Section 1612.2.

SPECIAL INSPECTION. See Section 1702.1.

SPECIAL INSPECTION AGENCY. See Section 1702.1.

SPECIAL INSPECTION, CONTINUOUS. See Section 1702.1.

SPECIAL INSPECTION, PERIODIC. See Section 1702.1.

SPECIAL INSPECTOR. See Section 1702.1.

SPECIAL STRUCTURAL WALL. See Section 1908.1.1.

SPECIFIED. See Section 2102.1.

SPECIFIED COMPRESSIVE STRENGTH OF MASONRY (f'm). See Section 2102.1.

SPLICE. See Section 702.1.

SPRAY BOOTH. A mechanically ventilated appliance of varying dimensions and construction provided to enclose or accommodate a spraying operation and to confine and limit the escape of spray vapor and residue and to exhaust it safely.

SPRAY ROOM. A room designed to accommodate spraying operations constructed in accordance with this code and separated from the remainder of the building by a minimum one-hour fire barrier.

SPRAYED FIRE-RESISTANT MATERIALS. See Section 1702.1.

SPRAYING SPACE. An area in which dangerous quantities of flammable vapors or combustible residues, dusts or deposits are present due to the operation of spraying processes. The building official is authorized to define the limits of the spraying space in any specific case.

SRO (Single room occupancy) FACILITY. A facility with more than five sleeping rooms that is kept, used, maintained, advertised or held out to the public as a place where each individual is provided with separate sleeping accommodations which is intended to be the permanent residence of a single occupant. SRO facilities are required to be licensed by the Ohio Fire Marshal and do not include agricultural labor camps, apartment houses, lodging houses, rooming houses or college dormitories.

STACK BOND. See Section 2102.1.

STAGE. See Section 410.2.

STAIR. See Section 1002.1.

STAIRWAY. See Section 1002.1.

STAIRWAY, EXTERIOR. See Section 1002.1.

STAIRWAY, INTERIOR. See Section 1002.1.

STAIRWAY, SPIRAL. See Section 1002.1.

STANDPIPE SYSTEM, CLASSES OF. See Section 902.1.

Class I system. See Section 902.1.

Class II system. See Section 902.1.

Class III system. See Section 902.1.

STANDPIPE, TYPES OF. See Section 902.1.

Automatic dry. See Section 902.1.

Automatic wet. See Section 902.1.

Manual dry. See Section 902.1.

Manual wet. See Section 902.1.

Semiautomatic dry. See Section 902.1.

START OF CONSTRUCTION. See Section 1612.2.

STEEL CONSTRUCTION, COLD-FORMED. See Section 2202.1.

STEEL JOIST. See Section 2202.1.

STEEL MEMBER, STRUCTURAL. See Section 2202.1.

STEEP SLOPE. A roof slope greater than two units vertical in 12 units horizontal (17-percent slope).

STONE MASONRY. See Section 2102.1.

Ashlar stone masonry. See Section 2102.1.

Rubble stone masonry. See Section 2102.1.

STORAGE, HAZARDOUS MATERIALS. See Section 415.2.

STORM SHELTER. See Section 423.2.

Community storm shelter. See Section 423.2.

Residential storm shelter. See Section 423.2.

STORY. That portion of a building included between the upper surface of a floor and the upper surface of the floor or roof next above (also see “Basement,” “Mezzanine” and Section 502.1). It is measured as the vertical distance from top to top of two successive tiers of beams or finished floor surfaces and, for the topmost story, from the top of the floor finish to the top of the ceiling joists or, where there is not a ceiling, to the top of the roof rafters.

STORY ABOVE GRADE PLANE. Any story having its finished floor surface entirely above grade plane, or in which the finished surface of the floor next above is:

1. More than 6 feet (1829 mm) above grade plane; or
2. More than 12 feet (3658 mm) above the finished ground level at any point.

STRENGTH. See Section 2102.1.

Design strength. See Section 2102.1.

Nominal strength. See Sections 1602.1 and 2102.1.

Required strength. See Sections 1602.1 and 2102.1.

STRENGTH DESIGN. See Section 1602.1.

STRUCTURAL COMPOSITE LUMBER. See Section 2302.1.

Laminated veneer lumber (LVL). See Section 2302.1.

Parallel strand lumber (PSL). See Section 2302.1.

STRUCTURAL GLUED-LAMINATED TIMBER. See Section 2302.1.

STRUCTURAL OBSERVATION. See Section 1702.1.

STRUCTURE. That which is built or constructed.

SUBDIAPHRAGM. See Section 2302.1.

SUBSTANTIAL DAMAGE. See Section 1612.2.

SUBSTANTIAL IMPROVEMENT. See Section 1612.2.

SUBSTANTIAL STRUCTURAL DAMAGE. See Section 3402.1.

SUITE. See Section 1002.1.

SUNROOM. See Section 1202.1.

SUPERVISING STATION. See Section 902.1.

SUPERVISORY SERVICE. See Section 902.1.

SUPERVISORY SIGNAL. See Section 902.1.

SUPERVISORY SIGNAL-INITIATING DEVICE. See Section 902.1.

SWIMMING POOLS. See Section 3109.2.

T RATING. See Section 702.1.

TECHNICALLY INFEASIBLE. See Section 3402.1.

TENT. A structure, enclosure or shelter, with or without sidewalls or drops, constructed of fabric or pliable material supported in any manner except by air or the contents it protects.

THERMAL ISOLATION. See Section 1202.1.

THERMOPLASTIC MATERIAL. See Section 2602.1.

THERMOSETTING MATERIAL. See Section 2602.1.

THIN-BED MORTAR. See Section 2102.1.

THROUGH PENETRATION. See Section 702.1.

THROUGH-PENETRATION FIRESTOP SYSTEM. See Section 702.1.

TIE-DOWN (HOLD-DOWN). See Section 2302.1.

TIE, LATERAL. See Section 2102.1.

TIE, WALL. See Section 2102.1.

TILE. See Section 2102.1.

TILE, STRUCTURAL CLAY. See Section 2102.1.

TIRES, BULK STORAGE OF. See Section 902.1.

TOWNHOUSE. A single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof.

TOXIC. See Section 307.2.

TRANSIENT, PRIMARILY. See Section 310.2.

TRANSIENT AIRCRAFT. See Section 412.2.

TREATED WOOD. See Section 2302.1.

Fire-retardant-treated wood. See Section 2302.1.

Preservative-treated wood. See Section 2302.1.

TRIM. See Section 802.1.

TROUBLE SIGNAL. See Section 902.1.

TYPE A FAMILY DAY-CARE HOME. See *HOME, TYPE A FAMILY DAY-CARE*

TYPE B FAMILY DAY-CARE HOME. See *HOME, TYPE B FAMILY DAY-CARE*

TYPE A UNIT. See Section 1102.1.

TYPE B UNIT. See Section 1102.1.

UNDERLAYMENT. See Section 1502.1.

UNSTABLE (REACTIVE) MATERIAL. See Section 307.2.

Class 4. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

USE (MATERIAL). See Section 415.2.

VAPOR AREA. *An area containing flammable vapors in the vicinity of dip tanks, drain boards or associated drying, conveying or other equipment during operation or shutdown periods. The code official is authorized to determine the extent of the vapor area, taking into consideration the characteristics of the liquid, the degree of sustained ventilation and the nature of the operations.*

VAPOR-PERMEABLE MEMBRANE. A material or covering having a permeance rating of 5 perms ($52.9 \cdot 10^{-10} \text{ kg/Pa} \cdot \text{s} \cdot \text{m}^2$) or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E 96. A vapor-permeable material permits the passage of moisture vapor.

VAPOR RETARDER CLASS. A measure of a material or assembly's ability to limit the amount of moisture that passes through that material or assembly. Vapor retarder class shall be defined using the desiccant method of ASTM E 96 as follows:

Class I: 0.1 perm or less.

Class II: $0.1 < \text{perm} \leq 1.0$ perm.

Class III: $1.0 < \text{perm} \leq 10$ perm.

VEHICLE BARRIER SYSTEM. See Section 1602.1.

VEHICULAR GATE. See Section 3110.2.

VENEER. See Section 1402.1.

VENTILATION. The natural or mechanical process of supplying conditioned or unconditioned air to, or removing such air from, any space.

VINYL SIDING. See Section 1402.1.

VISIBLE ALARM NOTIFICATION APPLIANCE. See Section 902.1.

WALKWAY, PEDESTRIAN. A walkway used exclusively as a pedestrian trafficway.

WALL. See Section 2102.1.

Cavity wall. See Section 2102.1.

Composite wall. See Section 2102.1.

Dry-stacked, surface-bonded wall. See Section 2102.1.

Masonry-bonded hollow wall. See Section 2102.1.

Parapet wall. See Section 2102.1.

WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

- 1 Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.
- 2 Any masonry or concrete wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

WALL, NONLOAD-BEARING. Any wall that is not a load-bearing wall.

WALL PIER. See Section 1908.1.1.

WATER-REACTIVE MATERIAL. See Section 307.2.

Class 3. See Section 307.2.

Class 2. See Section 307.2.

Class 1. See Section 307.2.

WATER-RESISTIVE BARRIER. See Section 1402.1.

WEATHER-EXPOSED SURFACES. See Section 2502.1.

WEB. See Section 2102.1.

WET-CHEMICAL EXTINGUISHING SYSTEM. See Section 902.1.

WHEELCHAIR SPACE. See Section 1102.1.

WIND-BORNE DEBRIS REGION. See Section 1609.2.

WINDER. See Section 1002.1.

WIRE BACKING. See Section 2502.1.

WIRELESS PROTECTION SYSTEM. See Section 902.1.

WOOD SHEAR PANEL. See Section 2302.1.

WOOD STRUCTURAL PANEL. See Section 2302.1.

Composite panels. See Section 2302.1.

Oriented strand board (OSB). See Section 2302.1.

Plywood. See Section 2302.1.

WORKSTATION. See Section 415.2.

WYTHER. See Section 2102.1.

YARD. An open space, other than a court, unobstructed from the ground to the sky, except where specifically provided by this code, on the lot on which a building is situated.

ZONE. See Section 902.1.

ZONE, NOTIFICATION. See Section 902.1.

Effective: 07/01/2014

R.C. 119.032 review dates: 11/01/2016

CERTIFIED ELECTRONICALLY

Certification

04/14/2014

Date

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Prior Effective Dates: 7/1/79, 1/1/80, 1/1/81, 7/1/82, 1/1/83, 3/1/85, 7/1/85, 3/1/86, 9/1/86, 1/1/89, 8/1/90, 7/1/91, 9/1/92, 7/5/793, 1/1/94, 9/1/94, 7/1/95, 2/1/96, 1/1/97, 3/1/98, 4/1/99, 1/1/02, 7/1/02, 1/1/03, 8/15/03, 3/1/05, 9/6/05, 7/1/07, 11/1/11, 3/12/12 (Emer.), 6/8/12

4101:1-3-01 Use and occupancy classification.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

**SECTION 301
GENERAL**

301.1 Scope. The provisions of this chapter shall control the classification of all buildings and structures as to use and occupancy.

**SECTION 302
CLASSIFICATION**

302.1 General. Structures or portions of structures shall be classified with respect to occupancy in one or more of the groups listed below. A room or space that is intended to be occupied at different times for different purposes shall comply with all of the requirements that are applicable to each of the purposes for which the room or space will be occupied. Structures with multiple occupancies or uses shall comply with Section 508. Where a structure is proposed for a purpose that is not specifically provided for in this code, such structure shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard involved.

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5
2. Business (see Section 304): Group B
3. Educational (see Section 305): Group E
4. Factory and Industrial (see Section 306): Groups F-1 and F-2
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4
7. Mercantile (see Section 309): Group M
8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4
9. Storage (see Section 311): Groups S-1 and S-2
10. Utility and Miscellaneous (see Section 312): Group U

SECTION 303

ASSEMBLY GROUP A

303.1 Assembly Group A. Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for the gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption or awaiting transportation.

Exceptions:

1. A building or tenant space used for assembly purposes with an occupant load of less than 50 persons shall be classified as a Group B occupancy.
2. A room or space used for assembly purposes with an occupant load of less than 50 persons and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
3. A room or space used for assembly purposes that is less than 750 square feet (70 m²) in area and accessory to another occupancy shall be classified as a Group B occupancy or as part of that occupancy.
4. Assembly areas that are accessory to Group E occupancies are not considered separate occupancies except when applying the assembly occupancy requirements of Chapter 11.
5. Accessory religious educational rooms and religious auditoriums with occupant loads of less than 100 are not considered separate occupancies.

Assembly occupancies shall include the following:

A-1 Assembly uses, usually with fixed seating, intended for the production and viewing of the performing arts or motion pictures including, but not limited to:

Motion picture theaters

Symphony and concert halls

Television and radio studios admitting an audience

Theaters

A-2 Assembly uses intended for food and/or drink consumption including, but not limited to:

Banquet halls

Night clubs

Restaurants

Taverns and bars

A-3 Assembly uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group A including, but not limited to:

Amusement arcades
Art galleries
Bowling alleys
Community halls
Courtrooms
Dance halls (not including food or drink consumption)
Exhibition halls
Funeral parlors
Gymnasiums (without spectator seating)
Indoor swimming pools (without spectator seating)
Indoor tennis courts (without spectator seating)
Lecture halls
Libraries
Museums
Places of religious worship
Pool and billiard parlors
Waiting areas in transportation terminals

A-4 Assembly uses intended for viewing of indoor sporting events and activities with spectator seating including, but not limited to:

Arenas
Skating rinks
Swimming pools
Tennis courts

A-5 Assembly uses intended for participation in or viewing outdoor activities including, but not limited to:

Amusement park structures
Bleachers
Grandstands
Stadiums

SECTION 304 BUSINESS GROUP B

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

Airport traffic control towers

Ambulatory health care facilities
Animal hospitals, kennels and pounds
Banks
Barber and beauty shops
Car wash
Civic administration
Clinic—outpatient
Dry cleaning and laundries: pick-up and delivery stations and self-service
Educational occupancies for students above the 12th grade
Electronic data processing
Laboratories: testing and research
Motor vehicle showrooms
Post offices
Print shops
Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
Radio and television stations
Telephone exchanges
Training and skill development not within a school or academic program

304.1.1 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.

AMBULATORY HEALTH CARE FACILITY. In accordance with Section 422, buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation.

CLINIC, OUTPATIENT. Buildings or portions thereof used to provide medical care on less than a 24-hour basis to individuals who are not rendered incapable of self-preservation by the services provided.

SECTION 305 EDUCATIONAL GROUP E

305.1 Educational Group E. Educational Group E occupancy includes, among others, the use of a building or structure, or a portion thereof, by six or more persons at any one time for educational purposes through the 12th grade. Religious educational rooms and religious auditoriums, which are accessory to places of religious worship in accordance with Section 303.1 and have occupant loads of less than 100, shall be classified as A-3 occupancies.

305.2 Day care. The use of a building or structure, or portion thereof, for educational, supervision or personal care services for more than five children older than 2 ½ years of age, shall be classified as a Group E occupancy.

A child day care facility that provides care for more than five but no more than 100 children 2 ½ years or less of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

SECTION 306 FACTORY GROUP F

306.1 Factory Industrial Group F. Factory Industrial Group F occupancy includes, among others, the use of a building or structure, or a portion thereof, for assembling, disassembling, fabricating, finishing, manufacturing, packaging, repair or processing operations that are not classified as a Group H hazardous or Group S storage occupancy.

306.2 Factory Industrial F-1 Moderate-hazard Occupancy.

Factory industrial uses which are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

- Aircraft (manufacturing, not to include repair) Appliances
- Athletic equipment
- Automobiles and other motor vehicles
- Bakeries
- Beverages: over 16-percent alcohol content
- Bicycles
- Boats
- Brooms or brushes
- Business machines
- Cameras and photo equipment
- Canvas or similar fabric
- Carpets and rugs (includes cleaning)
- Clothing
- Construction and agricultural machinery
- Disinfectants
- Dry cleaning and dyeing
- Electric generation plants
- Electronics
- Engines (including rebuilding)

Food processing
Furniture
Hemp products
Jute products
Laundries
Leather products
Machinery
Metals
Millwork (sash and door)
Motion pictures and television filming (without spectators)
Musical instruments
Optical goods
Paper mills or products
Photographic film
Plastic products
Printing or publishing
Recreational vehicles
Refuse incineration
Shoes
Soaps and detergents
Textiles
Tobacco
Trailers
Upholstering
Wood; distillation
Woodworking (cabinet)

306.3 Factory Industrial F-2 Low-hazard Occupancy. Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials which during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:

Beverages; up to and including 16-percent alcohol content
Brick and masonry
Ceramic products
Foundries
Glass products
Gypsum
Ice
Metal products (fabrication and assembly)

SECTION 307 HIGH-HAZARD GROUP H

307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in control areas complying with Section 414, based on the maximum allowable quantity limits for control areas set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *fire code*. Hazardous materials stored, or used on top of roofs or canopies shall be classified as outdoor storage or use and shall comply with the *fire code*.

Exceptions: The following shall not be classified as Group H, but shall be classified as the occupancy that they most nearly resemble.

1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *fire code*.
2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *fire code*.
3. Closed piping system containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher in closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 712, or both.
5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
6. Liquor stores and distributors without bulk storage.
7. Refrigeration systems.
8. The storage or utilization of materials for agricultural purposes on the premises.
9. Stationary batteries utilized for facility emergency power, uninterrupted power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the *mechanical code*.
10. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building

- materials.
11. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *fire code*.
 12. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 414.2.5.
 13. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *fire code*.

TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF
HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, j, m, n, p}

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible liquid ^{c,i}	II	H-2 or H-3	N/A	120 ^{d, e}	N/A	N/A	120 ^d	N/A	N/A	30 ^d
	IIIA	H-2 or H-3		330 ^{d, e}			330 ^d			80 ^d
	IIIB	N/A		13,200 ^{e, f}			13,200 ^f			3,300 ^f
Combustible fiber	Loose Baled ^o	H-3	(100) (1,000)	N/A	N/A	(100) (1,000)	N/A	N/A	(20) (200)	N/A
Consumer fireworks(Class C, Common)	1.4G	H-3	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cryogenics, flammable	N/A	H-2	N/A	45 ^d	N/A	N/A	45 ^d	N/A	N/A	10 ^d
Cryogenics, inert	N/A	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
Cryogenics, oxidizing	N/A	H-3	N/A	45 ^d	N/A	N/A	45 ^d	N/A	N/A	10 ^d
Explosives	Division 1.1	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	(0.25) ^g
	Division 1.2	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	(0.25) ^g
	Division 1.3	H-1 or H-2	5 ^{e, g}	(5) ^{e, g}	N/A	1 ^g	(1) ^g	N/A	1 ^g	(1) ^g
	Division 1.4	H-3	50 ^{e, g}	(50) ^{e, g}	N/A	50 ^g	(50) ^g	N/A	N/A	N/A
	Division 1.4G	H-3	125 ^{d, e, l}	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Division 1.5	H-1	1 ^{e, g}	(1) ^{e, g}	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	(0.25) ^g
	Division 1.6	H-1	1 ^{d, e, g}	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flammable gas	Gaseous Liquefied	H-2	N/A	N/A (150) ^{d, e}	1,000 ^{d, e} N/A	N/A	N/A (150) ^{d, e}	1,000 ^{d, e} N/A	N/A	N/A

Flammable liquid ^c	1A 1B and 1C	H-2 or H-3	N/A	30 ^{d,e} 120 ^{d,e}	N/A	N/A	30 ^d 120 ^d	N/A	N/A	10 ^d 30 ^d
Flammable liquid, combination (1A, 1B, 1C)	N/A	H-2 or H-3	N/A	120 ^{d,e,h}	N/A	N/A	120 ^{d,h}	N/A	N/A	30 ^{d,h}
Flammable solid	N/A	H-3	125 ^{d,e}	N/A	N/A	125 ^d	N/A	N/A	25 ^d	N/A
Inert gas	Gaseous Liquefied	N/A N/A	N/A N/A	N/A N/A	NL NL	N/A N/A	N/A N/A	NL NL	N/A N/A	N/A N/A
Organic peroxide	UD	H-1	1 ^{e,g}	(1) ^{e,g}	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	(0.25) ^g
	I	H-2	5 ^{d,e}	(5) ^{d,e}	N/A	1 ^d	(1) ^d	N/A	1 ^d	(1) ^d
	II	H-3	50 ^{d,e}	(50) ^{d,e}	N/A	50 ^d	(50) ^d	N/A	10 ^d	(10) ^d
	III	H-3	125 ^{d,e}	(125) ^{d,e}	N/A	125 ^d	(125) ^d	N/A	25 ^d	(25) ^d
	IV	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL
V	N/A	NL	NL	NL	N/A	NL	NL	N/A	NL	NL
Oxidizer	4	H-1	1 ^{e,g}	(1) ^{e,g}	N/A	0.25 ^g	(0.25) ^g	N/A	0.25 ^g	(0.25) ^g
	3 ^k	H-2 or H-3	10 ^{d,e}	(10) ^{d,e}	N/A	2 ^d	(2) ^d	N/A	2 ^d	(2) ^d
	2	H-3	250 ^{d,e}	(250) ^{d,e}	N/A	250 ^d	(250) ^d	N/A	50 ^d	(50) ^d
	1	N/A	4,000 ^{e,f}	(4,000) ^{e,f}	N/A	4,000 ^f	(4,000) ^f	N/A	1,000 ^f	(1,000) ^f
Oxidizing gas	Gaseous	H-3	N/A	N/A	1,500 ^{d,e}	N/A	N/A	1,500 ^{d,e}	N/A	N/A
	Liquefied		N/A	(150) ^{d,e}	N/A	N/A	(150) ^{d,e}	N/A	N/A	N/A
Pyrophoric material	N/A	H-2	4 ^{e,g}	(4) ^{e,g}	50 ^{e,g}	1 ^g	(1) ^g	10 ^g	0	0
Unstable (reactive)	4	H-1	1 ^{e,g}	(1) ^{e,g}	10 ^g	0.25 ^g	(0.25) ^g	2 ^{e,g}	0.25 ^g	(0.25) ^g
	3	H-1 or H-2	5 ^{d,e}	(5) ^{d,e}	50 ^{d,e}	1 ^d	(1) ^d	10 ^{d,e}	1 ^d	(1) ^d
	2	H-3	50 ^{d,e}	(50) ^{d,e}	250 ^{d,e}	50 ^d	(50) ^d	250 ^{d,e}	10 ^d	(10) ^d
	1	N/A	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5 ^{d,e}	(5) ^{d,e}	N/A	5 ^d	(5) ^d	N/A	1 ^d	(1) ^d
	2	H-3	50 ^{d,e}	(50) ^{d,e}	N/A	50 ^d	(50) ^d	N/A	10 ^d	(10) ^d
	1	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL

For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L. NL = Not Limited; N/A = Not Applicable; UD = Unclassified Detonable

- For use of control areas, see Section 414.2.
- The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
- The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
- Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
- Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets or exhausted enclosures or in listed safety cans in accordance with Section 2703.9.10 of the *fire code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.
- The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

- g. Permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.
- i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2 of the *fire code*.
- j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
- k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment. Storage containers and the manner of storage shall be approved.
- l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.
- m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 2703.1.2 of the *fire code*.
- n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
- o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.
- p. The following shall not be included in determining the maximum allowable quantities:
1. Liquid or gaseous fuel in fuel tanks on vehicles.
 2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with this code.
 3. Gaseous fuels in piping systems and fixed appliances regulated by the *fuel gas code*.
 4. Liquid fuels in piping systems and fixed appliances regulated by the *mechanical code*.

TABLE 307.1(2)

**MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF
HAZARDOUS MATERIAL POSING A HEALTH HAZARD^{a, b, c, i}**

MATERIAL	STORAGE ^d			USE-CLOSED SYSTEMS ^d			USE-OPEN SYSTEMS ^d	
	Solid pounds (cubic feet)	Liquid gallons (pounds) ^{e, f}	Gas (cubic feet at NTP) ^e	Solid pounds ^e	Liquid gallons (pounds) ^e	Gas (cubic feet at NTP) ^e	Solid pounds ^e	Liquid gallons (pounds) ^e
Corrosive	5,000	500	Gaseous 810 ^f Liquefied (150) ^h	5,000	500	Gaseous 810 ^f Liquefied (150) ^h	1,000	100
Highly toxic	10	(10) ^h	Gaseous 20 ^g Liquefied (4) ^{g, h}	10	(10) ⁱ	Gaseous 20 ^g Liquefied (4) ^{g, h}	3	(3) ⁱ
Toxic	500	(500) ^h	Gaseous 810 ^f Liquefied (150) ^{f, h}	500	(500) ⁱ	Gaseous 810 ^f Liquefied (150) ^{f, h}	125	(125)

For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 414.2.

b. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and

- with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
- c. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
 - d. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
 - e. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note f also applies, the increase for both notes shall be applied accumulatively.
 - f. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the *fire code*. Where Note e also applies, the increase for both notes shall be applied accumulatively.
 - g. Allowed only when stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *fire code*.
 - h. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
 - i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 2703.1.2 of the *fire code*.

307.1.1 Hazardous materials. Hazardous materials in any quantity shall conform to the requirements of this code, including Section 414, and the *fire code*.

307.2 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.

AEROSOL. A product that is dispensed from an aerosol container by a propellant.

Aerosol products shall be classified by means of the calculation of their chemical heats of combustion and shall be designated Level 1, 2 or 3.

Level 1 aerosol products. Those with a total chemical heat of combustion that is less than or equal to 8,600 British thermal units per pound (Btu/lb) (20 kJ/g).

Level 2 aerosol products. Those with a total chemical heat of combustion that is greater than 8,600 Btu/lb (20 kJ/g), but less than or equal to 13,000 Btu/lb (30 kJ/g).

Level 3 aerosol products. Those with a total chemical heat combustion that is greater than 13,000 Btu/lb (30 kJ/g).

AEROSOL CONTAINER. A metal can or a glass or plastic bottle designed to dispense an aerosol. Metal cans shall be limited to a maximum size of 33.8 fluid ounces (1000 ml). Glass or plastic bottles shall be limited to a maximum size of 4 fluid ounces (118 ml).

BALED COTTON. A natural seed fiber wrapped in and secured with industry accepted materials, usually consisting of burlap, woven polypropylene, polyethylene or cotton or sheet polyethylene, and secured with steel, synthetic or wire bands or wire; also includes linters (lint removed from the cottonseed) and motes (residual materials from the ginning process).

BALED COTTON, DENSELY PACKED. Cotton made into banded bales with a packing density of at least 22 pounds per cubic foot (360 kg/m^3), and dimensions complying with the following: a length of 55 inches ($1397 \pm 20 \text{ mm}$), a width of 21 inches ($533.4 \pm 20 \text{ mm}$) and a height of 27.6 to 35.4 inches (701 to 899 mm).

BARRICADE. A structure that consists of a combination of walls, floor and roof, which is designed to withstand the rapid release of energy in an explosion and which is fully confined, partially vented or fully vented; or other effective method of shielding from explosive materials by a natural or artificial barrier.

Artificial barricade. An artificial mound or revetment a minimum thickness of 3 feet (914 mm).

Natural barricade. Natural features of the ground, such as hills, or timber of sufficient density that the surrounding exposures that require protection cannot be seen from the magazine or building containing explosives when the trees are bare of leaves.

BOILING POINT. The temperature at which the vapor pressure of a liquid equals the atmospheric pressure of 14.7 pounds per square inch (psi) (101 kPa) gage or 760 mm of mercury. Where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, for the purposes of this classification, the 20-percent evaporated point of a distillation performed in accordance with ASTM D 86 shall be used as the boiling point of the liquid.

CLOSED SYSTEM. The use of a solid or liquid hazardous material involving a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operations; and all uses of compressed gases. Examples of closed systems for solids and liquids include product conveyed through a piping system into a closed vessel, system or piece of equipment.

COMBUSTIBLE DUST. Finely divided solid material that is 420 microns or less in diameter and which, when dispersed in air in the proper proportions, could be ignited by a flame, spark or other source of ignition. Combustible dust will pass through a U.S. No. 40 standard sieve.

COMBUSTIBLE FIBERS. Readily ignitable and free-burning materials in a fibrous or shredded form, such as cocoa fiber, cloth, cotton, excelsior, hay, hemp,

henequen, istle, jute, kapok, oakum, rags, sisal, Spanish moss, straw, tow, wastepaper, certain synthetic fibers or other like materials. This definition does not include densely packed baled cotton.

COMBUSTIBLE LIQUID. A liquid having a closed cup flash point at or above 100°F (38°C). Combustible liquids shall be subdivided as follows:

Class II. Liquids having a closed cup flash point at or above 100°F (38°C) and below 140°F (60°C).

Class IIIA. Liquids having a closed cup flash point at or above 140°F (60°C) and below 200°F (93°C).

Class IIIB. Liquids having a closed cup flash point at or above 200°F (93°C).

The category of combustible liquids does not include compressed gases or cryogenic fluids.

COMPRESSED GAS. A material, or mixture of materials, that:

- 1 Is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure; and
- 2 Has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa) which is either liquefied, nonliquefied or in solution, except those gases which have no other health-or physical-hazard properties are not considered to be compressed until the pressure in the packaging exceeds 41 psia (282 kPa) at 68°F (20°C).

The states of a compressed gas are categorized as follows:

- 1 Nonliquefied compressed gases are gases, other than those in solution, which are in a packaging under the charged pressure and are entirely gaseous at a temperature of 68°F (20°C).
- 2 Liquefied compressed gases are gases that, in a packaging under the charged pressure, are partially liquid at a temperature of 68°F (20°C).
- 3 Compressed gases in solution are nonliquefied gases that are dissolved in a solvent.
- 4 Compressed gas mixtures consist of a mixture of two or more compressed gases contained in a packaging, the hazard properties of which are represented by the properties of the mixture as a whole.

CONTROL AREA. Spaces within a building where quantities of hazardous materials not exceeding the maximum allowable quantities per control area are

stored, dispensed, used or handled. See also the definition of “Outdoor control area” in the *fire code*.

CORROSIVE. A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the point of contact. A chemical shall be considered corrosive if, when tested on the intact skin of albino rabbits by the method described in DOTn 49 CFR, Part 173.137, such a chemical destroys or changes irreversibly the structure of the tissue at the point of contact following an exposure period of 4 hours. This term does not refer to action on inanimate surfaces.

CRYOGENIC FLUID. A liquid having a boiling point lower than -150°F (-101°C) at 14.7 pounds per square inch atmosphere (psia) (an absolute pressure of 101 kPa).

DAY BOX. A portable magazine designed to hold explosive materials constructed in accordance with the requirements for a Type 3 magazine as defined and classified in Chapter 33 of the *fire code*.

DEFLAGRATION. An exothermic reaction, such as the extremely rapid oxidation of a flammable dust or vapor in air, in which the reaction progresses through the unburned material at a rate less than the velocity of sound. A deflagration can have an explosive effect.

DETONATION. An exothermic reaction characterized by the presence of a shock wave in the material which establishes and maintains the reaction. The reaction zone progresses through the material at a rate greater than the velocity of sound. The principal heating mechanism is one of shock compression. Detonations have an explosive effect.

DISPENSING. The pouring or transferring of any material from a container, tank or similar vessel, whereby vapors, dusts, fumes, mists or gases are liberated to the atmosphere.

EXPLOSION. An effect produced by the sudden violent expansion of gases, which may be accompanied by a shock wave or disruption, or both, of enclosing materials or structures. An explosion could result from any of the following:

- 1 Chemical changes such as rapid oxidation, deflagration or detonation, decomposition of molecules and runaway polymerization (usually detonations).
- 2 Physical changes such as pressure tank ruptures.
- 3 Atomic changes (nuclear fission or fusion).

EXPLOSIVE. A chemical compound, mixture or device, the primary or common purpose of which is to function by explosion. The term includes, but is not limited

to, dynamite, black powder, pellet powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, igniters and display fireworks, 1.3G (Class B, Special).

The term “explosive” includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G (Class C, Common) by the hazardous materials regulations of DOTn 49 CFR Parts 100-185.

High explosive. Explosive material, such as dynamite, which can be caused to detonate by means of a No. 8 test blasting cap when unconfined.

Low explosive. Explosive material that will burn or deflagrate when ignited. It is characterized by a rate of reaction that is less than the speed of sound. Examples of low explosives include, but are not limited to, black powder; safety fuse; igniters; igniter cord; fuse lighters; fireworks, 1.3G (Class B, Special) and propellants, 1.3C.

Mass-detonating explosives. Division 1.1, 1.2 and 1.5 explosives alone or in combination, or loaded into various types of ammunition or containers, most of which can be expected to explode virtually instantaneously when a small portion is subjected to fire, severe concussion, impact, the impulse of an initiating agent or the effect of a considerable discharge of energy from without. Materials that react in this manner represent a mass explosion hazard. Such an explosive will normally cause severe structural damage to adjacent objects. Explosive propagation could occur immediately to other items of ammunition and explosives stored sufficiently close to and not adequately protected from the initially exploding pile with a time interval short enough so that two or more quantities must be considered as one for quantity-distance purposes.

UN/DOTn Class 1 explosives. The former classification system used by DOTn included the terms “high” and “low” explosives as defined herein. The following terms further define explosives under the current system applied by DOTn for all explosive materials defined as hazard Class 1 materials. Compatibility group letters are used in concert with the division to specify further limitations on each division noted (i.e., the letter G identifies the material as a pyrotechnic substance or article containing a pyrotechnic substance and similar materials).

Division 1.1. Explosives that have a mass explosion hazard. A mass explosion is one which affects almost the entire load instantaneously.

Division 1.2. Explosives that have a projection hazard but not a mass explosion hazard.

Division 1.3. Explosives that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard.

Division 1.4. Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.

Division 1.5. Very insensitive explosives. This division is comprised of substances that have a mass explosion hazard, but that are so insensitive there is very little probability of initiation or of transition from burning to detonation under normal conditions of transport.

Division 1.6. Extremely insensitive articles which do not have a mass explosion hazard. This division is comprised of articles that contain only extremely insensitive detonating substances and which demonstrate a negligible probability of accidental initiation or propagation.

FIREWORKS. Any composition or device for the purpose of producing a visible or audible effect for entertainment purposes by combustion, deflagration or detonation that meets the definition of 1.4G fireworks or 1.3G fireworks as set forth herein.

Fireworks, 1.3G. (Formerly Class B, Special Fireworks.) Large fireworks devices, which are explosive materials, intended for use in fireworks displays and designed to produce audible or visible effects by combustion, deflagration or detonation. Such 1.3G fireworks include, but are not limited to, firecrackers containing more than 130 milligrams (2 grains) of explosive composition, aerial shells containing more than 40 grams of pyrotechnic composition, and other display pieces which exceed the limits for classification as 1.4G fireworks. Such 1.3G fireworks are also described as fireworks, UN0335 by the DOTn.

Fireworks, 1.4G. (Formerly Class C, Common Fireworks.) Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for fireworks, UN0336, and the U.S. Consumer Product Safety Commission (CPSC) as set forth in CPSC 16 CFR: Parts 1500 and 1507, are not explosive materials for the purpose of this code.

FLAMMABLE GAS. A material that is a gas at 68°F (20°C) or less at 14.7

pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a boiling point of 68°F (20°C) or less at 14.7 psia (101 kPa)] which:

- 1 Is ignitable at 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with air; or
- 2 Has a flammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limit.

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E 681.

FLAMMABLE LIQUEFIED GAS. A liquefied compressed gas which, under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and which is flammable.

FLAMMABLE LIQUID. A liquid having a closed cup flash point below 100°F (38°C). Flammable liquids are further categorized into a group known as Class I liquids. The Class I category is subdivided as follows:

Class IA. Liquids having a flash point below 73°F (23°C) and a boiling point below 100°F (38°C).

Class IB. Liquids having a flash point below 73°F (23°C) and a boiling point at or above 100°F (38°C).

Class IC. Liquids having a flash point at or above 73°F (23°C) and below 100°F (38°C).

The category of flammable liquids does not include compressed gases or cryogenic fluids.

FLAMMABLE MATERIAL. A material capable of being readily ignited from common sources of heat or at a temperature of 600°F (316°C) or less.

FLAMMABLE SOLID. A solid, other than a blasting agent or explosive, that is capable of causing fire through friction, absorption or moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which has an ignition temperature below 212°F (100°C) or which burns so vigorously and persistently when ignited as to create a serious hazard. A chemical shall be considered a flammable solid as determined in accordance with the test method of CPSC 16 CFR; Part 1500.44, if it ignites and burns with a self-sustained flame at a rate greater than 0.1 inch (2.5 mm) per second along its major axis.

FLASH POINT. The minimum temperature in degrees Fahrenheit at which a liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. The flash point of a liquid shall be determined by appropriate test procedure and apparatus as spec-

ified in ASTM D 56, ASTM D 93 or ASTM D 3278.

HANDLING. The deliberate transport by any means to a point of storage or use.

HAZARDOUS MATERIALS. Those chemicals or substances that are physical hazards or health hazards as defined and classified in this section and the *fire code*, whether the materials are in usable or waste condition.

HEALTH HAZARD. A classification of a chemical for which there is statistically significant evidence that acute or chronic health effects are capable of occurring in exposed persons. The term “health hazard” includes chemicals that are toxic or highly toxic, and corrosive.

HIGHLY TOXIC. A material which produces a lethal dose or lethal concentration that falls within any of the following categories:

- 1 A chemical that has a median lethal dose (LD₅₀) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
- 2 A chemical that has a median lethal dose (LD₅₀) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.
- 3 A chemical that has a median lethal concentration (LC₅₀) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

Mixtures of these materials with ordinary materials, such as water, might not warrant classification as highly toxic. While this system is basically simple in application, any hazard evaluation that is required for the precise categorization of this type of material shall be performed by experienced, technically competent persons.

INCOMPATIBLE MATERIALS. Materials that, when mixed, have the potential to react in a manner that generates heat, fumes, gases or byproducts which are hazardous to life or property.

INERT GAS. A gas that is capable of reacting with other materials only under abnormal conditions such as high temperatures, pressures and similar extrinsic physical forces. Within the context of the code, inert gases do not exhibit either physical or health properties as defined (other than acting as a simple asphyxiant)

or hazard properties other than those of a compressed gas. Some of the more common inert gases include argon, helium, krypton, neon, nitrogen and xenon.

OPEN SYSTEM. The use of a solid or liquid hazardous material involving a vessel or system that is continuously open to the atmosphere during normal operations and where vapors are liberated, or the product is exposed to the atmosphere during normal operations. Examples of open systems for solids and liquids include dispensing from or into open beakers or containers, dip tank and plating tank operations.

OPERATING BUILDING. A building occupied in conjunction with the manufacture, transportation or use of explosive materials. Operating buildings are separated from one another with the use of intraplant or intraline distances.

ORGANIC PEROXIDE. An organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms have been replaced by an organic radical. Organic peroxides can pose an explosion hazard (detonation or deflagration) or they can be shock sensitive. They can also decompose into various unstable compounds over an extended period of time.

Class I. Those formulations that are capable of deflagration but not detonation.

Class II. Those formulations that burn very rapidly and that pose a moderate reactivity hazard.

Class III. Those formulations that burn rapidly and that pose a moderate reactivity hazard.

Class IV. Those formulations that burn in the same manner as ordinary combustibles and that pose a minimal reactivity hazard.

Class V. Those formulations that burn with less intensity than ordinary combustibles or do not sustain combustion and that pose no reactivity hazard.

Unclassified detonable. Organic peroxides that are capable of detonation. These peroxides pose an extremely high explosion hazard through rapid explosive decomposition.

OXIDIZER. A material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials and, if heated or contaminated, can result in vigorous self-sustained decomposition.

Class 4. An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock and that causes a severe increase in the burning rate of combustible materials with which it comes into contact. Additionally, the oxidizer causes a severe increase in the

burning rate and can cause spontaneous ignition of combustibles.

Class 3. An oxidizer that causes a severe increase in the burning rate of combustible materials with which it comes in contact.

Class 2. An oxidizer that will cause a moderate increase in the burning rate of combustible materials with which it comes in contact.

Class 1. An oxidizer that does not moderately increase the burning rate of combustible materials.

OXIDIZING GAS. A gas that can support and accelerate combustion of other materials.

PHYSICAL HAZARD. A chemical for which there is evidence that it is a combustible liquid, cryogenic fluid, explosive, flammable (solid, liquid or gas), organic peroxide (solid or liquid), oxidizer (solid or liquid), oxidizing gas, pyrophoric (solid, liquid or gas), unstable (reactive) material (solid, liquid or gas) or water-reactive material (solid or liquid).

PYROPHORIC. A chemical with an autoignition temperature in air, at or below a temperature of 130°F (54.4°C).

PYROTECHNIC COMPOSITION. A chemical mixture that produces visible light displays or sounds through a self-propagating, heat-releasing chemical reaction which is initiated by ignition.

TOXIC. A chemical falling within any of the following categories:

- 1 A chemical that has a median lethal dose (LD₅₀) of more than 50 milligrams per kilogram, but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
- 2 A chemical that has a median lethal dose (LD₅₀) of more than 200 milligrams per kilogram, but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between 2 and 3 kilograms each.
- 3 A chemical that has a median lethal concentration (LC₅₀) in air of more than 200 parts per million, but not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 200 and 300 grams each.

UNSTABLE (REACTIVE) MATERIAL. A material, other than an explosive, which in the pure state or as commercially produced, will vigorously polymerize,

decompose, condense or become self-reactive and undergo other violent chemical changes, including explosion, when exposed to heat, friction or shock, or in the absence of an inhibitor, or in the presence of contaminants, or in contact with incompatible materials. Unstable (reactive) materials are subdivided as follows:

Class 4. Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. This class includes materials that are sensitive to mechanical or localized thermal shock at normal temperatures and pressures.

Class 3. Materials that in themselves are capable of detonation or of explosive decomposition or explosive reaction but which require a strong initiating source or which must be heated under confinement before initiation. This class includes materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures.

Class 2. Materials that in themselves are normally unstable and readily undergo violent chemical change but do not detonate. This class includes materials that can undergo chemical change with rapid release of energy at normal temperatures and pressures, and that can undergo violent chemical change at elevated temperatures and pressures.

Class 1. Materials that in themselves are normally stable but which can become unstable at elevated temperatures and pressure.

WATER-REACTIVE MATERIAL. A material that explodes; violently reacts; produces flammable, *toxic* or other hazardous gases; or evolves enough heat to cause autoignition or ignition of combustibles upon exposure to water or moisture. Water-reactive materials are subdivided as follows:

Class 3. Materials that react explosively with water without requiring heat or confinement.

Class 2. Materials that react violently with water or have the ability to boil water. Materials that produce flammable, toxic or other hazardous gases or evolve enough heat to cause autoignition or ignition of combustibles upon exposure to water or moisture.

Class 1. Materials that react with water with some release of energy, but not violently.

307.3 High-hazard Group H-1. Buildings and structures containing materials that pose a detonation hazard shall be classified as Group H-1. Such materials shall include, but not be limited to, the following:

Detonable pyrophoric materials

Explosives:

Division 1.1**Division 1.2****Division 1.3**

Exception: Materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire to mass explosion hazard shall be allowed in H-2 occupancies.

Division 1.4

Exception: Articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco and Firearms regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

Division 1.5**Division 1.6**

Organic peroxides, unclassified detonable

Oxidizers, Class 4

Unstable (reactive) materials, Class 3 detonable and Class 4

307.4 High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids which are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103.4 kPa) gage.

Combustible dusts

Cryogenic fluids, flammable

Flammable gases

Organic peroxides, Class I

Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 psi (103 kPa) gage

Pyrophoric liquids, solids and gases, nondetonable

Unstable (reactive) materials, Class 3, nondetonable

Water-reactive materials, Class 3

307.5 High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified

as Group H-3. Such materials shall include, but not be limited to, the following:

- Class I, II or IIIA flammable or combustible liquids that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less
- Combustible fibers, other than densely packed baled cotton
- Consumer fireworks, 1.4G (Class C, Common)
- Cryogenic fluids, oxidizing
- Flammable solids
- Organic peroxides, Class II and III
- Oxidizers, Class 2 Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less
- Oxidizing gases
- Unstable (reactive) materials, Class 2
- Water-reactive materials, Class 2

307.6 High-hazard Group H-4. Buildings and structures which contain materials that are health hazards shall be classified as Group H-4. Such materials shall include, but not be limited to, the following:

- Corrosives
- Highly toxic materials
- Toxic materials

307.7 High-hazard Group H-5 structures. Semiconductor fabrication facilities and comparable research and development areas in which hazardous production materials (HPM) are used and the aggregate quantity of materials is in excess of those listed in Tables 307.1(1) and 307.1(2) shall be classified as Group H-5. Such facilities and areas shall be designed and constructed in accordance with Section 415.8.

307.8 Multiple hazards. Buildings and structures containing a material or materials representing hazards that are classified in one or more of Groups H-1, H-2, H-3 and H-4 shall conform to the code requirements for each of the occupancies so classified.

SECTION 308 INSTITUTIONAL GROUP I

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which people are cared for or live in a supervised environment, having physical limitations because

of health or age are harbored for medical treatment or other care or treatment, or in which people are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3 or I-4.

308.2 Group I-1. This occupancy shall include buildings, structures or parts thereof housing more than 16 persons, on a 24-hour basis, who because of age, mental disability or other reasons, live in a supervised residential environment that provides personal care services. The occupants are capable of responding to an emergency situation without physical assistance from staff. This group shall include, but not be limited to, the following:

- Alcohol and drug centers
- Assisted living facilities
- Congregate care facilities
- Convalescent facilities
- Group homes
- Halfway houses
- Residential board and care facilities
- Social rehabilitation facilities

A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the *Residential Code of Ohio*. A facility such as above, housing at least six and not more than 16 persons, shall be classified as Group R-4.

This group shall also include residential care facilities (see section 310.2 Definitions) where more than sixteen individuals reside and supervision and personal care services are provided for three or more individuals and when no more than five need physical assistance in response to an emergency.

308.3 Group I-2. This occupancy shall include buildings and structures used for medical, surgical, psychiatric, nursing or custodial care for persons who are not capable of self-preservation. This group shall include, but not be limited to, the following:

- Child care facilities
- Detoxification facilities
- Hospitals
- Mental hospitals
- Nursing homes

This occupancy shall also include nursing homes where personal care services

and skilled nursing care are provided for three or more individuals.

This group shall also include residential care facilities (see section 310.2 Definitions) where more than sixteen individuals reside and supervision and personal care services are provided for three or more individuals when more than five are not capable of responding to an emergency without physical assistance.

308.3.1 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.

CHILD CARE FACILITIES. Facilities that provide care on a 24-hour basis to more than five children, 2 ½ years of age or less.

CUSTODIAL CARE. *See Section 202.*

DETOXIFICATION FACILITIES. Facilities that serve patients who are provided treatment for substance abuse on a 24-hour basis and who are incapable of self-preservation or who are harmful to themselves or others.

HOSPITALS AND MENTAL HOSPITALS.

Buildings or portions thereof used on a 24-hour basis for the medical, psychiatric, obstetrical or surgical treatment of inpatients who are incapable of self-preservation.

NURSING HOMES. *A home used for the reception and care of individuals who by reason of illness or physical or mental impairment require skilled nursing care and of individuals who require personal care services but not skilled nursing care. A nursing home is required to be licensed by the Ohio Department of Health to provide personal care services and skilled nursing care.*

308.4 Group I-3. This occupancy shall include buildings and structures that are inhabited by more than five persons who are under restraint or security. An I-3 facility is occupied by persons who are generally incapable of self-preservation due to security measures not under the occupants' control. This group shall include, but not be limited to, the following:

- Correctional centers
- Detention centers
- Jails
- Prerelease centers
- Prisons
- Reformatories

Buildings of Group I-3 shall be classified as one of the occupancy conditions indicated in Sections 308.4.1 through 308.4.5 (see Section 408.1).

308.4.1 Condition 1. This occupancy condition shall include buildings in which free movement is allowed from sleeping areas, and other spaces where access or occupancy is permitted, to the exterior via means of egress without restraint. A Condition 1 facility is permitted to be constructed as Group R.

308.4.2 Condition 2. This occupancy condition shall include buildings in which free movement is allowed from sleeping areas and any other occupied smoke compartment to one or more other smoke compartments. Egress to the exterior is impeded by locked exits.

308.4.3 Condition 3. This occupancy condition shall include buildings in which free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping units and group activity spaces, where egress is impeded by remote-controlled release of means of egress from such a smoke compartment to another smoke compartment.

308.4.4 Condition 4. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Remote-controlled release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

308.4.5 Condition 5. This occupancy condition shall include buildings in which free movement is restricted from an occupied space. Staff-controlled manual release is provided to permit movement from sleeping units, activity spaces and other occupied areas within the smoke compartment to other smoke compartments.

308.5 Group I-4, day care facilities. This group shall include buildings and structures occupied by persons of any age who receive custodial care for less than 24 hours by individuals other than parents or guardians, relatives by blood, marriage or adoption, and in a place other than the home of the person cared for. A facility such as the above with five or fewer persons shall be classified as a Group R-3 or shall comply with the *Residential Code of Ohio*. Places of worship during religious functions are not included.

308.5.1 Adult care facility. A facility that provides accommodations for less than 24 hours for more than five unrelated adults and provides supervision and personal care services shall be classified as Group I-4.

Exception: A facility where occupants are capable of responding to an

emergency situation without physical assistance from the staff shall be classified as Group R-3.

308.5.2 Child day care facility. A facility that provides supervision and personal care on less than a 24-hour basis for more than five children 2¹/₂ years of age or less shall be classified as Group I-4.

Exception: A child day care facility that provides care for more than five but no more than 100 children 2¹/₂ years or less of age, where the rooms in which the children are cared for are located on a level of exit discharge serving such rooms and each of these child care rooms has an exit door directly to the exterior, shall be classified as Group E.

SECTION 309 MERCANTILE GROUP M

309.1 Mercantile Group M. Mercantile Group M occupancy includes, among others, the use of a building or structure or a portion thereof, for the display and sale of merchandise and involves stocks of goods, wares or merchandise incidental to such purposes and accessible to the public. Mercantile occupancies shall include, but not be limited to, the following:

- Department stores
- Drug stores
- Markets
- Motor fuel-dispensing facilities
- Retail or wholesale stores
- Sales rooms

309.2 Quantity of hazardous materials. The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials stored or displayed in a single control area of a Group M occupancy shall not exceed the quantities in Table 414.2.5(1).

SECTION 310 RESIDENTIAL GROUP R

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not a detached one-, two-, or three-

family dwelling regulated by the *Residential Code of Ohio*.

Detached One-, Two-, or Three- Family Dwellings. *The “Residential Code of Ohio for One-, Two-, or Three- Family Dwellings” shall apply to structures comprised exclusively of one-, two-, or three-family dwellings (having independent exits) and their accessory structures in jurisdictions where a residential department is certified by the board. If no residential department is certified in a jurisdiction, construction documents for structures comprised exclusively of one-, two-, or three-family dwellings are not required to be submitted for approval.*

Residential occupancies shall include the following:

R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

- Boarding houses (transient)
- Hotels (transient)
- Motels (transient)

R-1 occupancies typically will include sleeping units but may also include dwelling units when those units are not used primarily as permanent residences.

SRO facilities are not an occupancy within the R-1 occupancy group but in order to qualify for Fire Marshal issued licensure, an SRO facility must be designed and constructed to meet the R-1 criteria in this code.

Congregate living facilities (transient) with 10 or fewer occupants are permitted to comply with the construction requirements found in Chapters 4-34 of this code for Group R-3.

R-2 Residential occupancies containing sleeping units or more than *three* dwelling units where the occupants are primarily permanent in nature in structures with shared ~~means-of-egress~~ exits, including:

- Apartment houses
- Boarding houses (nontransient)
- Convents
- Dormitories
- Fraternities and sororities
- Hotels (nontransient)
- Live/work units
- Monasteries
- Motels (nontransient)

SRO (Single room occupancy) facility (also see R-1)

Vacation timeshare properties

Congregate living facilities with 16 or fewer occupants are permitted to comply with the construction requirements found in Chapters 4-34 of this code for Group R-3.

Residential occupancies in buildings or structures of mixed use containing one or more dwelling units where the occupants are primarily permanent in nature in structures with shared ~~means of egress~~ exits.

~~Buildings~~ This group includes buildings or structures containing two or three dwelling units when the units share an ~~enclosed means of egress~~ exit.

R-3 Residential occupancies *having more than three dwelling units* where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, and where each unit has independent ~~means of egress~~ exit including:

Adult care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.

Child care facilities that provide accommodations for five or fewer persons of any age for less than 24 hours.

Congregate living facilities with 16 or fewer persons.

This group includes residential occupancies in buildings or structures of mixed use, three stories or less, where the occupants are primarily permanent in nature and where each dwelling unit has an independent ~~means of egress~~ exit.

The “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” (RCO) is permitted to be used in place of the requirements of this code for R-3 occupancies in buildings three stories or less, comprised exclusively of dwelling units where each unit has an independent ~~means of egress~~ exit with the following conditions:

- 1. No more than one dwelling unit is allowed to be located above another unit. Fire separation between units within a grouping of two units including a unit located partially or totally above another unit shall be in accordance with the RCO section ~~R317.1~~ 302.2. Fire separation between any grouping of two units and other adjacent units shall be in accordance with RCO sections ~~R317.2~~ 302.2 through ~~R317.3.2~~ 302.6.*

2. *Chapter 1 of the OBC shall be applicable for code administration purposes.*
3. *The applicable provisions of this code shall apply when installing non-required components, equipment and systems for which there are no provisions in the RCO (such as elevators and fire protection systems).*

Adult care and child care facilities that are within a single-family home are permitted to comply with the *Residential Code of Ohio*.

R-4 Residential occupancies shall include buildings arranged for occupancy as residential care/assisted living facilities including more than five but not more than 16 occupants, excluding staff.

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code or shall comply with the *Residential Code of Ohio* provided the building is protected by an automatic sprinkler system installed in accordance with Section ~~903.2.7~~ 903.2.8.

310.2 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.

BOARDING HOUSE. A building arranged or used for lodging for compensation, with or without meals, and not occupied as a single-family unit.

CONGREGATE LIVING FACILITIES. A building or part thereof that contains sleeping units where residents share bathroom and/or kitchen facilities.

CUSTODIAL CARE. *See Section 202.*

DWELLING. *Any building that exclusively contains one, two, or three dwelling units, each of which may be occupied by a family and no more than five lodgers or boarders, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that is occupied for living purposes, physically separated from adjacent structures, and with an independent exit from each dwelling unit.*

DWELLING, ONE-, TWO-, OR THREE-FAMILY. *A structure, exclusively comprised of one, two or three dwelling units and physically separated from adjacent structures. Each dwelling unit is intended for occupancy by a family and no more than five lodgers or boarders. For this occupancy type, shared means of*

~~egress for two and three family dwellings shall be limited to those open to the exterior. See Dwelling.~~

DWELLING UNIT. *A single unit providing complete, independent living facilities for one or more persons, that includes permanent provisions for living, sleeping, eating, cooking and sanitation. The dwelling unit may include any accessory space intended for the exclusive use of the occupants of an individual dwelling unit such as a private garage, greenhouse, etc.*

DORMITORY. *A space in a building where group sleeping accommodations are provided in one room, or in a series of closely associated rooms, for persons not members of the same family group, under joint occupancy and single management, as in college dormitories or fraternity houses.*

PERSONAL CARE SERVICE. *Assistance to residents with the activities of daily living to include assistance with the self-administration of medications and preparation of special diets as may be prescribed by physician or licensed dietitian. For purposes of this code, personal care service shall extend to assurance of physical safety of the resident.*

PRIMARILY TRANSIENT. *Use of a space for sleeping that has facilities for sanitation, with or without other spaces used for living purposes, offered or otherwise intended to be used for short periods of time but not intended to be used as a permanent residence or an institutional-use group facility where care or supervision is provided.*

RESIDENTIAL CARE/ASSISTED LIVING FACILITIES. *Any building or part thereof, regardless of by which name held out publicly, housing residents on a 24-hour basis, who, because of age, mental illness, severe mental disability, infirmity, or other reason, live in a supervised residential environment which provides personal care service as a condition of licensing, and the occupants of which are capable of responding to an emergency situation without physical assistance from staff. This classification shall include, but not be limited to, residential care facilities holding themselves out as: board and care facilities, assisted living facilities, halfway houses, adult care or mental health group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug abuse centers, and convalescent facilities with a maximum of 16 persons as residents.*

SRO (Single room occupancy) FACILITY. *A facility with more than five sleeping rooms that is kept, used, maintained, advertised or held out to the public as a place where each individual is provided with separate sleeping*

accommodations which is intended to be the permanent residence of a single occupant. SRO facilities are required to be licensed by the Ohio Fire Marshal and do not include agricultural labor camps, apartment houses, lodging houses, rooming houses or college dormitories.

TRANSIENT. *See PRIMARILY TRANSIENT above.*

SECTION 311 STORAGE GROUP S

311.1 Storage Group S. Storage Group S occupancy includes, among others, the use of a building or structure, or a portion thereof, for storage that is not classified as a hazardous occupancy.

311.2 Moderate-hazard storage, Group S-1. Buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- Aerosols, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle repair garages complying with the maximum allowable quantities of hazardous materials listed in

Table 307.1(1) (see Section 406.6)

Photo engravings
Resilient flooring
Silks
Soaps
Sugar
Tires, bulk storage of
Tobacco, cigars, cigarettes and snuff
Upholstery and mattresses
Wax candles

311.3 Low-hazard storage, Group S-2. Includes, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic *trim*, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

Asbestos
Beverages up to and including 16-percent alcohol in metal,
glass or ceramic containers
Cement in bags
Chalk and crayons
Dairy products in nonwaxed coated paper containers
Dry cell batteries
Electrical coils
Electrical motors
Empty cans
Food products
Foods in noncombustible containers
Fresh fruits and vegetables in nonplastic trays or containers
Frozen foods
Glass
Glass bottles, empty or filled with noncombustible liquids
Gypsum board
Inert pigments
Ivory
Meats
Metal cabinets
Metal desks with plastic tops and *trim*
Metal parts
Metals

Mirrors
Oil-filled and other types of distribution transformers
Parking garages, open or enclosed
Porcelain and pottery
Stoves
Talc and soapstones
Washers and dryers

SECTION 312 UTILITY AND MISCELLANEOUS GROUP U

312.1 General. Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy *and not used for agricultural purposes as defined in section 3781.06 of the Revised Code*, shall be constructed, equipped and maintained to conform to the requirements of this code commensurate with the fire and life hazard incidental to their occupancy. Group U shall include, but not be limited to, the following:

Agricultural buildings not used for agricultural purposes as defined in section 3781.06 of the Revised Code
Aircraft hangars, *residential* (see Section 412.5)
Barns
Carports
Fences more than 6 feet (1829 mm) high
Grain silos, accessory to a residential occupancy
Greenhouses
Livestock shelters *not used for agricultural purposes as defined in section 3781.06 of the Revised Code*
Private garages
Retaining walls
Sheds
Stables
Tanks
Towers

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4101:1-10-01 Means of egress.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

**SECTION 1001
ADMINISTRATION**

1001.1 General. Buildings or portions thereof shall be provided with a means of egress system as required by this chapter. The provisions of this chapter shall control the design, construction and arrangement of means of egress components required to provide an approved means of egress from structures and portions thereof. *Where Chapter 11 and this chapter have provisions relating to the same content, both chapters shall apply.*

1001.2 Minimum requirements. It shall be unlawful to alter a building or structure in a manner that will reduce the number of exits or the capacity of the means of egress to less than required by this code.

1001.3 Maintenance. Means of egress shall be maintained in accordance with the *fire code*.

1001.4 Fire safety and evacuation plans. *Fire safety and evacuation plans shall be provided for all occupancies and buildings where required by the fire code. Such fire safety and evacuation plans shall comply with the applicable provisions of Sections 401.2 and 404 of the fire code.*

**SECTION 1002
DEFINITIONS**

1002.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

ACCESSIBLE MEANS OF EGRESS. A continuous and unobstructed way of egress travel from any accessible point in a building or facility to a public way.

AISLE. An unenclosed exit access component that defines and provides a path of egress travel.

AISLE ACCESSWAY. That portion of an exit access that leads to an aisle.

ALTERNATING TREAD DEVICE. A device that has a series of steps between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, usually attached to a center support rail in an alternating manner so that the user does not have both feet on the same level at the same time.

AREA OF REFUGE. An area where persons unable to use stairways can remain temporarily to await instructions or assistance during emergency evacuation.

BLEACHERS. Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see “Grandstands”).

COMMON PATH OF EGRESS TRAVEL. That portion of exit access which the occupants are required to traverse before two separate and distinct paths of egress travel to two exits are available. Paths that merge are common paths of travel. Common paths of egress travel shall be included within the permitted travel distance.

CORRIDOR. An enclosed exit access component that defines and provides a path of egress travel to an exit.

DOOR, BALANCED. A door equipped with double-pivoted hardware so designed as to cause a semi-counter balanced swing action when opening.

EGRESS COURT. A court or yard which provides access to a public way for one or more exits.

EMERGENCY ESCAPE AND RESCUE OPENING. An operable window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

EXIT. That portion of a means of egress *system between the exit access and the exit discharge or public way. Exit components include exterior exit doors at the level of exit discharge, interior exit stairways, interior exit ramps, exit passageways, exterior exit stairways and exit ramps and horizontal exits.*

EXIT ACCESS. That portion of a means of egress system that leads from any occupied portion of a building or structure to an exit.

EXIT ACCESS DOORWAY. A door or access point along the path of egress travel from an occupied room, area or space where the path of egress enters an intervening room, corridor, exit access stair or exit access ramp.

EXIT ACCESS RAMP. *An interior ramp that is not a required interior exit*

ramp.

EXIT ACCESS STAIRWAY. *An interior stairway that is not a required interior exit stairway.*

EXIT DISCHARGE. That portion of a means of egress system between the termination of an exit and a public way.

EXIT DISCHARGE, LEVEL OF. The story at the point at which an exit terminates and an exit discharge begins.

EXIT ENCLOSURE. An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a vertical or horizontal direction to the exit discharge or the public way.

EXIT, HORIZONTAL. A path of egress travel from one building to an area in another building on approximately the same level, or a path of egress travel through or around a wall or partition to an area on approximately the same level in the same building, which affords safety from fire and smoke from the area of incidence and areas communicating therewith.

EXIT PASSAGEWAY. An exit component that is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives, and provides for a protected path of egress travel in a horizontal direction to the exit discharge or the public way.

FIRE EXIT HARDWARE. Panic hardware that is listed for use on fire door assemblies.

FIXED SEATING. *Furniture or fixture designed and installed for the use of sitting and secured in place including bench-type seats with or without backs or arm rests.*

FLIGHT. A continuous run of rectangular treads, winders or combination thereof from one landing to another.

FLOOR AREA, GROSS. The floor area within the inside perimeter of the exterior walls of the building under consideration, exclusive of vent shafts and

courts, without deduction for corridors, stairways, closets, the thickness of interior walls, columns or other features. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the usable area under the horizontal projection of the roof or floor above. The gross floor area shall not include shafts with no openings or interior courts.

FLOOR AREA, NET. The actual occupied area not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical rooms and closets.

FOLDING AND TELESCOPIC SEATING. Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a building element.

GRANDSTAND. Tiered seating supported on a dedicated structural system and two or more rows high and is not a building element (see “Bleachers”).

GUARD. A building component or a system of building components located at or near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level.

HANDRAIL. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

INTERIOR EXIT RAMP. *An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.*

INTERIOR EXIT STAIRWAY. *An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.*

MEANS OF EGRESS. A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.

MERCHANDISE PAD. A merchandise pad is an area for display of merchandise surrounded by aisles, permanent fixtures or walls. Merchandise pads contain elements such as nonfixed and moveable fixtures, cases, racks, counters and partitions as indicated in Section 105.2 from which customers browse or shop.

NOSING. The leading edge of treads of stairs and of landings at the top of

stairway flights.

OCCUPANT LOAD. The number of persons for which the means of egress of a building or portion thereof is designed.

PANIC HARDWARE. A door-latching assembly incorporating a device that releases the latch upon the application of a force in the direction of egress travel.

PHOTOLUMINESCENT. Having the property of emitting light that continues for a length of time after excitation by visible or invisible light has been removed.

PUBLIC WAY. A street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3048 mm).

RAMP. A walking surface that has a running slope steeper than one unit vertical in 20 units horizontal (5-percent slope).

SCISSOR STAIR. Two interlocking stairways providing two separate paths of egress located within one stairwell enclosure.

SELF-LUMINOUS. Illuminated by a self-contained power source, other than batteries, and operated independently of external power sources.

SMOKE-PROTECTED ASSEMBLY SEATING. Seating served by means of egress that is not subject to smoke accumulation within or under a structure.

STAIR. A change in elevation, consisting of one or more risers.

STAIRWAY. One or more flights of stairs, either exterior or interior, with the necessary landings and platforms connecting them, to form a continuous and uninterrupted passage from one level to another.

STAIRWAY, EXTERIOR. A stairway that is open on at least one side, except for required structural columns, beams, handrails and guards. The adjoining open areas shall be either yards, courts or public ways. The other sides of the exterior stairway need not be open.

STAIRWAY, INTERIOR. A stairway not meeting the definition of an exterior stairway.

STAIRWAY, SPIRAL. A stairway having a closed circular form in its plan view with uniform section-shaped treads attached to and radiating from a minimum-diameter supporting column.

SUITE. *When used in provisions of this code relating to I-2 occupancies,* a group of patient treatment rooms or patient sleeping rooms where staff are in attendance within the suite, for supervision of all patients within the suite and the suite is in compliance with the requirements of Sections 1014.2.2 through 1014.2.7.

WINDER. A tread with nonparallel edges.

SECTION 1003 GENERAL MEANS OF EGRESS

1003.1 Applicability. The general requirements specified in Sections 1003 through 1013 shall apply to all three elements of the means of egress system, in addition to those specific requirements for the exit access, the exit and the exit discharge detailed elsewhere in this chapter.

1003.2 Ceiling height. The means of egress shall have a ceiling height of not less than 7 feet 6 inches (2286 mm).

Exceptions:

1. Sloped ceilings in accordance with Section 1208.2.
2. Ceilings of dwelling units and sleeping units within residential occupancies in accordance with Section 1208.2.
3. Allowable projections in accordance with Section 1003.3.
4. Stair headroom in accordance with Section 1009.2.
5. Door height in accordance with Section 1008.1.1.
6. Ramp headroom in accordance with Section 1010.5.2.
7. The clear height of floor levels in vehicular and pedestrian traffic areas in parking garages in accordance with Section 406.2.2.
8. Areas above and below mezzanine floors in accordance with Section 505.1.

1003.3 Protruding objects. Protruding objects shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 provided a minimum headroom of 80 inches (2032 mm) shall be provided for any walking surface, including walks, corridors, aisles and passageways. Not more than 50 percent of the ceiling area of a means of egress shall be reduced in height by protruding objects.

Exception: Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm).

A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

1003.3.2 Post-mounted objects. A free-standing object mounted on a post or pylon shall not overhang that post or pylon more than 4 inches (102 mm) where

the lowest point of the leading edge is more than 27 inches (686 mm) and less than 80 inches (2032 mm) above the walking surface. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (686 mm) maximum or 80 inches (2032 mm) minimum above the finished floor or ground.

Exception: These requirements shall not apply to sloping portions of handrails between the top and bottom riser of stairs and above the ramp run.

1003.3.3 Horizontal projections. Structural elements, fixtures or furnishings shall not project horizontally from either side more than 4 inches (102 mm) over any walking surface between the heights of 27 inches (686 mm) and 80 inches (2032 mm) above the walking surface.

Exception: Handrails are permitted to protrude 4 ½ inches (114 mm) from the wall.

1003.3.4 Clear width. Protruding objects shall not reduce the minimum clear width of accessible routes.

1003.4 Floor surface. Walking surfaces of the means of egress shall have a slip-resistant surface and be securely attached.

1003.5 Elevation change. Where changes in elevation of less than 12 inches (305 mm) exist in the means of egress, sloped surfaces shall be used. Where the slope is greater than one unit vertical in 20 units horizontal (5-percent slope), ramps complying with Section 1010 shall be used. Where the difference in elevation is 6 inches (152 mm) or less, the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials.

Exceptions:

1. A single step with a maximum riser height of 7 inches (178 mm) is permitted for buildings with occupancies in Groups F, H, R-2, R-3, S and U at exterior doors not required to be accessible by Chapter 11.
2. A stair with a single riser or with two risers and a tread is permitted at locations not required to be accessible by Chapter 11, provided that the risers and treads comply with Section 1009.4, the minimum depth of the tread is 13 inches (330 mm) and at least one handrail complying with Section 1012 is provided within 30 inches (762 mm) of the centerline of the normal path of egress travel on the stair.
3. A step is permitted in aisles serving seating that has a difference in elevation less than 12 inches (305 mm) at locations not required to be accessible by Chapter 11, provided that the risers and treads comply with Section 1028.11 and the aisle is provided with a handrail complying with

Section 1028.13.

Throughout a story in a Group I-2 occupancy, any change in elevation in portions of the *means of egress* that serve non-ambulatory persons shall be by means of a ramp or sloped walkway.

1003.6 Means of egress continuity. The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in this chapter. Obstructions shall not be placed in the required width of a means of egress except projections permitted by this chapter. The required capacity of a means of egress system shall not be diminished along the path of egress travel.

1003.7 Elevators, escalators and moving walks. Elevators, escalators and moving walks shall not be used as a component of a required means of egress from any other part of the building.

Exception: Elevators used as an accessible means of egress in accordance with Section 1007.4.

SECTION 1004 OCCUPANT LOAD

1004.1 Design occupant load. In determining means of egress requirements, the number of occupants for whom means of egress facilities shall be provided shall be determined in accordance with this section. Where occupants from accessory areas egress through a primary space, the calculated occupant load for the primary space shall include the total occupant load of the primary space plus the number of occupants egressing through it from the accessory area.

1004.1.1 Areas without fixed seating. The number of occupants shall be computed at the rate of one occupant per unit of area as prescribed in Table 1004.1.1. For areas without fixed seating, the occupant load shall not be less than that number determined by dividing the floor area under consideration by the occupant per unit of area factor assigned to the occupancy as set forth in Table 1004.1.1. Where an intended use is not listed in Table 1004.1.1, the building official shall establish a use based on a listed use that most nearly resembles the intended use.

Exception: Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by calculation, shall be permitted to be used in the determination of the design occupant load.

1004.2 Increased occupant load. The occupant load permitted in any building, or

portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.1.1, provided that all other requirements of the code are also met based on such modified number and the occupant load does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the building official, an approved aisle, seating or fixed equipment diagram substantiating any increase in occupant load shall be submitted. Where required by the building official, such diagram shall be posted.

1004.3 Posting of occupant load. Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent.

1004.4 Exiting from multiple levels. Where exits serve more than one floor, only the occupant load of each floor considered individually shall be used in computing the required capacity of the exits at that floor, provided that the exit capacity shall not decrease in the direction of egress travel.

1004.5 Egress convergence. Where means of egress from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors.

1004.6 Mezzanine levels. The occupant load of a mezzanine level with egress onto a room or area below shall be added to that room or area's occupant load, and the capacity of the exits shall be designed for the total occupant load thus established.

1004.7 Fixed seating. For areas having fixed seats and aisles, the occupant load shall be determined by the number of fixed seats installed therein. The occupant load for areas in which fixed seating is not installed, such as waiting spaces and wheelchair spaces, shall be determined in accordance with Section 1004.1.1 and added to the number of fixed seats.

The occupant load of wheelchair spaces and the associated companion seat shall be based on one occupant for each wheelchair space and one occupant for the associated companion seat provided in accordance with Section 1108.2.3.

For areas having fixed seating without dividing arms, the occupant load shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The occupant load of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

1004.8 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use.

Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

Exceptions

1. Outdoor areas used exclusively for service of the building need only have one means of egress.
2. Outdoor areas *dedicated to individual dwelling units* in Group R-3 and Group R-2.

**TABLE 1004.1.1
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats	7 net
Concentrated (chairs only—not fixed)	5 net
Standing space Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross

Educational Classroom area Shops and other vocational room areas	20 net 50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas Inpatient treatment areas Outpatient areas Sleeping areas	240 gross 100 gross 120 gross
Kitchens, commercial	200 gross
Library Reading rooms Stack area	50 net 100 gross
Locker rooms	50 gross
Mercantile Areas on other floors Basement and grade floor areas Storage, stock, shipping areas	60 gross 30 gross 300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools Rink and pool Decks	50 gross 15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m².

1004.9 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

SECTION 1005 EGRESS WIDTH

1005.1 Minimum required egress width capacity based on occupant load. ~~The means of egress width shall not be less than required by this section. The total width of means of egress in inches (mm) shall not be less than the total occupant load served by the means of egress multiplied by 0.3 inches (7.62 mm) per occupant for stairways and by 0.2 inches (5.08 mm) per occupant for other egress components. The width shall not be less than specified elsewhere in this code.~~

~~Multiple means of egress shall be sized such that the loss of any one means of egress shall not reduce the available capacity to less than 50 percent of the required capacity. The maximum capacity required from any story of a building shall be maintained to the termination of the means of egress.~~

~~**Exception:** Means of egress complying with Section 1028. The required capacity, in inches (mm), of the means of egress for any room, area, space or story shall not be less than that determined in accordance with Sections 1005.1.1 and 1005.1.2.~~

1005.1.1 Stairways. The capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Exception: For other than Group H and I--2 occupancies, the capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

1005.1.2 Other egress components. The capacity, in inches (mm), of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant.

Exception: For other than Group H and I--2 occupancies, the capacity, in inches (mm), of means of egress components other than stairways shall be calculated by multiplying the occupant load served by such component by a means of egress capacity factor of 0.15 inch (3.8 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency voice/alarm communication system in accordance with Section 907.5.2.2.

1005.2 Door encroachment. Doors, when fully opened, and handrails shall not reduce the required means of egress width by more than 7 inches (178 mm).

Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.

Exception: The restrictions on a door swing shall not apply to doors within individual dwelling units and sleeping units of Group R-2 and dwelling units of Group R-3.

1005.3 Door hardware encroachment. Surface-mounted latch release hardware shall be exempt from inclusion in the 7-inch (178 mm) maximum projection requirement of Section 1005.2 when:

- 1.The hardware is mounted to the side of the door facing the corridor width when the door is in the open position; and
- 2.The hardware is mounted not less than 34 inches (865 mm) or more than 48 inches (1220 mm) above the finished floor.

1005.4 Other projections. *Handrail projections shall be in accordance with the provisions of Section 1012.8. Other nonstructural projections such as trim and similar decorative features shall be permitted to project into the required width a maximum of 1½ inches (38 mm) on each side.*

Exception: *Projections are permitted in corridors within Group I-2 nursing homes in accordance with Section 407.3.3.*

SECTION 1006 MEANS OF EGRESS ILLUMINATION

1006.1 Illumination required. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

Exceptions:

1. Occupancies in Group U.
2. Aisle accessways in Group A.
3. Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
4. Sleeping units of Group I occupancies.

1006.2 Illumination level. The means of egress illumination level shall not be less than 1 foot-candle (11 lux) at the walking surface.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances to not less than 0.2 foot-candle (2.15 lux),

provided that the required illumination is automatically restored upon activation of a premises' fire alarm system where such system is provided.

1006.3 Illumination emergency power. The power supply for means of egress illumination shall normally be provided by the premises' electrical supply.

In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
2. Corridors, exit enclosures, *ramps* and exit passageways in buildings required to have two or more exits.
3. Exterior egress components at other than their levels of exit discharge until exit discharge is accomplished for buildings required to have two or more exits.
4. Interior exit discharge elements, as permitted in Section 1027.1, in buildings required to have two or more exits.
5. Exterior landings as required by Section 1008.1.6 for exit discharge doorways in buildings required to have two or more exits.

The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

1006.4 Performance of system. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle (11 lux) and a minimum at any point of 0.1 foot-candle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 foot-candle (6 lux) average and a minimum at any point of 0.06 foot-candle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

SECTION 1007 ACCESSIBLE MEANS OF EGRESS

1007.1 Accessible means of egress required. Accessible means of egress shall comply with this section. Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress are required by Section 1015.1 or 1021.1 from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. Accessible means of egress are not required in alterations to existing buildings.
2. One accessible means of egress is required from an accessible mezzanine level in accordance with Section 1007.3, 1007.4 or 1007.5.
3. In assembly areas with sloped or stepped aisles, one accessible means of egress is permitted where the common path of travel is accessible and meets the requirements in Section 1028.8.

1007.2 Continuity and components. Each required accessible means of egress shall be continuous to a public way and shall consist of one or more of the following components:

1. Accessible routes complying with Section 1104.
2. Interior exit stairways complying with Sections 1007.3 and 1022.
3. Exterior exit stairways complying with Sections 1007.3 and 1026.
4. Elevators complying with Section 1007.4.
5. Platform lifts complying with Section 1007.5.
6. Horizontal exits complying with Section 1025.
7. Ramps complying with Section 1010.
8. Areas of refuge complying with Section 1007.6.

Exceptions:

1. Where the exit discharge is not accessible, an exterior area for assisted rescue must be provided in accordance with Section 1007.7.
2. Where the exit stairway is open to the exterior, the accessible means of egress shall include either an area of refuge in accordance with Section 1007.6 or an exterior area for assisted rescue in accordance with Section 1007.7.

1007.2.1 Elevators required. In buildings where a required accessible floor is four or more stories above or below a level of exit discharge, at least one required accessible means of egress shall be an elevator complying with Section 1007.4.

Exceptions:

1. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a horizontal exit and located at or above the levels of exit discharge.
2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator

shall not be required on floors provided with a ramp conforming to the provisions of Section 1010.

1007.3 Stairways. In order to be considered part of an accessible means of egress, an exit access stairway as permitted by Section 1016.1 or exit stairway shall have a clear width of 48 inches (1219 mm) minimum between handrails and shall either incorporate an area of refuge within an enlarged floor-level landing or shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. The area of refuge is not required at open exit access or exit stairways as permitted by Sections 1016.1 and 1022.1 in buildings that are equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The clear width of 48 inches (1219 mm) between handrails is not required at exit access stairway as permitted by Section 1016.1 or exit stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
3. Areas of refuge are not required at exit stairways in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
4. The clear width of 48 inches (1219 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
5. Areas of refuge are not required at exit stairways serving open parking garages.
6. Areas of refuge are not required for smoke protected seating areas complying with Section 1028.6.2.
7. The areas of refuge are not required in Group R-2 occupancies.

1007.4 Elevators. In order to be considered part of an accessible means of egress, an elevator shall comply with the emergency operation and signaling device requirements of Section 2.27 of ASME A17.1. Standby power shall be provided in accordance with Chapter 27 and Section 3003. The elevator shall be accessed from either an area of refuge complying with Section 1007.6 or a horizontal exit.

Exceptions:

1. Elevators are not required to be accessed from an area of refuge or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an area of refuge or horizontal exit in buildings and facilities equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1

or 903.3.1.2.

3. Elevators not required to be located in a shaft in accordance with Section 708.2 are not required to be accessed from an area of refuge or horizontal exit.
4. Elevators are not required to be accessed from an area of refuge or horizontal exit for smoke protected seating areas complying with Section 1028.6.2.

1007.5 Platform lifts. Platform (wheelchair) lifts shall not serve as part of an accessible means of egress, except where allowed as part of a required accessible route in Section 1109.7. Standby power shall be provided in accordance with Chapter 27 for platform lifts permitted to serve as part of a means of egress.

1007.5.1 Openness. Platform lifts on an accessible means of egress shall not be installed in a fully enclosed hoistway .

1007.6 Areas of refuge. Every required area of refuge shall be accessible from the space it serves by an accessible means of egress. The maximum travel distance from any accessible space to an area of refuge shall not exceed the travel distance permitted for the occupancy in accordance with Section 1016.1. Every required area of refuge shall have direct access to a stairway within an exit enclosure complying with Sections 1007.3 and 1022 or an elevator complying with Section 1007.4. Where an elevator lobby is used as an area of refuge, the shaft and lobby shall comply with Section 1022.9 for smokeproof enclosures except where the elevators are in an area of refuge formed by a horizontal exit or smoke barrier.

Exceptions:

1. A stairway serving an area of refuge is not required to be enclosed where permitted in Sections 1016.1 and 1022.1.
2. Smokeproof enclosure is not required for an elevator lobby used as an area of refuge not required to be enclosed.

1007.6.1 Size. Each area of refuge shall be sized to accommodate one wheelchair space of 30 inches by 48 inches (762 mm by 1219 mm) for each 200 occupants or portion thereof, based on the occupant load of the area of refuge and areas served by the area of refuge. Such wheelchair spaces shall not reduce the required means of egress width. Access to any of the required wheelchair spaces in an area of refuge shall not be obstructed by more than one adjoining wheelchair space.

1007.6.2 Separation. Each area of refuge shall be separated from the

remainder of the story by a smoke barrier complying with Section 710 or a horizontal exit complying with Section 1025. Each area of refuge shall be designed to minimize the intrusion of smoke.

Exception: Areas of refuge located within an exit enclosure.

1007.6.3 Two-way communication. Areas of refuge shall be provided with a two-way communication system complying with Sections 1007.8.1 and 1007.8.2.

1007.7 Exterior area for assisted rescue. *Exterior areas for assisted rescue shall be accessed by an accessible route from the area served.* The exterior area for assisted rescue must be open to the outside air and meet the requirements of Section 1007.6.1. Separation walls shall comply with the requirements of Section 705 for exterior walls. Where walls or openings are between the area for assisted rescue and the interior of the building, the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the floor level of the area for assisted rescue or to the roof line, whichever is lower.

1007.7.1 Openness. The exterior area for assisted rescue shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

1007.7.2 Exterior exit stairway. Exterior exit stairways that are part of the means of egress for the exterior area for assisted rescue shall provide a clear width of 48 inches (1219 mm) between handrails.

1007.8 Two-way communication. A two-way communication system shall be provided at the elevator landing on each accessible floor that is one or more stories above or below the story of exit discharge complying with Sections 1007.8.1 and 1007.8.2.

Exceptions:

1. Two-way communication systems are not required at the elevator landing where the two-way communication system is provided within areas of refuge in accordance with Section 1007.6.3.
2. Two-way communication systems are not required on floors provided

with exit ramps conforming to the provisions of Section 1010.

1007.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the fire command center or a central control point location approved by the fire department. Where the central control point is not constantly attended, a two-way communication system shall have a timed automatic telephone dial-out capability to a monitoring location or 911. The two-way communication system shall include both audible and visible signals.

1007.8.2 Directions. Directions for the use of the two-way communication system, instructions for summoning assistance via the two-way communication system and written identification of the location shall be posted adjacent to the two-way communication system.

1007.9 Signage. Signage indicating special accessibility provisions shall be provided as shown:

1. Each door providing access to an area of refuge from an adjacent floor area shall be identified by a sign stating: AREA OF REFUGE.
2. Each door providing access to an exterior area for assisted rescue shall be identified by a sign stating: EXTERIOR AREA FOR ASSISTED RESCUE.

Signage shall comply with the ICC A117.1 requirements for visual characters and include the International Symbol of Accessibility. Where exit sign illumination is required by Section 1011.2, the signs shall be illuminated. Additionally, tactile signage complying with ICC A117.1 shall be located at each door to an area of refuge and exterior area for assisted rescue in accordance with Section 1011.3.

1007.10 Directional signage. Direction signage indicating the location of the other means of egress and which are accessible means of egress shall be provided at the following:

1. At exits serving a required accessible space but not providing an approved accessible means of egress.
2. At elevator landings.
3. Within areas of refuge.

1007.11 Instructions. In areas of refuge and exterior areas for assisted rescue, instructions on the use of the area under emergency conditions shall be posted. The instructions shall include all of the following:

1. Persons able to use the exit stairway do so as soon as possible, unless they are assisting others.
2. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
3. Directions for use of the two-way communications system where provided.

SECTION 1008 DOORS, GATES AND TURNSTILES

1008.1 Doors. Means of egress doors shall meet the requirements of this section. Doors serving a means of egress system shall meet the requirements of this section and Section 1020.2. Doors provided for egress purposes in numbers greater than required by this code shall meet the requirements of this section.

Means of egress doors shall be readily distinguishable from the adjacent construction and finishes such that the doors are easily recognizable as doors. Mirrors or similar reflecting materials shall not be used on means of egress doors. Means of egress doors shall not be concealed by curtains, drapes, decorations or similar materials.

1008.1.1 Size of doors. The minimum width of each door opening shall be sufficient for the occupant load thereof and shall provide a clear width of 32 inches (813 mm). Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a clear opening width of 32 inches (813 mm). The maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. Means of egress doors in a Group I-2 occupancy used for the movement of beds shall provide a clear width not less than 41 ½ inches (1054 mm). The height of door openings shall not be less than 80 inches (2032 mm).

Exceptions:

1. The minimum and maximum width shall not apply to door openings that are not part of the required means of egress in Group R-2 and R-3 occupancies.
2. Door openings to resident sleeping units *not required to be accessible*, in Group I-3 occupancies, shall have a clear width of not less than 28 inches

- (711 mm).
3. Door openings to *reach-in* storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum width.
 4. Width of door leaves in revolving doors that comply with Section 1008.1.4.1 shall not be limited.
 5. Door openings within a dwelling unit or sleeping unit shall not be less than 78 inches (1981 mm) in height.
 6. Exterior door openings in dwelling units and sleeping units, other than the required exit door, shall not be less than 76 inches (1930 mm) in height.
 7. In other than Group R-1 occupancies, the minimum widths shall not apply to interior egress doors within a dwelling unit or sleeping unit that is not required to be an Accessible unit, Type A unit or Type B unit.
 8. Door openings required to be accessible within Type B units shall have a minimum clear width of 31.75 inches (806mm).

1008.1.1.1 Projections into clear width. There shall not be projections into the required clear width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the floor.

1008.1.2 Door swing. Egress doors shall be of the pivoted or side-hinged swinging type.

Exceptions:

1. Private garages, office areas, factory and storage areas with an occupant load of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.
4. Doors within or serving a single dwelling unit in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1008.1.4.1.
6. In other than Group H occupancies, horizontal sliding doors complying with Section 1008.1.4.3 are permitted in a means of egress.
7. Power-operated doors in accordance with Section 1008.1.4.2.
8. Doors serving a bathroom within an individual sleeping unit in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding

doors are permitted in a means of egress from spaces with an occupant load of 10 or less.

Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more persons or a Group H occupancy.

1008.1.3 Door opening force. The force for pushing or pulling open interior swinging egress doors, other than fire doors, shall not exceed 5 pounds (22 N). For other swinging doors, as well as sliding and folding doors, the door latch shall release when subjected to a 15-pound (67 N) force. The door shall be set in motion when subjected to a 30-pound (133 N) force. The door shall swing to a full-open position when subjected to a 15-pound (67 N) force.

1008.1.3.1 Location of applied forces. Forces shall be applied to the latch side of the door.

1008.1.4 Special doors. Special doors and security grilles shall comply with the requirements of Sections 1008.1.4.1 through 1008.1.4.5.

1008.1.4.1 Revolving doors. Revolving doors shall comply with the following:

1. Each revolving door shall be capable of collapsing into a bookfold position with parallel egress paths providing an aggregate width of 36 inches (914 mm).
2. A revolving door shall not be located within 10 feet (3048 mm) of the foot of or top of stairs or escalators. A dispersal area shall be provided between the stairs or escalators and the revolving doors.
3. The revolutions per minute (rpm) for a revolving door shall not exceed those shown in Table 1008.1.4.1.
4. Each revolving door shall have a side-hinged swinging door which complies with Section 1008.1 in the same wall and within 10 feet (3048 mm) of the revolving door.
5. Revolving doors shall not be part of an accessible route required by Section 1007 and Chapter 11.

**TABLE 1008.1.4.1
REVOLVING DOOR SPEEDS**

INSIDE DIAMETER (feet-inches)	POWER- DRIVEN-TYPE SPEED CONTROL (rpm)	MANUAL-TYPE SPEED CONTROL (rpm)
6-6	11	12
7-0	10	11
7-6	9	11
8-0	9	10

8-6	8	9
9-0	8	9
9-6	7	8
10-0	7	8

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

1008.1.4.1.1 Egress component. A revolving door used as a component of a means of egress shall comply with Section 1008.1.4.1 and the following three conditions:

1. Revolving doors shall not be given credit for more than 50 percent of the required egress capacity.
2. Each revolving door shall be credited with no more than a 50-person capacity.
3. Each revolving door shall be capable of being collapsed when a force of not more than 130 pounds (578 N) is applied within 3 inches (76 mm) of the outer edge of a wing.

1008.1.4.1.2 Other than egress component. A revolving door used as other than a component of a means of egress shall comply with Section 1008.1.4.1. The collapsing force of a revolving door not used as a component of a means of egress shall not be more than 180 pounds (801 N).

Exception: A collapsing force in excess of 180 pounds (801 N) is permitted if the collapsing force is reduced to not more than 130 pounds (578 N) when at least one of the following conditions is satisfied:

1. There is a power failure or power is removed to the device holding the door wings in position.
2. There is an actuation of the automatic sprinkler system where such system is provided.
3. There is an actuation of a smoke detection system which is installed in accordance with Section 907 to provide coverage in areas within the building which are within 75 feet (22 860 mm) of the revolving doors.
4. There is an actuation of a manual control switch, in an approved location and clearly defined, which reduces the holding force to below the 130-pound (578 N) force level.

1008.1.4.2 Power-operated doors. Where means of egress doors are operated by power, such as doors with a photoelectric-actuated mechanism to open the door

upon the approach of a person, or doors with power-assisted manual operation, the design shall be such that in the event of power failure, the door is capable of being opened manually to permit means of egress travel or closed where necessary to safeguard means of egress. The forces required to open these doors manually shall not exceed those specified in Section 1008.1.3, except that the force to set the door in motion shall not exceed 50 pounds (220 N). The door shall be capable of swinging from any position to the full width of the opening in which such door is installed when a force is applied to the door on the side from which egress is made. Full-power-operated doors shall comply with BHMA A156.10. Power-assisted and low-energy doors shall comply with BHMA A156.19.

Exceptions:

1. Occupancies in Group I-3.
2. Horizontal sliding doors complying with Section 1008.1.4.3.
3. For a bi-parting door in the emergency breakout mode, a door leaf located within a multiple-leaf opening shall be exempt from the minimum 32-inch (813 mm) single-leaf requirement of Section 1008.1.1, provided a minimum 32-inch (813 mm) clear opening is provided when the two biparting leaves meeting in the center are broken out.

1008.1.4.3 Horizontal sliding doors. In other than Group H occupancies, horizontal sliding doors permitted to be a component of a means of egress in accordance with Exception 6 to Section 1008.1.2 shall comply with all of the following criteria:

1. The doors shall be power operated and shall be capable of being operated manually in the event of power failure.
2. The doors shall be openable by a simple method from both sides without special knowledge or effort.
3. The force required to operate the door shall not exceed 30 pounds (133 N) to set the door in motion and 15 pounds (67 N) to close the door or open it to the minimum required width.
4. The door shall be openable with a force not to exceed 15 pounds (67 N) when a force of 250 pounds (1100 N) is applied perpendicular to the door adjacent to the operating device.
5. The door assembly shall comply with the applicable fire protection rating and, where rated, shall be self-closing or automatic closing by smoke detection in accordance with Section 715.4.8.3, shall be installed in accordance with NFPA 80 and shall comply with Section 715.
6. The door assembly shall have an integrated standby power supply.

7. The door assembly power supply shall be electrically supervised.
8. The door shall open to the minimum required width within 10 seconds after activation of the operating device.

1008.1.4.4 Access-controlled egress doors. The entrance doors in a means of egress in buildings with an occupancy in Group A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in Groups A, B, E, I-2, M, R-1 and R-2 are permitted to be equipped with an approved entrance and egress access control system which shall be installed in accordance with all of the following criteria:

1. A sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to that part of the access control system which locks the doors shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—independent of the access control system electronics—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Entrance doors in buildings with an occupancy in Group A, B, E or M shall not be secured from the egress side during periods that the building is open to the general public.

1008.1.4.5 Security grilles. In Groups B, F, M and S, horizontal sliding or vertical security grilles are permitted at the main exit and shall be openable from the inside without the use of a key or special knowledge or effort during periods that the space is occupied. The grilles shall remain secured in the full-open position during the period of occupancy by the general public. Where two or more means of egress are required, not more than one-half of the exits or exit access

doorways shall be equipped with horizontal sliding or vertical security grilles.

1008.1.5 Floor elevation. There shall be a floor or landing on each side of a door. Such floor or landing shall be at the same elevation on each side of the door. Landings shall be level except for exterior landings, which are permitted to have a slope not to exceed *one* unit vertical in *fifty* units horizontal (2-percent slope).

Exceptions:

1. Doors serving individual dwelling units in Groups R-2 and R-3 where the following apply:
 - 1.1. A door is permitted to open at the top step of an interior flight of stairs, provided the door does not swing over the top step.
 - 1.2. Screen doors and storm doors are permitted to swing over stairs or landings.
2. Exterior doors as provided for in Section 1003.5, Exception 1, and Section 1020.2, which are not on an accessible route.
3. In Group R-3 occupancies not required to be Accessible units, Type A units or Type B units, the landing at an exterior doorway shall not be more than 7 $\frac{3}{4}$ inches (197 mm) below the top of the threshold, provided the door, other than an exterior storm or screen door, does not swing over the landing.
4. *In units not required to be Type A, Type B or accessible*, variations in elevation due to differences in finish materials, but not more than $\frac{1}{2}$ inch (12.7 mm).
5. Exterior decks, patios or balconies that are part of Type B dwelling units, have impervious surfaces and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the dwelling unit.

1008.1.6 Landings at doors. Landings shall have a width not less than the width of the stairway or the door, whichever is greater. Doors in the fully open position shall not reduce a required dimension by more than 7 inches (178 mm). When a landing serves an occupant load of 50 or more, doors in any position shall not reduce the landing to less than one-half its required width. Landings shall have a length measured in the direction of travel of not less than 44 inches (1118 mm).

Exception: Landing length in the direction of travel in Groups R-3 and U and within individual units of Group R-2 need not exceed 36 inches (914 mm) *when the units are not required to be accessible or Type A units.*

1008.1.7 Thresholds. Thresholds at doorways shall not exceed $\frac{3}{4}$ inch (19.1 mm) in height for sliding doors serving dwelling units or $\frac{1}{2}$ inch (12.7 mm) for other

doors. Raised thresholds and floor level changes greater than ¼ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exception: The threshold height shall be limited to 7¾ inches (197 mm) where the occupancy is Group R-2 or R-3; the door is an exterior door that is not a component of the required means of egress; the door, other than an exterior storm or screen door, does not swing over the landing or step; and the doorway is not on an accessible route as required by Chapter 11 and is not part of an Accessible unit, Type A unit or Type B unit.

1008.1.8 Door arrangement. Space between two doors in a series shall be 48 inches (1219 mm) minimum plus the width of a door swinging into the space. Doors in a series shall swing either in the same direction or away from the space between the doors.

Exceptions:

1. The minimum distance between horizontal sliding power-operated doors in a series shall be 48 inches (1219 mm).
2. Storm and screen doors serving individual dwelling units in Groups R-2 and R-3 need not be spaced 48 inches (1219 mm) from the other door.
3. Doors within individual dwelling units in Groups R-2 and R-3 other than within Type A dwelling units.

1008.1.9 Door operations. Except as specifically permitted by this section egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort.

1008.1.9.1 Hardware. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible by Chapter 11 shall not require tight grasping, tight pinching or twisting of the wrist to operate.

1008.1.9.2 Hardware height. Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finished floor. Locks used only for security purposes and not used for normal operation are permitted at any height.

Exception: Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided the self-latching devices are not

also self-locking devices operated by means of a key, electronic opener or integral combination lock.

1008.1.9.3 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint.
2. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 2.1 The locking device is readily distinguishable as locked;
 - 2.2 A readily visible durable sign is posted on the egress side on or adjacent to the door stating: **THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED.** The sign shall be in letters 1 inch (25 mm) high on a contrasting background; and
 - 2.3 The use of the key-operated locking device is revocable by the building official for due cause.
3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.
4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
5. Fire doors after the minimum elevated temperature has disabled the unlatching mechanism in accordance with listed fire door test procedures.

1008.1.9.4 Bolt locks. Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. On doors not required for egress in individual dwelling units or sleeping units.
2. Where a pair of doors serves a storage or equipment room, manually operated edge-or surface-mounted bolts are permitted on the inactive leaf.
3. Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge-or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.
4. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge-or surface-mounted bolts are permitted on the inactive leaf

provided such inactive leaf is not needed to meet egress width requirements and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The inactive leaf shall contain no doorknobs, panic bars or similar operating hardware.

5. Where a pair of doors serves patient care rooms in Group I-2 occupancies, self-latching edge-or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress width requirements and the inactive leaf contains no doorknobs, panic bars or similar operating hardware.

1008.1.9.5 Unlatching. The unlatching of any door or leaf shall not require more than one operation.

Exceptions:

1. Places of detention or restraint.
2. Where manually operated bolt locks are permitted by Section 1008.1.9.4.
3. Doors with automatic flush bolts as permitted by Section 1008.1.9.3, Exception 3.
4. Doors from individual dwelling units and sleeping units of Group R occupancies as permitted by Section 1008.1.9.3, Exception 4.

1008.1.9.5.1 Closet and bathroom doors in Groups I-1 and R-4 occupancies.

In Group I-1 and R-4 occupancies, closet doors that latch in the closed position shall be *operable* from inside the closet, and bathroom doors that latch in the closed position shall be capable of being unlocked from the ingress side.

1008.1.9.6 Special egress locks for Group I-2. Approved ~~controlled~~ *special egress locks* ~~in accordance with this section or delayed egress locks in accordance with Section 1008.1.9.7.1~~ shall be permitted in a Group I-2 occupancy where the clinical needs of persons receiving care require such locking. ~~Controlled~~ *Special egress locks* shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 ~~and/or~~ an approved automatic smoke or heat detection system installed *throughout the locked space* in accordance with ~~NFPA 72~~ *Section 907*, provided that the doors unlock in accordance with Items 1 through ~~6~~ *7* below. ~~A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.~~

1. *The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.*
2. *The doors unlock upon loss of power controlling the lock or lock mechanism.*

3. ~~The door locks shall have the capability of being unlocked by an approved manual keypad located on each side of the door, at staff locations on that floor and a signal from the fire command center, a nursing station or other approved location.~~
4. ~~Once the door lock has been released, relocking shall be by manual means only. A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.~~
5. ~~A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: **THESE DOORS ARE ELECTRONICALLY CONTROLLED** The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the fire code.~~
6. ~~Emergency lighting shall be provided at the door. All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.~~
7. ~~Emergency lighting shall be provided at the door.~~

Exception: Items 1 through 4 shall not apply to doors to areas where persons, which because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.

1008.1.9.7 Delayed egress locks. Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A delayed egress locking system shall be permitted to be installed in an I-2 occupancy when installed in accordance with section 1008.1.9.7.1. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the

irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted.

5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

1008.1.9.7.1 Delayed egress locks in I-2 occupancies. *Delayed egress locks shall be permitted in I-2 occupancies where the clinical needs of persons receiving care require such locking and where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.*

1. *The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.*
2. *The doors unlock upon loss of power controlling the lock or lock mechanism.*
3. *The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other approved location.*
4. *The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the fire code.*
5. *All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.*
6. *Emergency lighting shall be provided at the door.*

Exception: *Items 1 through 3 shall not apply to doors to areas where persons, because of clinical needs, require restraint or containment as part of the function of a mental hospital.*

1008.1.9.8 Electromagnetically locked egress doors.

Doors in the means of egress that are not otherwise required to have panic hardware in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and

doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch and meet the requirements below:

1. The listed hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The listed hardware is capable of being operated with one hand.
3. Operation of the listed hardware releases to the electromagnetic lock and unlocks the door immediately.
4. Loss of power to the listed hardware automatically unlocks the door.

1008.1.9.9 Locking arrangements in correctional facilities. In occupancies in Groups A-2, A-3, A-4, B, E, F, I-2, I-3, M and S within correctional and detention facilities, doors in means of egress serving rooms or spaces occupied by persons whose movements are controlled for security reasons shall be permitted to be locked when equipped with egress control devices which shall unlock manually and by at least one of the following means:

1. Activation of an automatic sprinkler system installed in accordance with Section 903.3.1.1;
2. Activation of an approved manual alarm box; or
3. A signal from a constantly attended location.

1008.1.9.10 Stairway doors. Interior stairway means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. Stairway discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. In stairways serving not more than four stories, doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.

1008.1.10 Panic and fire exit hardware. Doors serving a Group H occupancy and doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock unless it is

panic hardware or fire exit hardware.

Exception: A main exit of a Group A occupancy in compliance with Section 1008.1.9.3, Item 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide that contain overcurrent devices, switching devices or control devices with exit or exit access doors shall be equipped with panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

1008.1.10.1 Installation. Where panic or fire exit hardware is installed, it shall comply with the following:

1. Panic hardware shall be listed in accordance with UL 305;
2. Fire exit hardware shall be listed in accordance with UL 10C and UL 305;
3. The actuating portion of the releasing device shall extend at least one-half of the door leaf width; and
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

1008.1.10.2 Balanced doors. If balanced doors are used and panic hardware is required, the panic hardware shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

1008.2 Gates. Gates serving the means of egress system shall comply with the requirements of this section. Gates used as a component in a means of egress shall conform to the applicable requirements for doors.

Exception: Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.

1008.2.1 Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while the public is present, and where safe dispersal areas based on 3 square feet (0.28 m²) per occupant are located between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space. See Section 1027.6 for means of egress from safe dispersal areas.

1008.3 Turnstiles. Turnstiles or similar devices that restrict travel to one direction shall not be placed so as to obstruct any required means of egress.

Exception: Each turnstile or similar device shall be credited with no more than a 50-person capacity where all of the following provisions are met:

1. Each device shall turn free in the direction of egress travel when primary power is lost, and upon the manual release by an employee in the area.
2. Such devices are not given credit for more than 50 percent of the required egress capacity.
3. Each device is not more than 39 inches (991 mm) high.
4. Each device has at least 16¹/₂ inches (419 mm) clear width at and below a height of 39 inches (991 mm) and at least 22 inches (559 mm) clear width at heights above 39 inches (991 mm).

Where located as part of an accessible route, turnstiles shall have at least 36 inches (914 mm) clear at and below a height of 34 inches (864 mm), at least 32 inches (813 mm) clear width between 34 inches (864 mm) and 80 inches (2032 mm) and shall consist of a mechanism other than a revolving device.

1008.3.1 High turnstile. Turnstiles more than 39 inches (991 mm) high shall meet the requirements for revolving doors.

1008.3.2 Additional door. Where serving an occupant load greater than 300, each turnstile that is not portable shall have a side-hinged swinging door which conforms to Section 1008.1 within 50 feet (15 240 mm).

SECTION 1009 STAIRWAYS

1009.1 Stairway width. The width of stairways shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm). See Section 1007.3 for accessible means of egress stairways.

Exceptions:

1. Stairways serving an occupant load of less than 50 shall have a width of not less than 36 inches (914 mm).
2. Spiral stairways as provided for in Section 1009.9.
3. Aisle stairs complying with Section 1028.
4. Where an incline platform lift or stairway chairlift is installed on stairways serving occupancies in Group R-3, or within dwelling units in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. If the seat and platform can be folded when not in use, the distance shall be measured from the folded

position.

1009.2 Headroom. Stairways shall have a minimum headroom clearance of 80 inches (2032 mm) measured vertically from a line connecting the edge of the nosings. Such headroom shall be continuous above the stairway to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the stairway and landing.

Exceptions:

1. Spiral stairways complying with Section 1009.9 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; where the nosings of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4 ³/₄ inches (121 mm).

1009.3 Walkline. The walkline across winder treads shall be concentric to the direction of travel through the turn and located 12 inches (305 mm) from the side where the winders are narrower. The 12-inch (305 mm) dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used.

1009.4 Stair treads and risers. Stair treads and risers shall comply with Sections 1009.4.1 through 1009.4.5.

1009.4.1 Dimension reference surfaces. For the purpose of this section, all dimensions are exclusive of carpets, rugs or runners.

1009.4.2 Riser height and tread depth. Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the leading edges of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 11 inches (279 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. Alternating tread devices in accordance with Section 1009.10.
2. Ship ladders in accordance with Section 1009.11.
3. Spiral stairways in accordance with Section 1009.9.
4. Aisle stairs in assembly seating areas where the stair pitch or slope is set, for sightline reasons, by the slope of the adjacent seating area in accordance with Section 1028.11.2.
5. In Group R-3 occupancies; within dwelling units in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; the maximum riser height shall be 8 ¼ inches (197 mm); the minimum tread depth shall be 9 inches (254 mm); the minimum winder tread depth at the walkline shall be 10 inches (254 mm); and the minimum winder tread depth shall be 6 inches (152 mm). A nosing not less than ¾ inch (19.1 mm) but not more than 1 ¼ inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).
6. See Section 3404.1 for the replacement of existing stairways.
7. In Group I-3 facilities, stairways providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m²) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

1009.4.3 Winder treads. Winder treads are not permitted in means of egress stairways except within a dwelling unit.

Exceptions:

1. Curved stairways in accordance with Section 1009.8.
2. Spiral stairways in accordance with Section 1009.9.

1009.4.4 Dimensional uniformity. Stair treads and risers shall be of uniform size and shape. The tolerance between the largest and smallest riser height or between the largest and smallest tread depth shall not exceed 3/8 inch (9.5 mm) in any flight of stairs. The greatest winder tread depth at the walkline within any flight of stairs shall not exceed the smallest by more than 3/8 inch (9.5 mm).

Exceptions:

1. Nonuniform riser dimensions of aisle stairs complying with Section 1028.11.2.
2. Consistently shaped winders, complying with Section 1009.4.2,

differing from rectangular treads in the same stairway flight.

Where the bottom or top riser adjoins a sloping public way, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of stairway width. The nosings or leading edges of treads at such nonuniform height risers shall have a distinctive marking stripe, different from any other nosing marking provided on the stair flight. The distinctive marking stripe shall be visible in descent of the stair and shall have a slip-resistant surface. Marking stripes shall have a width of at least 1 inch (25 mm) but not more than 2 inches (51 mm).

1009.4.5 Profile. The radius of curvature at the leading edge of the tread shall be not greater than 9/16 inch (14.3 mm). Beveling of nosings shall not exceed 9/16 inch (14.3 mm). Risers shall be solid and vertical or sloped under the tread above from the underside of the nosing above at an angle not more than 30 degrees (0.52 rad) from the vertical. The leading edge (nosing) of treads shall project not more than 1 ¼ inches (32 mm) beyond the tread below and all projections of the leading edges shall be of uniform size, including the leading edge of the floor at the top of a flight.

Exceptions:

1. Solid risers are not required for stairways that are not required to comply with Section 1007.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas accessible to the public. There are no restrictions on the size of the opening in the riser.
3. Solid risers are not required for spiral stairways constructed in accordance with Section 1009.9.
4. Solid risers are not required for alternating tread devices constructed in accordance with Section 1009.10.

1009.5 Stairway landings. There shall be a floor or landing at the top and bottom of each stairway. The width of landings shall not be less than the width of stairways they serve. Every landing shall have a minimum dimension measured in the direction of travel equal to the width of the stairway. Such dimension need not exceed 48 inches (1219 mm) where the stairway has a straight run. Doors opening onto a landing shall not reduce the landing to less than one-half the required width. When fully open, the door shall not project more than 7 inches (178 mm)

into a landing. When wheelchair spaces are required on the stairway landing in accordance with Section 1007.6.1, the wheelchair space shall not be located in the required width of the landing and doors shall not swing over the wheelchair spaces.

Exception: Aisle stairs complying with Section 1028.

1009.6 Stairway construction. All stairways shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction.

1009.6.1 Stairway walking surface. The walking surface of treads and landings of a stairway shall not be sloped steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Stairway treads and landings shall have a solid surface. Finish floor surfaces shall be securely attached.

Exceptions:

1. Openings in stair walking surfaces shall be a size that does not permit the passage of ½ -inch-diameter (12.7 mm) sphere. Elongated opening shall be placed so that the long dimension is perpendicular to the direction of travel.
2. In Group F, H and S occupancies, other than areas of parking structures accessible to the public, openings in treads and landings shall not be prohibited provided a sphere with a diameter of 1-1/8 inches (29 mm) cannot pass through the opening.

1009.6.2 Outdoor conditions. Outdoor stairways and outdoor approaches to stairways shall be designed so that water will not accumulate on walking surfaces.

1009.6.3 Enclosures under stairways. The walls and soffits within enclosed usable spaces under enclosed and unenclosed stairways shall be protected by 1-hour fire-resistance-rated construction or the fire-resistance rating of the stairway enclosure, whichever is greater. Access to the enclosed space shall not be directly from within the stair enclosure.

Exception: Spaces under stairways serving and contained within a single residential dwelling unit in Group R-2 or R-3 shall be permitted to be protected on the enclosed side with ½ inch (12.7 mm) gypsum board.

There shall be no enclosed usable space under exterior exit stairways unless the space is completely enclosed in 1-hour fire-resistance-rated construction. The open space under exterior stairways shall not be used for any purpose.

1009.7 Vertical rise. A flight of stairs shall not have a vertical rise greater than 12 feet (3658 mm) between floor levels or landings.

Exceptions:

1. Aisle stairs complying with Section 1028.
2. Alternating tread devices used as a means of egress shall not have a rise greater than 20 feet (6096 mm) between floor levels or landings.

1009.8 Curved stairways. Curved stairways with winder treads shall have treads and risers in accordance with Section 1009.4 and the smallest radius shall not be less than twice the required width of the stairway.

Exception: The radius restriction shall not apply to curved stairways for occupancies in Group R-3 and within individual dwelling units in occupancies in Group R-2.

1009.9 Spiral stairways. Spiral stairways are permitted to be used as a component in the means of egress only within dwelling units or from a space not more than 250 square feet (23 m²) in area and serving not more than five occupants, or from galleries, catwalks and gridirons in accordance with Section 1015.6.

A spiral stairway shall have a 7 ½ -inch (191 mm) minimum clear tread depth at a point 12 inches (305 mm) from the narrow edge. The risers shall be sufficient to provide a headroom of 78 inches (1981 mm) minimum, but riser height shall not be more than 9 ½ inches (241 mm). The minimum stairway clear width at and below the handrail shall be 26 inches (660 mm).

1009.10 Alternating tread devices. Alternating tread devices are limited to an element of a means of egress in buildings of Groups F, H and S from a mezzanine not more than 250 square feet (23 m²) in area and which serves not more than five occupants; in buildings of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m²) in area and for access to unoccupied roofs.

1009.10.1 Handrails of alternating tread devices. Handrails shall be provided on both sides of alternating tread devices and shall comply with Section 1012.

1009.10.2 Treads of alternating tread devices. Alternating tread devices shall have a minimum projected tread of 5 inches (127 mm), a minimum tread depth of 8 ½ inches (216 mm), a minimum tread width of 7 inches (178 mm) and a maximum riser height of 9 ½ inches (241 mm). The projected tread depth shall be measured horizontally between the vertical planes of the foremost projections of adjacent treads. The riser height shall be measured vertically between the leading edges of adjacent treads. The combination of riser height and projected tread depth provided shall result in an alternating tread device

angle that complies with Section 1002. The initial tread of the device shall begin at the same elevation as the platform, landing or floor surface.

Exception: Alternating tread devices used as an element of a means of egress in buildings from a mezzanine area not more than 250 square feet (23 m²) in area which serves not more than five occupants shall have a minimum projected tread of 8 ½ inches (216 mm) with a minimum tread depth of 10 ½ inches (267 mm). The rise to the next alternating tread surface should not be more than 8 inches (203 mm).

1009.11 Ship ladders. Ship ladders are permitted to be used in Group I-3 as a component of a means of egress to and from control rooms or elevated facility observation stations not more than 250 square feet (23 m²) with not more than three occupants and for access to unoccupied roofs.

Ship ladders shall have a minimum tread depth of 5 inches (127 mm). The tread shall be projected such that the total of the tread depth plus the nosing projection is no less than 8 ½ inches (216 mm). The maximum riser height shall be 9 ½ inches (241 mm).

Handrails shall be provided on both sides of ship ladders. The minimum clear width at and below the handrails shall be 20 inches (508 mm).

1009.12 Handrails. Stairways shall have handrails on each side and shall comply with Section 1012. Where glass is used to provide the handrail, the handrail shall also comply with Section 2407.

Exceptions:

1. Handrails for aisle stairs are not required where permitted by Section 1028.13.
2. Stairways within dwelling units, spiral stairways and aisle stairs serving seating only on one side are permitted to have a handrail on one side only.
3. Decks, patios and walkways that have a single change in elevation where the landing depth on each side of the change of elevation is greater than what is required for a landing do not require handrails.
4. In Group R-3 occupancies, a change in elevation consisting of a single riser at an entrance or egress door does not require handrails.
5. Changes in room elevations of three or fewer risers within dwelling units and sleeping units in Group R-2 and R-3 do not require handrails.

1009.13 Stairway to roof. In buildings four or more stories above grade plane, one stairway shall extend to the roof surface, unless the roof has a slope steeper

than four units vertical in 12 units horizontal (33-percent slope). In buildings without an occupied roof, access to the roof from the top story shall be permitted to be by an alternating tread device.

1009.13.1 Roof access. Where a stairway is provided to a roof, access to the roof shall be provided through a penthouse complying with Section 1509.2.

Exception: In buildings without an occupied roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m²) in area and having a minimum dimension of 2 feet (610 mm).

1009.13.2 Protection at roof hatch openings. Where the roof hatch opening providing the required access is located within 10 feet (3049 mm) of the roof edge, such roof access or roof edge shall be protected by guards installed in accordance with the provisions of Section 1013.

1009.14 Stairway to elevator equipment. *Deleted.*

SECTION 1010 RAMPS

1010.1 Scope. The provisions of this section shall apply to ramps used as a component of a means of egress.

Exceptions:

1. Other than ramps that are part of the accessible routes providing access in accordance with Sections 1108.2 through 1108.2.4 and 1108.2.6, ramped aisles within assembly rooms or spaces shall conform with the provisions in Section 1028.11.
2. Curb ramps shall comply with *ICC A117.1*.
3. Vehicle ramps in parking garages for pedestrian exit access shall not be required to comply with Sections 1010.3 through 1010.9 when they are not an accessible route serving accessible parking spaces, other required accessible elements or part of an accessible means of egress.

1010.2 Slope. Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).

Exception: Aisle ramp slope in occupancies of Group A or assembly occupancies accessory to Group E occupancies shall comply with Section

1028.11.

1010.3 Cross slope. The slope measured perpendicular to the direction of travel of a ramp shall not be steeper than one unit vertical in 48 units horizontal (2-percent slope).

1010.4 Vertical rise. The rise for any ramp run shall be 30 inches (762 mm) maximum.

1010.5 Minimum dimensions. The minimum dimensions of means of egress ramps shall comply with Sections 1010.5.1 through 1010.5.3.

1010.5.1 Width. The minimum width of a means of egress ramp shall not be less than that required for corridors by Section 1018.2. The clear width of a ramp between handrails, if provided, or other permissible projections shall be 36 inches (914 mm) minimum.

1010.5.2 Headroom. The minimum headroom in all parts of the means of egress ramp shall not be less than 80 inches (2032 mm).

1010.5.3 Restrictions. Means of egress ramps shall not reduce in width in the direction of egress travel. Projections into the required ramp and landing width are prohibited. Doors opening onto a landing shall not reduce the clear width to less than 42 inches (1067 mm).

1010.6 Landings. Ramps shall have landings at the bottom and top of each ramp, points of turning, entrance, exits and at doors. Landings shall comply with Sections 1010.6.1 through 1010.6.5.

1010.6.1 Slope. Landings shall have a slope not steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Changes in level are not permitted.

1010.6.2 Width. The landing shall be at least as wide as the widest ramp run adjoining the landing.

1010.6.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

Exceptions:

1. In Group R-2 and R-3 individual dwelling and sleeping units that are not required to be Accessible units, Type A units or Type B units in accordance with Section 1107, landings are permitted to be 36 inches (914 mm) minimum.
2. Where the ramp is not a part of an accessible route, the length of the landing shall not be required to be more than 48 inches (1220 mm) in the direction of travel.

1010.6.4 Change in direction. Where changes in direction of travel occur at landings provided between ramp runs, the landing shall be 60 inches by 60

inches (1524 mm by 1524 mm) minimum.

Exception: In Group R-2 and R-3 individual dwelling or sleeping units that are not required to be Accessible units, Type A units or Type B units in accordance with Section 1107, landings are permitted to be 36 inches by 36 inches (914 mm by 914 mm) minimum.

1010.6.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by ICC A117.1 are permitted to overlap the required landing area.

1010.7 Ramp construction. All ramps shall be built of materials consistent with the types permitted for the type of construction of the building, except that wood handrails shall be permitted for all types of construction. Ramps used as an exit shall conform to the applicable requirements of Sections 1022.1 through 1022.6 for exit enclosures.

1010.7.1 Ramp surface. The surface of ramps shall be of slip-resistant materials that are securely attached.

1010.7.2 Outdoor conditions. Outdoor ramps and outdoor approaches to ramps shall be designed so that water will not accumulate on walking surfaces.

1010.8 Handrails. Ramps with a rise greater than 6 inches (152 mm) shall have handrails on both sides. Handrails shall comply with Section 1012.

Exception: Handrails for ramped aisles are not required where permitted by Section 1028.13.

1010.9 Edge protection. Edge protection complying with Section 1010.9.1 or 1010.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

Exceptions:

1. Edge protection is not required on ramps that are not required to have handrails, provided they have flared sides that comply with the ICC A117.1 curb ramp provisions.
2. Edge protection is not required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection is not required on the sides of ramp landings having a vertical drop off of not more than ½ inch (12.7 mm) within 10 inches (254 mm) horizontally of the required landing area.
4. In assembly spaces with fixed seating, edge protection is not required on the sides of ramps where the ramps provide access to the adjacent seating and aisle accessways.

1010.9.1 Curb, rail, wall or barrier. A curb, rail, wall or barrier shall be provided to serve as edge protection. A curb must be a minimum of 4 inches

(102 mm) in height. Barriers must be constructed so that the barrier prevents the passage of a 4-inch-diameter (102 mm) sphere, where any portion of the sphere is within 4 inches (102 mm) of the floor or ground surface.

1010.9.2 Extended floor or ground surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with Section 1012.

1010.10 Guards. Guards shall be provided where required by Section 1013 and shall be constructed in accordance with Section 1013.

SECTION 1011 EXIT SIGNS

1011.1 Where required. Exits and exit access doors shall be marked by an approved exit sign readily visible from any direction of egress travel. The path of egress travel to exits and within exits shall be marked by readily visible exit signs to clearly indicate the direction of egress travel in cases where the exit or the path of egress travel is not immediately visible to the occupants. Intervening means of egress doors within exits shall be marked by exit signs. Exit sign placement shall be such that no point in an exit access corridor or exit passageway is more than 100 feet (30 480 mm) or the listed viewing distance for the sign, whichever is less, from the nearest visible exit sign.

Exceptions:

1. Exit signs are not required in rooms or areas that require only one exit or exit access.
2. Main exterior exit doors or gates that are obviously and clearly identifiable as exits need not have exit signs where approved by the building official.
3. Exit signs are not required in occupancies in Group U and individual sleeping units or dwelling units in Group R-1, R-2 or R-3.
4. Exit signs are not required in dayrooms, sleeping rooms or dormitories in occupancies in *Group I*.
5. In occupancies in Groups A-4 and A-5, exit signs are not required on the seating side of vomitories or openings into seating areas where exit signs are provided in the concourse that are readily apparent from the vomitories. Egress lighting is provided to identify each vomitory or opening within the seating area in an emergency.

1011.2 Illumination. Exit signs shall be internally or externally illuminated.

Exception: Tactile signs required by Section 1011.3 need not be provided with illumination.

1011.3 Tactile exit signs. A tactile sign stating EXIT and complying with *Chapter 11* shall be provided adjacent to each door to an area of refuge, an exterior area for assisted rescue, an exit stairway, an exit ramp, an exit passageway and the exit discharge.

1011.4 Internally illuminated exit signs. Electrically powered, self-luminous and photoluminescent exit signs shall be listed and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Chapter 27. Exit signs shall be illuminated at all times.

1011.5 Externally illuminated exit signs. Externally illuminated exit signs shall comply with Sections 1011.5.1 through 1011.5.3.

1011.5.1 Graphics. Every exit sign and directional exit sign shall have plainly legible letters not less than 6 inches (152 mm) high with the principal strokes of the letters not less than $\frac{3}{4}$ inch (19.1 mm) wide. The word "EXIT" shall have letters having a width not less than 2 inches (51 mm) wide, except the letter "I," and the minimum spacing between letters shall not be less than $\frac{3}{8}$ inch (9.5 mm). Signs larger than the minimum established in this section shall have letter widths, strokes and spacing in proportion to their height.

The word "EXIT" shall be in high contrast with the background and shall be clearly discernible when the means of exit sign illumination is or is not energized. If a chevron directional indicator is provided as part of the exit sign, the construction shall be such that the direction of the chevron directional indicator cannot be readily changed.

1011.5.2 Exit sign illumination. The face of an exit sign illuminated from an external source shall have an intensity of not less than 5 foot-candles (54 lux).

1011.5.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27.

Exception: Approved exit sign illumination means that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

SECTION 1012 HANDRAILS

1012.1 Where required. Handrails for stairways and ramps shall be adequate in strength and attachment in accordance with Section 1607.7. Handrails required for stairways by Section 1009.12 shall comply with Sections 1012.2 through 1012.9. Handrails required for ramps by Section 1010.8 shall comply with Sections 1012.2 through 1012.8.

1012.2 Height. Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices and ship ladders, measured above tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

1012.3 Handrail graspability. All required handrails shall comply with Section 1012.3.1 or shall provide equivalent graspability.

Exception: In Group R-3 occupancies; within dwelling units *not required to be accessible, Type A or Type B* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual dwelling units in Group R-2 occupancies; handrails shall be Type I in accordance with Section 1012.3.1, Type II in accordance with Section 1012.3.2 or shall provide equivalent graspability.

1012.3.1 Type I. Handrails with a circular cross section shall have an outside diameter of at least 1 ¼ inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6 ¼ inches (160 mm) with a maximum cross-section dimension of 2 ¼ inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

1012.3.2 Type II. Handrails with a perimeter greater than 6 ¼ inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of ¾ inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10 mm) to a level that is not less than 1 ¾ inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1 ¼ inches (32 mm) to a maximum of 2 ¾ inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

1012.4 Continuity. Handrail-gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. Handrails within dwelling units are permitted to be interrupted by a newel post at a turn or landing.
2. Within a dwelling unit, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the handrail that do not project horizontally beyond the sides of the handrail within 1 ½ inches (38 mm) of the bottom of the handrail shall not be considered obstructions. For each ½ inch (12.7 mm) of additional handrail perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1 ½ inches (38 mm) shall be permitted to be reduced by 1/8 inch (3 mm).
4. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.

1012.5 Fittings. Handrails shall not rotate within their fittings.

1012.6 Handrail extensions. Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight. Where handrails are not continuous between flights the handrails shall extend horizontally at least 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom *riser*. At ramps where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the stair flights at stairways and the ramp runs at ramps.

Exceptions:

1. Handrails within a dwelling unit that is not required to be accessible need extend only from the top riser to the bottom riser.
2. Aisle handrails in *rooms or spaces used for assembly purposes* in accordance with Section 1028.13.
3. Handrails for alternating tread devices and ship ladders are permitted to terminate at a location vertically above the top and bottom risers. Handrails for alternating tread devices are not required to be continuous between flights or to extend beyond the top or bottom risers.

1012.7 Clearance. Clear space between a handrail and a wall or other surface shall be a minimum of 1 ½ inches (38 mm). A handrail and a wall or other surface adjacent to the handrail shall be free of any sharp or abrasive elements.

1012.8 Projections. On ramps, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of stairways and

ramps at each handrail shall not exceed 4 ½ inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1009.2.

1012.9 Intermediate handrails. Stairways shall have intermediate handrails located in such a manner that all portions of the stairway width required for egress capacity are within 30 inches (762 mm) of a handrail. On monumental stairs, handrails shall be located along the most direct path of egress travel.

SECTION 1013 GUARDS

1013.1 Where required. Guards shall be located along open-sided walking surfaces, including mezzanines, equipment platforms, stairs, ramps and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Guards shall be adequate in strength and attachment in accordance with Section 1607.7.

Exception: Guards are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of stages and raised platforms, including steps leading up to the stage and raised platforms.
3. On raised stage and platform floor areas, such as runways, ramps and side stages used for entertainment or presentations.
4. At vertical openings in the performance area of stages and platforms.
5. At elevated walking surfaces appurtenant to stages and platforms for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating where guards in accordance with Section 1028.14 are permitted and provided.

1013.1.1 Glazing. Where glass is used to provide a guard or as a portion of the guard system, the guard shall also comply with Section 2407. Where the glazing provided does not meet the strength and attachment requirements of Section 1607.7, complying guards shall also be located along glazed sides of open-sided walking surfaces.

1013.2 Height. Required guards shall be not less than 42 inches (1067 mm) high, measured vertically above the adjacent walking surfaces, adjacent fixed seating or the line connecting the leading edges of the treads.

Exceptions:

1. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
2. For occupancies in Group R-3, and within individual dwelling units in occupancies in Group R-2, where the top of the guard also serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
3. The height in assembly seating areas shall be in accordance with Section 1028.14.
4. Along alternating tread devices and ship ladders, guards whose top rail also serves as a handrail, shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread nosing.

1013.3 Opening limitations. Required guards shall not have openings which allow passage of a sphere 4 inches (102 mm) in diameter from the walking surface to the required guard height.

Exceptions:

1. *Deleted*
2. The triangular openings at the open sides of a stair, formed by the riser, tread and bottom rail shall not allow passage of a sphere 6 inches (152 mm) in diameter.
3. At elevated walking surfaces for access to and use of electrical, mechanical or plumbing systems or equipment, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
4. In areas that are not open to the public within occupancies in Group I-3, F, H or S, and for alternating tread devices and ship ladders, guards shall not have openings which allow passage of a sphere 21 inches (533 mm) in diameter.
5. In assembly seating areas, guards at the end of aisles where they terminate at a fascia of boxes, balconies and galleries shall not have openings which allow passage of a sphere 4 inches in diameter (102 mm) up to a height of 26 inches (660 mm). From a height of 26 inches (660 mm) to 42 inches (1067 mm) above the adjacent walking surfaces, guards shall not have openings which allow passage of a sphere 8 inches (203 mm) in diameter.

6. *Deleted*

1013.4 Screen porches. Porches and decks which are enclosed with insect screening shall be provided with guards where the walking surface is located more than 30 inches (762 mm) above the floor or grade below.

1013.5 Mechanical equipment. Guards shall be provided where appliances, equipment, fans, roof hatch openings or other components that require service are located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter. The guard shall extend not less than 30 inches (762 mm) beyond each end of such appliance, equipment, fan or component.

1013.6 Roof access. Guards shall be provided where the roof hatch opening is located within 10 feet (3048 mm) of a roof edge or open side of a walking surface and such edge or open side is located more than 30 inches (762 mm) above the floor, roof or grade below. The guard shall be constructed so as to prevent the passage of a sphere 21 inches (533 mm) in diameter.

SECTION 1014 EXIT ACCESS

1014.1 General. The exit access shall comply with the applicable provisions of Sections 1003 through 1013. Exit access arrangement shall comply with Sections 1014 through 1019.

1014.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.

Exception: Means of egress are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy when the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

2. An exit access shall not pass through a room that can be locked to prevent egress.

3. Means of egress from dwelling units or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.
4. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

Exceptions:

1. Means of egress are not prohibited through a kitchen area serving adjoining rooms constituting part of the same dwelling unit or sleeping unit.
2. Means of egress are not prohibited through stockrooms in Group M occupancies when all of the following are met:
 - 2.1. The stock is of the same hazard classification as that found in the main retail area;
 - 2.2. Not more than 50 percent of the exit access is through the stockroom;
 - 2.3. The stockroom is not subject to locking from the egress side; and
 - 2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) aisle defined by full-or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

1014.2.1 Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, dwelling unit and sleeping unit shall be provided with access to the required exits without passing through adjacent tenant spaces, dwelling units and sleeping units.

Exception: The means of egress from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 percent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernable path of egress travel to an exit is provided; and the means of egress into the adjoining space is not subject to locking from the egress side. A required means of egress serving the larger tenant space shall not pass through the smaller tenant space or spaces.

1014.2.2 Group I-2. Habitable rooms or suites in Group I-2 occupancies shall have an exit access door leading directly to a corridor.

Exception: Rooms with exit doors opening directly to the outside at ground level.

1014.2.3 Suites in patient sleeping areas. Patient sleeping areas in Group I-2 occupancies shall be permitted to be divided into suites with one intervening room if one of the following conditions is met:

1. The intervening room within the suite is not used as an exit access for more than eight patient beds.
2. The arrangement of the suite allows for direct and constant visual supervision by nursing personnel.

1014.2.3.1 Area. Suites of sleeping rooms shall not exceed 5,000 square feet (465 m²).

1014.2.3.2 Exit access. Any patient sleeping room, or any suite that includes patient sleeping rooms, of more than 1,000 square feet (93 m²) shall have at least two exit access doors remotely located from each other.

1014.2.3.3 Travel distance. The travel distance between any point in a suite of sleeping rooms and an exit access door of that suite shall not exceed 100 feet (30 480 mm).

1014.2.4 Suites in areas other than patient sleeping areas. Areas other than patient sleeping areas in Group I-2 occupancies shall be permitted to be divided into suites.

1014.2.4.1 Area. Suites of rooms, other than patient sleeping rooms, shall not exceed 10,000 square feet (929 m²).

1014.2.4.2 Exit access. Any room or suite of rooms, other than patient sleeping rooms, of more than 2,500 square feet (232 m²) shall have at least two exit access doors remotely located from each other.

1014.2.4.3 One intervening room. For rooms other than patient sleeping rooms, suites of rooms are permitted to have one intervening room if the travel distance within the suite to the exit access door is not greater than 100 feet (30 480 mm).

1014.2.4.4 Two intervening rooms. For rooms other than patient sleeping rooms located within a suite, exit access travel from within the suite shall be permitted through two intervening rooms where the travel distance to the exit access door is not greater than 50 feet (15 240 mm).

1014.2.5 Exit access through suites. Exit access from all other portions of a building not classified as a suite in a Group I-2 occupancy shall not pass through a suite.

1014.2.6 Travel distance. The travel distance between any point in a Group I-2 occupancy patient sleeping room and an exit access door in that room shall not exceed 50 feet (15240 mm).

1014.2.7 Separation. Suites in Group I-2 occupancies shall be separated from other portions of the building by a smoke partition complying with Section 711.

1014.3 Common path of egress travel. In occupancies other than Groups H-1, H-2 and H-3, the common path of egress travel shall not exceed 75 feet (22 860 mm). In Group H-1, H-2 and H-3 occupancies, the common path of egress travel shall not exceed 25 feet (7620 mm). For common path of egress travel in Group A occupancies and assembly occupancies accessory to Group E occupancies having fixed seating, see Section 1028.8.

Exceptions:

1. The length of a common path of egress travel in Group B, F and S occupancies shall not be more than 100 feet (30 480 mm), provided that the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
2. Where a tenant space in Group B, S and U occupancies has an occupant load of not more than 30, the length of a common path of egress travel shall not be more than 100 feet (30 480 mm).
3. The length of a common path of egress travel in a Group I-3 occupancy shall not be more than 100 feet (30 480 mm).

The length of a common path of egress travel in a Group R-2 occupancy shall not be more than 125 feet (38 100 mm), provided that the building is protected throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

SECTION 1015 EXIT AND EXIT ACCESS DOORWAYS

1015.1 Exits or exit access doorways from spaces. Two exits or exit access doorways from any space shall be provided where one of the following conditions exists:

Exception: Group I-2 occupancies shall comply with Section 1014.2.2 through 1014.2.7.

1. The occupant load of the space exceeds one of the values in Table 1015.1.

Exception: In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

2. The common path of egress travel exceeds one of the limitations of Section 1014.3.
3. Where required by Section 1015.3, 1015.4, 1015.5, 1015.6 or 1015.6.1.

Where a building contains mixed occupancies, each individual occupancy shall comply with the applicable requirements for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1.

**TABLE 1015.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY**

OCCUPANCY	MAXIMUM OCCUPANT LOAD
A, B, E ^a , F, M, U	49
H-1, H-2, H-3	3
H-4, H-5, I-1, I-3, I-4, R	10
S	29

a. Day care maximum occupant load is 10.

1015.1.1 Three or more exits or exit access doorways.

Three exits or exit access doorways shall be provided from any space with an occupant load of 501 to 1,000. Four exits or exit access doorways shall be provided from any space with an occupant load greater than 1,000.

1015.2 Exit or exit access doorway arrangement. Required exits shall be located in a manner that makes their availability obvious. Exits shall be unobstructed at all times. Exit and exit access doorways shall be arranged in accordance with Sections 1015.2.1 and 1015.2.2.

1015.2.1 Two exits or exit access doorways. Where two exits or exit access doorways are required from any portion of the exit access, the exit doors or exit access doorways shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exit doors or exit access doorways. Interlocking or scissor stairs shall be counted as one exit stairway.

Exceptions:

1. Where exit enclosures are provided as a portion of the required exit and are interconnected by a 1-hour fire-resistance-rated corridor

conforming to the requirements of Section 1018, the required exit separation shall be measured along the shortest direct line of travel within the corridor.

2. Where a building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, the separation distance of the exit doors or exit access doorways shall not be less than one-third of the length of the maximum overall diagonal dimension of the area served.

1015.2.2 Three or more exits or exit access doorways.

Where access to three or more exits is required, at least two exit doors or exit access doorways shall be arranged in accordance with the provisions of Section 1015.2.1.

1015.3 Boiler, incinerator and furnace rooms. Two exit access doorways are required in boiler, incinerator and furnace rooms where the area is over 500 square feet (46 m^2) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422 000 KJ) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the length of the maximum overall diagonal dimension of the room.

1015.4 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m^2) shall have not less than two exits or exit access doors. Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in travel distance is permitted in accordance with Section 1016.1.

Doors shall swing in the direction of egress travel, regardless of the occupant load served. Doors shall be tight fitting and self-closing.

1015.5 Refrigerated rooms or spaces. Rooms or spaces having a floor area larger than 1,000 square feet (93 m^2), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two exits or exit access doors.

Travel distance shall be determined as specified in Section 1016.1, but all portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an exit or exit access door where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigerated

rooms or spaces.

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *mechanical code*.

1015.6 Stage means of egress. Where two means of egress are required, based on the stage size or occupant load, one means of egress shall be provided on each side of the stage.

1015.6.1 Gallery, gridiron and catwalk means of egress. The means of egress from lighting and access catwalks, galleries and gridirons shall meet the requirements for occupancies in Group F-2.

Exceptions:

1. A minimum width of 22 inches (559 mm) is permitted for lighting and access catwalks.
2. Spiral stairs are permitted in the means of egress.
3. Stairways required by this subsection need not be enclosed.
4. Stairways with a minimum width of 22 inches (559 mm), ladders or spiral stairs are permitted in the means of egress.
5. A second means of egress is not required from these areas where a means of escape to a floor or to a roof is provided. Ladders, alternating tread devices or spiral stairs are permitted in the means of escape.
6. Ladders are permitted in the means of egress.

SECTION 1016 EXIT ACCESS TRAVEL DISTANCE

1016.1 Travel distance limitations. Exits shall be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story along the natural and unobstructed path of egress travel to an exterior exit door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit passageway, a horizontal exit, an exterior exit stairway or an exterior exit ramp, shall not exceed the distances given in Table 1016.1.

Exceptions:

1. Travel distance in open parking garages is permitted to be measured to the closest riser of open exit stairways.
2. In outdoor facilities with open exit access components and open exterior exit stairways or exit ramps, travel distance is permitted to be measured to the closest riser of an exit stairway or the closest slope of the exit ramp.
3. In other than occupancy Groups H and I, the exit access travel distance to a maximum of 50 percent of the exits is permitted to be measured

from the most remote point within a building to an exit using unenclosed exit access stairways or ramps when connecting a maximum of two stories. The two connected stories shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories.

4. In other than occupancy Groups H and I, exit access travel distance is permitted to be measured from the most remote point within a building to an exit using unenclosed exit access stairways or ramps in the first and second stories above grade plane in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The first and second stories above grade plane shall be provided with at least two means of egress. Such interconnected stories shall not be open to other stories.

Where applicable, travel distance on unenclosed exit access stairways or ramps and on connecting stories shall also be included in the travel distance measurement. The measurement along stairways shall be made on a plane parallel and tangent to the stair tread nosings in the center of the stairway.

TABLE 1016.1
EXIT ACCESS TRAVEL DISTANCE^a

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250 ^b
I-1	Not Permitted	250 ^c
B	200	300 ^c
F-2, S-2, U	300	400 ^c
H-1	Not Permitted	75 ^c
H-2	Not Permitted	100 ^c
H-3	Not Permitted	150 ^c
H-4	Not Permitted	175 ^c
H-5	Not Permitted	200 ^c
I-2, I-3, I-4	Not Permitted	200 ^c

For SI: 1 foot = 304.8 mm.

- a. See the following sections for modifications to exit access travel distance requirements:
 - Section 402.4: For the distance limitation in malls.
 - Section 404.9: For the distance limitation through an atrium space.
 - Section 407.4: For the distance limitation in Group I-2.

Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
 Section 411.4: For the distance limitation in special amusement buildings.
 Section 1014.2.2: For the distance limitation in Group I-2 hospital suites.
 Section 1015.4: For the distance limitation in refrigeration machinery rooms.
 Section 1015.5: For the distance limitation in refrigerated rooms and spaces.
Section 1016.3: For increased limitation in Groups F-1 and S-1.
 Section 1021.2: For buildings with one exit.
 Section 1028.7: For increased limitation in assembly seating.
 Section 1028.7: For increased limitation for assembly open-air seating.
 Section 3103.4: For temporary structures.
 Section 3104.9: For pedestrian walkways.

- b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1016.2 Exterior egress balcony increase. Travel distances specified in Section 1016.1 shall be increased up to an additional 100 feet (30 480 mm) provided the last portion of the exit access leading to the exit occurs on an exterior egress balcony constructed in accordance with Section 1019. The length of such balcony shall not be less than the amount of the increase taken.

1016.3 Group F-1 and S-1 increase. *The maximum exit access travel distance shall be 400 feet (121,920 mm) in Group F-1 and S-1 occupancies where all of the following are met:*

1. *The portion of the building classified as Group F-1 or S-1 is limited to one story in height; and*
2. *The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm); and*
3. *The portion of the building classified as Group F-1 or S-1 is equipped throughout with an early suppression fast response (ESFR) automatic fire sprinkler system in accordance with Section 903.3.1.1; and*
4. *The portion of the building classified as Group F-1 or S-1 is equipped with a manually activated smoke exhaust system complying with Section 910.5.*

SECTION 1017 AISLES

1017.1 General. Aisles serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles shall be provided from all occupied portions of the exit access which contain seats, tables, furnishings, displays and similar fixtures or equipment. Aisles serving assembly

areas shall comply with Section 1028. Aisles serving reviewing stands, grandstands and bleachers shall also comply with Section 1028. The required width of aisles shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1017.2 Aisles in Groups B and M. In Group B and M occupancies, the minimum clear aisle width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

Exception: Nonpublic aisles serving less than 50 people and not required to be accessible by Chapter 11 need not exceed 28 inches (711 mm) in width.

1017.3 Aisle accessways in Group M. An aisle accessway shall be provided on at least one side of each element within the merchandise pad. The minimum clear width for an aisle accessway not required to be accessible shall be 30 inches (762 mm). The required clear width of the aisle accessway shall be measured perpendicular to the elements and merchandise within the merchandise pad. The 30-inch (762 mm) minimum clear width shall be maintained to provide a path to an adjacent aisle or aisle accessway. The common path of travel shall not exceed 30 feet (9144 mm) from any point in the merchandise pad.

Exception: For areas serving not more than 50 occupants, the common path of travel shall not exceed 75 feet (22 880 mm).

1017.4 Seating at tables. Where seating is located at a table or counter and is adjacent to an aisle or aisle accessway, the measurement of required clear width of the aisle or aisle accessway shall be made to a line 19 inches (483 mm) away from and parallel to the edge of the table or counter. The 19-inch (483 mm) distance shall be measured perpendicular to the side of the table or counter. In the case of other side boundaries for aisle or aisle accessways, the clear width shall be measured to walls, edges of seating and tread edges, except that handrail projections are permitted.

Exception: Where tables or counters are served by fixed seats, the width of the aisle accessway shall be measured from the back of the seat.

1017.4.1 Aisle accessway for tables and seating. Aisle accessways serving arrangements of seating at tables or counters shall have sufficient clear width to conform to the capacity requirements of Section 1005.1 but shall not have less than the appropriate minimum clear width specified in Section 1017.4.2.

1017.4.2 Table and seating accessway width. Aisle accessways shall provide a minimum of 12 inches (305 mm) of width plus ½ inch (12.7 mm) of width for

each additional 1 foot (305 mm), or fraction thereof, beyond 12 feet (3658 mm) of aisle accessway length measured from the center of the seat farthest from an aisle.

Exception: Portions of an aisle accessway having a length not exceeding 6 feet (1829 mm) and used by a total of not more than four persons.

1017.4.3 Table and seating aisle accessway length. The length of travel along the aisle accessway shall not exceed 30 feet (9144 mm) from any seat to the point where a person has a choice of two or more paths of egress travel to separate exits.

SECTION 1018 CORRIDORS

1018.1 Construction. Corridors shall be fire-resistance rated in accordance with Table 1018.1. The corridor walls required to be fire-resistance rated shall comply with Section 709 for fire partitions.

Exceptions:

1. A fire-resistance rating is not required for corridors in an occupancy in Group E where each room that is used for instruction has at least one door opening directly to the exterior and rooms for assembly purposes have at least one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A fire-resistance rating is not required for corridors contained within a dwelling or sleeping unit in an occupancy in Group R.
3. A fire-resistance rating is not required for corridors in open parking garages.
4. A fire-resistance rating is not required for corridors in an occupancy in Group B which is a space requiring only a single means of egress complying with Section 1015.1.

**TABLE 1018.1
CORRIDOR FIRE-RESISTANCE RATING**

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system ^c
H-1, H-2, H-3	All	Not Permitted	1

H-4, H-5	Greater than 30	Not Permitted	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	Not Permitted ^d	0.5
I-2a, I-4	All	Not Permitted	0
I-1, I-3	All	Not Permitted	1 ^b

- a. For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.
b. For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8.
c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 where allowed.
d. One hour when design qualifies in accordance with Section 903.2.8, exception 3.

1018.2 Corridor width. The minimum corridor width shall be as determined in Section 1005.1, but not less than 44 inches (1118 mm).

Exceptions:

1. Twenty-four inches (610 mm)—For access to and utilization of electrical, mechanical or plumbing systems or equipment.
2. Thirty-six inches (914 mm)—With a required occupant capacity of less than 50.
3. Thirty-six inches (914 mm)—Within a dwelling unit.
4. Seventy-two inches (1829 mm)—In Group E with a corridor having a required capacity of 100 or more.
5. Seventy-two inches (1829 mm)—In corridors and areas serving gurney traffic in occupancies where patients receive outpatient medical care, which causes the patient to be not capable of self-preservation.
6. Ninety-six inches (2438 mm)—In Group I-2 in areas where required for bed movement. *Corridors are not required to have a clear width of 96 inches (2438 mm) in areas where there will not be stretcher or bed movement for access to care or as part of the defend in place strategy.*

1018.3 Corridor obstruction. The required width of corridors shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1018.4 Dead ends. Where more than one exit or exit access doorway is required, the exit access shall be arranged such that there are no dead ends in corridors more than 20 feet (6096 mm) in length.

Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.4), the dead end in a corridor shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, the length of the dead-end corridors shall not exceed 50 feet (15 240 mm).
3. A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end corridor.

1018.5 Air movement in corridors. Corridors shall not serve as supply, return, exhaust, relief or ventilation air ducts.

Exceptions:

1. Use of a corridor as a source of makeup air for exhaust systems in rooms that open directly onto such corridors, including toilet rooms, bathrooms, dressing rooms, smoking lounges and janitor closets, shall be permitted, provided that each such corridor is directly supplied with outdoor air at a rate greater than the rate of makeup air taken from the corridor.
2. Where located within a dwelling unit, the use of corridors for conveying return air shall not be prohibited.
3. Where located within tenant spaces of 1,000 square feet (93 m²) or less in area, utilization of corridors for conveying return air is permitted.
4. Incidental air movement from pressurized rooms within health care facilities, provided that the corridor is not the primary source of supply or return to the room.

1018.5.1 Corridor ceiling. Use of the space between the corridor ceiling and the floor or roof structure above as a return air plenum is permitted for one or more of the following conditions:

1. The corridor is not required to be of fire-resistance-rated construction;
2. The corridor is separated from the plenum by fire-resistance-rated construction;
3. The air-handling system serving the corridor is shut down upon activation of the air-handling unit smoke detectors required by the International Mechanical Code;
4. The air-handling system serving the corridor is shut down upon detection of sprinkler waterflow where the building is equipped throughout with an automatic sprinkler system; or
5. The space between the corridor ceiling and the floor or roof structure

above the corridor is used as a component of an approved engineered smoke control system.

1018.6 Corridor continuity. Fire-resistance-rated corridors shall be continuous from the point of entry to an exit, and shall not be interrupted by intervening rooms.

Exception: Foyers, lobbies or reception rooms constructed as required for corridors shall not be construed as intervening rooms.

SECTION 1019 EGRESS BALCONIES

1019.1 General. Balconies used for egress purposes shall conform to the same requirements as corridors for width, headroom, dead ends and projections.

1019.2 Wall separation. Exterior egress balconies shall be separated from the interior of the building by walls and opening protectives as required for corridors.

Exception: Separation is not required where the exterior egress balcony is served by at least two stairs and a dead-end travel condition does not require travel past an unprotected opening to reach a stair.

1019.3 Openness. The long side of an egress balcony shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

SECTION 1020 EXITS

1020.1 General. Exits shall comply with Sections 1020 through 1026 and the applicable requirements of Sections 1003 through 1013. An exit shall not be used for any purpose that interferes with its function as a means of egress. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

1020.2 Exterior exit doors. Buildings or structures used for human occupancy shall have at least one exterior door that meets the requirements of Section 1008.1.1.

1020.2.1 Detailed requirements. Exterior exit doors shall comply with the applicable requirements of Section 1008.1.

1020.2.2 Arrangement. Exterior exit doors shall lead directly to the exit

discharge or the public way.

SECTION 1021 NUMBER OF EXITS AND CONTINUITY

1021.1 Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1021.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories.

Exceptions:

1. As modified by Section 403.5.2.
2. As modified by Section 1021.2.
3. Exit access stairways and ramps that comply with Exception 3 or 4 of Section 1016.1 shall be permitted to provide the minimum number of approved independent exits required by Table 1021.1 on each story.
4. In Group R-2 and R-3 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 20 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
5. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.

**TABLE 1021.1
MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD**

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS (per story)
1-500	2
501-1,000	3
More than 1,000	4

1021.1.1 Exits maintained. The required number of exits from any story shall be maintained until arrival at grade or the public way.

1021.1.2 Parking structures. Parking structures shall not have less than two exits from each parking tier, except that only one exit is required where vehicles are mechanically parked. Vehicle ramps shall not be considered as

required exits unless pedestrian facilities are provided.

1021.1.3 Helistops. The means of egress from helistops shall comply with the provisions of this chapter, provided that landing areas located on buildings or structures shall have two or more exits. For landing platforms or roof areas less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m²) in area, the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below.

1021.2 Single exits. Only one exit shall be required from Group R-3 occupancy buildings or from stories of other buildings as indicated in Table 1021.2. Occupancies shall be permitted to have a single exit in buildings otherwise required to have more than one exit if the areas served by the single exit do not exceed the limitations of Table 1021.2. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with a single exit shall not be located more than one story below grade plane.

**TABLE 1021.2
STORIES WITH ONE EXIT**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
First story or basement	A, B ^d , E ^e , F ^d , M, U, S ^d	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S ^a	29 occupants and 100 feet travel distance
Second story	B ^b , F, M, S ^a	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
Third story	R-2 ^c	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- For the required number of exits for parking structures, see Section 1021.1.2.
- For the required number of exits for air traffic control towers, see Section 412.3.
- Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- Day care occupancies shall have a maximum occupant load of 10.

1021.3 Exit continuity. Exits shall be continuous from the point of entry into the exit to the exit discharge.

1021.4 Exit door arrangement. Exit door arrangement shall meet the requirements of Sections 1015.2 through 1015.2.2.

SECTION 1022 EXIT ENCLOSURES

1022.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.
 - 1.1 The stairway is open to not more than one story above its level of exit discharge; or
 - 1.2 The stairway is open to not more than one story below its level of exit discharge.
2. Exits in buildings of Group A-5 where all portions of the means of egress are essentially open to the outside need not be enclosed.
3. Stairways serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
4. Stairways in open parking structures that serve only the parking structure are not required to be enclosed.
5. Stairways in Group I-3 occupancies, as provided for in Section 408.3.8, are not required to be enclosed.

6. Means of egress stairways as required by Sections 410.5.3 and 1015.6.1 are not required to be enclosed.
7. Means of egress stairways from balconies, galleries or press boxes as provided for in Section 1028.5.1 are not required to be enclosed.

1022.2 Termination. Exit enclosures shall terminate at an exit discharge or a public way.

Exception: An exit enclosure shall be permitted to terminate at an exit passageway complying with Section 1023, provided the exit passageway terminates at an exit discharge or a public way.

1022.2.1 Extension. Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit enclosure shall be separated from the exit passageway by a fire barrier constructed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 712, or both. The fire-resistance rating shall be at least equal to that required for the exit enclosure. A fire door assembly complying with Section 715.4 shall be installed in the fire barrier to provide a means of egress from the exit enclosure to the exit passageway. Openings in the fire barrier other than the fire door assembly are prohibited. Penetrations of the fire barrier are prohibited.

Exception: Penetrations of the fire barrier in accordance with Section 1022.4 shall be permitted.

1022.3 Openings and penetrations. Exit enclosure opening protectives shall be in accordance with the requirements of Section 715.

Openings in exit enclosures other than unprotected exterior openings shall be limited to those necessary for exit access to the enclosure from normally occupied spaces and for egress from the enclosure.

Elevators shall not open into an exit enclosure.

1022.4 Penetrations. Penetrations into and openings through an exit enclosure are prohibited except for required exit doors, equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the exit enclosure and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 713. There shall be no penetrations or communication openings, whether protected or not, between adjacent exit enclosures.

1022.5 Ventilation. Equipment and ductwork for exit enclosure ventilation as permitted by Section 1022.4 shall comply with one of the following items:

1. Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the exit enclosure by ductwork

enclosed in construction as required for shafts.

2. Where such equipment and ductwork is located within the exit enclosure, the intake air shall be taken directly from the outdoors and the exhaust air shall be discharged directly to the outdoors, or such air shall be conveyed through ducts enclosed in construction as required for shafts.
3. Where located within the building, such equipment and ductwork shall be separated from the remainder of the building, including other mechanical equipment, with construction as required for shafts.

In each case, openings into the fire-resistance-rated construction shall be limited to those needed for maintenance and operation and shall be protected by opening protectives in accordance with Section 715 for shaft enclosures.

Exit enclosure ventilation systems shall be independent of other building ventilation systems.

1022.6 Exit enclosure exterior walls. Exterior walls of an exit enclosure shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or to the roof line, whichever is lower.

1022.7 Discharge identification. A stairway in an exit enclosure shall not continue below its level of exit discharge unless an approved barrier is provided at the level of exit discharge to prevent persons from unintentionally continuing into levels below. Directional exit signs shall be provided as specified in Section 1011.

1022.8 Floor identification signs. A sign shall be provided at each floor landing in exit enclosures connecting more than three stories designating the floor level, the terminus of the top and bottom of the exit enclosure and the identification of the stair or ramp. The signage shall also state the story of, and the direction to, the exit discharge and the availability of roof access from the enclosure for the fire department. The sign shall be located 5 feet (1524 mm) above the floor landing in a position that is readily visible when the doors are in the open and closed positions. Floor level identification signs in tactile characters complying with *Chapter 11* shall be located at each floor level landing adjacent to the door leading from the enclosure into the corridor to identify the floor level.

1022.8.1 Signage requirements. Stairway identification signs shall comply with *Chapter 11* and all of the following requirements:

1. The signs shall be a minimum size of 18 inches (457 mm) by 12 inches (305 mm).
2. The letters designating the identification of the stair enclosure shall be a minimum of 1 ½ inches (38 mm) in height.
3. The number designating the floor level shall be a minimum of 5 inches (127 mm) in height and located in the center of the sign.
4. All other lettering and numbers shall be a minimum of 1 inch (25 mm) in height.
5. Characters and their background shall have a nonglare finish. Characters shall contrast with their background, with either light characters on a dark background or dark characters on a light background.
6. When signs required by Section 1022.8 are installed in interior exit enclosures of buildings subject to Section 1024, the signs shall be made of the same materials as required by Section 1024.4.

1022.9 Smokeproof enclosures and pressurized stairways. In buildings required to comply with Section 403 or 405, each of the exit enclosures serving a story with a floor surface located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access or more than 30 feet (9144 mm) below the finished floor of a level of exit discharge serving such stories shall be a smokeproof enclosure or pressurized stairway in accordance with Section 909.20.

1022.9.1 Termination and extension. A smokeproof enclosure or pressurized stairway shall terminate at an exit discharge or a public way. The smokeproof enclosure or pressurized stairway shall be permitted to be extended by an exit passageway in accordance with Section 1022.2. The exit passageway shall be without openings other than the fire door assembly required by Section 1022.2 and those necessary for egress from the exit passageway. The exit passageway shall be separated from the remainder of the building by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.

Exceptions:

1. Openings in the exit passageway serving a smokeproof enclosure are permitted where the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure, and openings are protected as required for access from other floors.
2. Openings in the exit passageway serving a pressurized stairway are

permitted where the exit passageway is protected and pressurized in the same manner as the pressurized stairway.

3. The fire barrier separating the smokeproof enclosure or pressurized stairway from the exit passageway is not required, provided the exit passageway is protected and pressurized in the same manner as the smokeproof enclosure or pressurized stairway.
4. A smokeproof enclosure or pressurized stairway shall be permitted to egress through areas on the level of discharge or vestibules as permitted by Section 1027.

1022.9.2 Enclosure access. Access to the stairway within a smokeproof enclosure shall be by way of a vestibule or an open exterior balcony.

Exception: Access is not required by way of a vestibule or exterior balcony for stairways using the pressurization alternative complying with Section 909.20.5.

SECTION 1023 EXIT PASSAGEWAYS

1023.1 Exit passageway. Exit passageways serving as an exit component in a means of egress system shall comply with the requirements of this section. An exit passageway shall not be used for any purpose other than as a means of egress.

1023.2 Width. The width of exit passageways shall be determined as specified in Section 1005.1 but such width shall not be less than 44 inches (1118 mm), except that exit passageways serving an occupant load of less than 50 shall not be less than 36 inches (914 mm) in width. The required width of exit passageways shall be unobstructed.

Exception: Doors complying with Section 1005.2.

1023.3 Construction. Exit passageway enclosures shall have walls, floors and ceilings of not less than 1-hour fire-resistance rating, and not less than that required for any connecting exit enclosure. Exit passageways shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both.

1023.4 Termination. Exit passageways shall terminate at an exit discharge or a public way.

1023.5 Openings and penetrations. Exit passageway opening protectives shall be in accordance with the requirements of Section 715.

Except as permitted in Section 402.4.6, openings in exit passageways other than

exterior openings shall be limited to those necessary for exit access to the exit passageway from normally occupied spaces and for egress from the exit passageway.

Where an exit enclosure is extended to an exit discharge or a public way by an exit passageway, the exit passageway shall also comply with Section 1022.2.1.

Elevators shall not open into an exit passageway.

1023.6 Penetrations. Penetrations into and openings through an exit passageway are prohibited except for required exit doors, equipment and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication and electrical raceway serving the exit passageway and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 713. There shall be no penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

SECTION 1024 LUMINOUS EGRESS PATH MARKINGS

Deleted

SECTION 1025 HORIZONTAL EXITS

1025.1 Horizontal exits. Horizontal exits serving as an exit in a means of egress system shall comply with the requirements of this section. A horizontal exit shall not serve as the only exit from a portion of a building, and where two or more exits are required, not more than one-half of the total number of exits or total exit width shall be horizontal exits.

Exceptions:

1. Horizontal exits are permitted to comprise two-thirds of the required exits from any building or floor area for occupancies in Group I-2.
2. Horizontal exits are permitted to comprise 100 percent of the exits required for occupancies in Group I-3. At least 6 square feet (0.6 m²) of accessible space per occupant shall be provided on each side of the horizontal exit for the total number of people in adjoining compartments.

1025.2 Separation. The separation between buildings or refuge areas connected by a horizontal exit shall be provided by a fire wall complying with Section 706;

or it shall be provided by a fire barrier complying with Section 707 or a horizontal assembly complying with Section 712, or both. The minimum fire-resistance rating of the separation shall be 2 hours. Opening protectives in horizontal exits shall also comply with Section 715. Duct and air transfer openings in a fire wall or fire barrier that serves as a horizontal exit shall also comply with Section 716. The horizontal exit separation shall extend vertically through all levels of the building unless floor assemblies have a fire-resistance rating of not less than 2 hours with no unprotected openings.

Exception: A fire-resistance rating is not required at horizontal exits between a building area and an above-grade pedestrian walkway constructed in accordance with Section 3104, provided that the distance between connected buildings is more than 20 feet (6096 mm).

Horizontal exits constructed as fire barriers shall be continuous from exterior wall to exterior wall so as to divide completely the floor served by the horizontal exit.

1025.3 Opening protectives. Fire doors in horizontal exits shall be self-closing or automatic-closing when activated by a smoke detector in accordance with Section 715.4.8.3. Doors, where located in a cross-corridor condition, shall be automatic-closing by activation of a smoke detector installed in accordance with Section 715.4.8.3.

1025.4 Capacity of refuge area. The refuge area of a horizontal exit shall be a space occupied by the same tenant or a public area and each such refuge area shall be adequate to accommodate the original occupant load of the refuge area plus the occupant load anticipated from the adjoining compartment. The anticipated occupant load from the adjoining compartment shall be based on the capacity of the horizontal exit doors entering the refuge area. The capacity of the refuge area shall be computed based on a net floor area allowance of 3 square feet (0.2787 m²) for each occupant to be accommodated therein.

Exception: The net floor area allowable per occupant shall be as follows for the indicated occupancies:

1. Six square feet (0.6 m²) per occupant for occupancies in Group I-3.
2. Fifteen square feet (1.4 m²) per occupant for ambulatory occupancies in Group I-2.
3. Thirty square feet (2.8 m²) per occupant for nonambulatory occupancies in Group I-2.

The refuge area into which a horizontal exit leads shall be provided with exits adequate to meet the occupant requirements of this chapter, but not including the added occupant load imposed by persons entering it through horizontal exits from

other areas. At least one refuge area exit shall lead directly to the exterior or to an exit enclosure.

Exception: The adjoining compartment shall not be required to have a stairway or door leading directly outside, provided the refuge area into which a horizontal exit leads has stairways or doors leading directly outside and are so arranged that egress shall not require the occupants to return through the compartment from which egress originates.

SECTION 1026 EXTERIOR EXIT RAMPS AND STAIRWAYS

1026.1 Exterior exit ramps and stairways. Exterior exit ramps and stairways serving as an element of a required means of egress shall comply with this section.

Exception: Exterior exit ramps and stairways for outdoor stadiums complying with Section 1022.1, Exception 2.

1026.2 Use in a means of egress. Exterior exit stairways shall not be used as an element of a required means of egress for *Groups I-2, I-4 and child care facilities in E* occupancies. For occupancies in other than Group I-2, I-4 and child care facilities in E occupancies, exterior exit ramps and stairways shall be permitted as an element of a required means of egress for buildings not exceeding six stories above grade plane or having occupied floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

1026.3 Open side. Exterior exit ramps and stairways serving as an element of a required means of egress shall be open on at least one side. An open side shall have a minimum of 35 square feet (3.3 m²) of aggregate open area adjacent to each floor level and the level of each intermediate landing. The required open area shall be located not less than 42 inches (1067 mm) above the adjacent floor or landing level.

1026.4 Side yards. The open areas adjoining exterior exit ramps or stairways shall be either yards, courts or public ways; the remaining sides are permitted to be enclosed by the exterior walls of the building.

1026.5 Location. Exterior exit ramps and stairways shall be located in accordance with Section 1027.3.

1026.6 Exterior ramps and stairway protection. Exterior exit ramps and stairways shall be separated from the interior of the building as required in Section 1022.1. Openings shall be limited to those necessary for egress from

normally occupied spaces.

Exceptions:

1. Separation from the interior of the building is not required for occupancies, other than those in Group R-1 or R-2, in buildings that are no more than two stories above grade plane where a level of exit discharge serving such occupancies is the first story above grade plane.
2. Separation from the interior of the building is not required where the exterior ramp or stairway is served by an exterior ramp or balcony that connects two remote exterior stairways or other approved exits, with a perimeter that is not less than 50 percent open. To be considered open, the opening shall be a minimum of 50 percent of the height of the enclosing wall, with the top of the openings no less than 7 feet (2134 mm) above the top of the balcony.
3. Separation from the interior of the building is not required for an exterior ramp or stairway located in a building or structure that is permitted to have unenclosed interior stairways in accordance with Section 1022.1.
4. Separation from the interior of the building is not required for exterior ramps or stairways connected to open-ended corridors, provided that Items 4.1 through 4.4 are met:
 - 4.1. The building, including corridors and ramps and stairs, shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
 - 4.2. The open-ended corridors comply with Section 1018.
 - 4.3. The open-ended corridors are connected on each end to an exterior exit ramp or stairway complying with Section 1026.
 - 4.4. At any location in an open-ended corridor where a change of direction exceeding 45 degrees (0.79 rad) occurs, a clear opening of not less than 35 square feet (3.3 m²) or an exterior ramp or stairway shall be provided. Where clear openings are provided, they shall be located so as to minimize the accumulation of smoke or toxic gases.

**SECTION 1027
EXIT DISCHARGE**

1027.1 General. Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide direct access to grade. The exit discharge shall not reenter a building. The combined use of Exceptions 1 and 2

below shall not exceed 50 percent of the number and capacity of the required exits.

Exceptions:

1. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through areas on the level of discharge provided all of the following are met:
 - 1.1. Such exit enclosures egress to a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the exit enclosure.
 - 1.2. The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 1.3. The egress path from the exit enclosure on the level of exit discharge is protected throughout by an approved automatic sprinkler system. All portions of the level of exit discharge with access to the egress path shall either be protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of exits.
2. A maximum of 50 percent of the number and capacity of the exit enclosures is permitted to egress through a vestibule provided all of the following are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating for the exit enclosure.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the level of exit discharge by construction providing protection at least the equivalent of approved wired glass in steel frames.
 - 2.4. The area is used only for means of egress and exits directly to the outside.
3. Stairways in open parking garages complying with Section 1022.1, Exception 4, are permitted to egress through the open parking garage at their levels of exit discharge.
4. Horizontal exits complying with Section 1025 shall not be required to discharge directly to the exterior of the building.

1027.2 Exit discharge capacity. The capacity of the exit discharge shall be not less than the required discharge capacity of the exits being served.

1027.3 Exit discharge location. Exterior balconies, stairways and ramps shall be located at least 10 feet (3048 mm) from adjacent lot lines and from other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.

1027.4 Exit discharge components. Exit discharge components shall be sufficiently open to the exterior so as to minimize the accumulation of smoke and toxic gases.

1027.5 Egress courts. Egress courts serving as a portion of the exit discharge in the means of egress system shall comply with the requirements of Section 1027.

1027.5.1 Width. The width of egress courts shall be determined as specified in Section 1005.1, but such width shall not be less than 44 inches (1118 mm), except as specified herein. Egress courts serving Group R-3 and U occupancies shall not be less than 36 inches (914 mm) in width. The required width of egress courts shall be unobstructed to a height of 7 feet (2134 mm).

Exception: Doors complying with Section 1005.2.

Where an egress court exceeds the minimum required width and the width of such egress court is then reduced along the path of exit travel, the reduction in width shall be gradual. The transition in width shall be affected by a guard not less than 36 inches (914 mm) in height and shall not create an angle of more than 30 degrees (0.52 rad) with respect to the axis of the egress court along the path of egress travel. In no case shall the width of the egress court be less than the required minimum.

1027.5.2 Construction and openings. Where an egress court serving a building or portion thereof is less than 10 feet (3048 mm) in width, the egress court walls shall have not less than 1-hour fire-resistance-rated construction for a distance of 10 feet (3048 mm) above the floor of the court. Openings within such walls shall be protected by opening protectives having a fire protection rating of not less than $\frac{3}{4}$ hour.

Exceptions:

1. Egress courts serving an occupant load of less than 10.
2. Egress courts serving Group R-3.

1027.6 Access to a public way. The exit discharge shall provide a direct and unobstructed access to a public way.

Exception: Where access to a public way cannot be provided, a safe dispersal area shall be provided where all of the following are met:

1. The area shall be of a size to accommodate at least 5 square feet (0.46 m²) for each person.
2. The area shall be located on the same lot at least 50 feet (15 240 mm) away from the building requiring egress.
3. The area shall be permanently maintained and identified as a safe dispersal area.
4. The area shall be provided with a safe and unobstructed path of travel from the building.

SECTION 1028 ASSEMBLY

1028.1 General. Occupancies in Group A and assembly occupancies accessory to Group E which contain seats, tables, displays, equipment or other material shall comply with this section.

1028.1.1 Bleachers. Bleachers, grandstands and folding and telescopic seating, that are not building elements, shall comply *with Chapters 1-4 of ICC 300.*

1028.2 Assembly main exit. Group A occupancies and assembly occupancies accessory to Group E occupancies that have an occupant load of greater than 300 shall be provided with a main exit. The main exit shall be of sufficient width to accommodate not less than one-half of the occupant load, but such width shall not be less than the total required width of all means of egress leading to the exit. Where the building is classified as a Group A occupancy, the main exit shall front on at least one street or an unoccupied space of not less than 10 feet (3048 mm) in width that adjoins a street or public way.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width.

1028.3 Assembly other exits. In addition to having access to a main exit, each level in Group A occupancies or assembly occupancies accessory to Group E occupancies having an occupant load greater than 300, shall be provided with additional means of egress that shall provide an egress capacity for at least one-half of the total occupant load served by that level and comply with Section 1015.2.

Exception: In assembly occupancies where there is no well-defined main exit or where multiple main exits are provided, exits shall be permitted to be distributed around the perimeter of the building, provided that the total width of

egress is not less than 100 percent of the required width.

1028.4 Foyers and lobbies. In Group A-1 occupancies, where persons are admitted to the building at times when seats are not available, such persons shall be allowed to wait in a lobby or similar space, provided such lobby or similar space shall not encroach upon the required clear width of the means of egress. Such foyer, if not directly connected to a public street by all the main entrances or exits, shall have a straight and unobstructed corridor or path of travel to every such main entrance or exit.

1028.5 Interior balcony and gallery means of egress. For balconies, galleries or press boxes having a seating capacity of 50 or more located in Group A occupancies, at least two means of egress shall be provided, with one from each side of every balcony, gallery or press box and at least one leading directly to an exit.

1028.5.1 Enclosure of openings. Interior stairways and other vertical openings shall be enclosed in an exit enclosure as provided in Section 1022.1, except that stairways are permitted to be open between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, places of religious worship, auditoriums and sports facilities. At least one accessible means of egress is required from a balcony, gallery or press box level containing accessible seating locations in accordance with Section 1007.3 or 1007.4.

1028.6 Width of means of egress for assembly. The clear width of aisles and other means of egress shall comply with Section 1028.6.1 where smoke-protected seating is not provided and with Section 1028.6.2 or 1028.6.3 where smoke-protected seating is provided. The clear width shall be measured to walls, edges of seating and tread edges except for permitted projections.

1028.6.1 Without smoke protection. The clear width of the means of egress shall provide sufficient capacity in accordance with all of the following, as applicable:

1. At least 0.3 inch (7.6 mm) of width for each occupant served shall be provided on stairs having riser heights 7 inches (178 mm) or less and tread depths 11 inches (279 mm) or greater, measured horizontally between tread nosings.
2. At least 0.005 inch (0.127 mm) of additional stair width for each occupant shall be provided for each 0.10 inch (2.5 mm) of riser height above 7 inches (178 mm).
3. Where egress requires stair descent, at least 0.075 inch (1.9 mm) of additional width for each occupant shall be provided on those portions of stair width having no handrail within a horizontal distance of 30 inches (762 mm).

4. Ramped means of egress, where slopes are steeper than one unit vertical in 12 units horizontal (8-percent slope), shall have at least 0.22 inch (5.6 mm) of clear width for each occupant served. Level or ramped means of egress, where slopes are not steeper than one unit vertical in 12 units horizontal (8-percent slope), shall have at least 0.20 inch (5.1 mm) of clear width for each occupant served.

1028.6.2 Smoke-protected seating. The clear width of the means of egress for smoke-protected assembly seating shall not be less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1028.6.2. The total number of seats specified shall be those within the space exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation, complying with NFPA 101, shall be done for a facility utilizing the reduced width requirements of Table 1028.6.2 for smoke-protected assembly seating.

Exception: For an outdoor smoke-protected assembly with an occupant load not greater than 18,000, the clear width shall be determined using the factors in Section 1028.6.3.

1028.6.2.1 Smoke control. Means of egress serving a smoke-protected assembly seating area shall be provided with a smoke control system complying with Section 909 or natural ventilation designed to maintain the smoke level at least 6 feet (1829 mm) above the floor of the means of egress.

1028.6.2.2 Roof height. A smoke-protected assembly seating area with a roof shall have the lowest portion of the roof deck not less than 15 feet (4572 mm) above the highest aisle or aisle accessway.

Exception: A roof canopy in an outdoor stadium shall be permitted to be less than 15 feet (4572 mm) above the highest aisle or aisle accessway provided that there are no objects less than 80 inches (2032 mm) above the highest aisle or aisle accessway.

1028.6.2.3 Automatic sprinklers. Enclosed areas with walls and ceilings in buildings or structures containing smoke-protected assembly seating shall be protected with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

Exceptions:

1. The floor area used for contests, performances or entertainment provided the roof construction is more than 50 feet (15 240 mm) above the floor level and the use is restricted to low fire hazard uses.

2. Press boxes and storage facilities less than 1,000 square feet (93 m²) in area.
3. Outdoor seating facilities where seating and the means of egress in the seating area are essentially open to the outside.

1028.6.3 Width of means of egress for outdoor smoke-protected assembly.

The clear width in inches (mm) of aisles and other means of egress shall be not less than the total occupant load served by the egress element multiplied by 0.08 (2.0 mm) where egress is by aisles and stairs and multiplied by 0.06 (1.52 mm) where egress is by ramps, corridors, tunnels or vomitories.

Exception: The clear width in inches (mm) of aisles and other means of egress shall be permitted to comply with Section 1028.6.2 for the number of seats in the outdoor smoke-protected assembly where Section 1028.6.2 permits less width.

1028.7 Travel distance. Exits and aisles shall be so located that the travel distance to an exit door shall not be greater than 200 feet (60 960 mm) measured along the line of travel in nonsprinklered buildings. Travel distance shall not be more than 250 feet (76 200 mm) in sprinklered buildings. Where aisles are provided for seating, the distance shall be measured along the aisles and aisle accessway without travel over or on the seats.

Exceptions:

1. Smoke-protected assembly seating: The travel distance from each seat to the nearest entrance to a vomitory or concourse shall not exceed 200 feet (60 960 mm). The travel distance from the entrance to the vomitory or concourse to a stair, ramp or walk on the exterior of the building shall not exceed 200 feet (60 960 mm).
2. Open-air seating: The travel distance from each seat to the building exterior shall not exceed 400 feet (122 m). The travel distance shall not be limited in facilities of Type I or II construction.

1028.8 Common path of egress travel. The common path of egress travel shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two exits.

Exceptions:

1. For areas serving less than 50 occupants, the common path of egress travel shall not exceed 75 feet (22 860 mm).
2. For smoke-protected assembly seating, the common path of egress travel shall not exceed 50 feet (15 240 mm).

TABLE 1028.6.2
WIDTH OF AISLES FOR SMOKE-PROTECTED ASSEMBLY

TOTAL NUMBER OF SEATS IN THE SMOKE-PROTECTED ASSEMBLY OCCUPANCY	INCHES OF CLEAR WIDTH PER SEAT SERVED			
	Stairs and aisle steps with handrails within 30 inches	Stairs and aisle steps without handrails within 30 inches	Passageways, doorways and ramps not steeper than 1 in 10 in slope	Ramps steeper than 1 in 10 in slope
Equal to or less than 5,000	0.200	0.250	0.150	0.165
10,000	0.130	0.163	0.100	0.110
15,000	0.096	0.120	0.070	0.077
20,000	0.076	0.095	0.056	0.062
Equal to or greater than 25,000	0.060	0.075	0.044	0.048

For SI: 1 inch = 25.4 mm.

1028.8.1 Path through adjacent row. Where one of the two paths of travel is across the aisle through a row of seats to another aisle, there shall be not more than 24 seats between the two aisles, and the minimum clear width between rows for the row between the two aisles shall be 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row between aisles.

Exception: For smoke-protected assembly seating there shall not be more than 40 seats between the two aisles and the minimum clear width shall be 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat.

1028.9 Assembly aisles are required. Every occupied portion of any occupancy in Group A or assembly occupancies accessory to Group E that contains seats, tables, displays, similar fixtures or equipment shall be provided with aisles leading to exits or exit access doorways in accordance with this section. Aisle accessways for tables and seating shall comply with Section 1017.4.

1028.9.1 Minimum aisle width. The minimum clear width for aisles shall be as shown:

1. Forty-eight inches (1219 mm) for aisle stairs having seating on each side.
Exception: Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
2. Thirty-six inches (914 mm) for aisle stairs having seating on only one side.
3. Twenty-three inches (584 mm) between an aisle stair handrail or guard and seating where the aisle is subdivided by a handrail.

4. Forty-two inches (1067 mm) for level or ramped aisles having seating on both sides.

Exceptions:

1. Thirty-six inches (914 mm) where the aisle serves less than 50 seats.
 2. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.
5. Thirty-six inches (914 mm) for level or ramped aisles having seating on only one side.

Exceptions:

1. Thirty inches (762 mm) where the aisle does not serve more than 14 seats.
2. Twenty-three inches (584 mm) between an aisle stair handrail and seating where an aisle does not serve more than five rows on one side.

1028.9.2 Aisle width. The aisle width shall provide sufficient egress capacity for the number of persons accommodated by the catchment area served by the aisle. The catchment area served by an aisle is that portion of the total space that is served by that section of the aisle. In establishing catchment areas, the assumption shall be made that there is a balanced use of all means of egress, with the number of persons in proportion to egress capacity.

1028.9.3 Converging aisles. Where aisles converge to form a single path of egress travel, the required egress capacity of that path shall not be less than the combined required capacity of the converging aisles.

1028.9.4 Uniform width. Those portions of aisles, where egress is possible in either of two directions, shall be uniform in required width.

1028.9.5 Assembly aisle termination. Each end of an aisle shall terminate at cross aisle, foyer, doorway, vomitory or concourse having access to an exit.

Exceptions:

1. Dead-end aisles shall not be greater than 20 feet (6096 mm) in length.
2. Dead-end aisles longer than 20 feet (6096 mm) are permitted where seats beyond the 20-foot (6096 mm) dead-end aisle are no more than 24 seats from another aisle, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row.
3. For smoke-protected assembly seating, the dead-end aisle length of vertical aisles shall not exceed a distance of 21 rows.

4. For smoke-protected assembly seating, a longer dead-end aisle is permitted where seats beyond the 21-row dead-end aisle are not more than 40 seats from another aisle, measured along a row of seats having an aisle accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row.

1028.9.6 Assembly aisle obstructions. There shall be no obstructions in the required width of aisles except for handrails as provided in Section 1028.13.

1028.10 Clear width of aisle accessways serving seating. Where seating rows have 14 or fewer seats, the minimum clear aisle accessway width shall not be less than 12 inches (305 mm) measured as the clear horizontal distance from the back of the row ahead and the nearest projection of the row behind. Where chairs have automatic or self-rising seats, the measurement shall be made with seats in the raised position. Where any chair in the row does not have an automatic or self-rising seat, the measurements shall be made with the seat in the down position. For seats with folding tablet arms, row spacing shall be determined with the tablet arm in the used position.

Exception: For seats with folding tablet arms, row spacing is permitted to be determined with the tablet arm in the stored position where the tablet arm when raised manually to vertical position in one motion automatically returns to the stored position by force of gravity.

1028.10.1 Dual access. For rows of seating served by aisles or doorways at both ends, there shall not be more than 100 seats per row. The minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.3 inch (7.6 mm) for every additional seat beyond 14 seats, but the minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch-wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1028.10.1.

**TABLE 1028.10.1
SMOKE-PROTECTED
ASSEMBLY AISLE ACCESSWAYS**

TOTAL NUMBER OF SEATS IN THE SMOKE-PROTECTED ASSEMBLY OCCUPANCY	MAXIMUM NUMBER OF SEATS PER ROW PERMITTED TO HAVE A MINIMUM 12-INCH CLEAR WIDTH AISLE ACCESSWAY	
	Aisle or doorway at both ends of row	Aisle or doorway at one end of row only
Less than 4,000	14	7

4,000	15	7
7,000	16	8
10,000	17	8
13,000	18	9
16,000	19	9
19,000	20	10
22,000 and greater	21	11

For SI: 1 inch = 25.4 mm.

1028.10.2 Single access. For rows of seating served by an aisle or doorway at only one end of the row, the minimum clear width of 12 inches (305 mm) between rows shall be increased by 0.6 inch (15.2 mm) for every additional seat beyond seven seats, but the minimum clear width is not required to exceed 22 inches (559 mm).

Exception: For smoke-protected assembly seating, the row length limits for a 12-inch-wide (305 mm) aisle accessway, beyond which the aisle accessway minimum clear width shall be increased, are in Table 1028.10.1.

1028.11 Assembly aisle walking surfaces. Aisles with a slope not exceeding one unit vertical in eight units horizontal (12.5-percent slope) shall consist of a ramp having a slip-resistant walking surface. Aisles with a slope exceeding one unit vertical in eight units horizontal (12.5-percent slope) shall consist of a series of risers and treads that extends across the full width of aisles and complies with Sections 1028.11.1 through 1028.11.3.

1028.11.1 Treads. Tread depths shall be a minimum of 11 inches (279 mm) and shall have dimensional uniformity.

Exception: The tolerance between adjacent treads shall not exceed 0.188 inch (4.8 mm).

1028.11.2 Risers. Where the gradient of aisle stairs is to be the same as the gradient of adjoining seating areas, the riser height shall not be less than 4 inches (102 mm) nor more than 8 inches (203 mm) and shall be uniform within each flight.

Exceptions:

1. Riser height nonuniformity shall be limited to the extent necessitated by changes in the gradient of the adjoining seating area to maintain adequate sightlines. Where nonuniformities exceed 0.188 inch (4.8 mm) between adjacent risers, the exact location of such nonuniformities shall be indicated with a distinctive marking stripe on each tread at the nosing or leading edge adjacent to the nonuniform risers. Such stripe shall be a

minimum of 1 inch (25 mm), and a maximum of 2 inches (51 mm), wide. The edge marking stripe shall be distinctively different from the contrasting marking stripe.

2. Riser heights not exceeding 9 inches (229 mm) shall be permitted where they are necessitated by the slope of the adjacent seating areas to maintain sightlines.

1028.11.3 Tread contrasting marking stripe. A contrasting marking stripe shall be provided on each tread at the nosing or leading edge such that the location of each tread is readily apparent when viewed in descent. Such stripe shall be a minimum of 1 inch (25 mm), and a maximum of 2 inches (51 mm), wide.

Exception: The contrasting marking stripe is permitted to be omitted where tread surfaces are such that the location of each tread is readily apparent when viewed in descent.

1028.12 Seat stability. In places of assembly, the seats shall be securely fastened to the floor.

Exceptions:

- 1 In places of assembly or portions thereof without ramped or tiered floors for seating and with 200 or fewer seats, the seats shall not be required to be fastened to the floor.
- 2 In places of assembly or portions thereof with seating at tables and without ramped or tiered floors for seating, the seats shall not be required to be fastened to the floor.
- 3 In places of assembly or portions thereof without ramped or tiered floors for seating and with greater than 200 seats, the seats shall be fastened together in groups of not less than three or the seats shall be securely fastened to the floor.
- 4 In places of assembly where flexibility of the seating arrangement is an integral part of the design and function of the space and seating is on tiered levels, a maximum of 200 seats shall not be required to be fastened to the floor. Plans showing seating, tiers and aisles shall be submitted for approval.
- 5 Groups of seats within a place of assembly separated from other seating by railings, guards, partial height walls or similar barriers with level floors and having no more than 14 seats per group shall not be required to be fastened to the floor.
- 6 Seats intended for musicians or other performers and separated by railings, guards, partial height walls or similar barriers shall not be required to be fastened to the floor.

1028.13 Handrails. Ramped aisles having a slope exceeding one unit vertical in 15 units horizontal (6.7-percent slope) and aisle stairs shall be provided with handrails located either at the side or within the aisle width.

Exceptions:

1. Handrails are not required for ramped aisles having a gradient no greater than one unit vertical in eight units horizontal (12.5-percent slope) and seating on both sides.
2. Handrails are not required if, at the side of the aisle, there is a guard that complies with the graspability requirements of handrails.
3. Handrail extensions are not required at the top and bottom of aisle stairs and aisle ramp runs to permit crossovers within the aisles.

1028.13.1 Discontinuous handrails. Where there is seating on both sides of the aisle, the handrails shall be discontinuous with gaps or breaks at intervals not exceeding five rows to facilitate access to seating and to permit crossing from one side of the aisle to the other. These gaps or breaks shall have a clear width of at least 22 inches (559 mm) and not greater than 36 inches (914 mm), measured horizontally, and the handrail shall have rounded terminations or bends.

1028.13.2 Intermediate handrails. Where handrails are provided in the middle of aisle stairs, there shall be an additional intermediate handrail located approximately 12 inches (305 mm) below the main handrail.

1028.14 Assembly guards. Assembly guards shall comply with Sections 1028.14.1 through 1028.14.3.

1028.14.1 Cross aisles. Cross aisles located more than 30 inches (762 mm) above the floor or grade below shall have guards in accordance with Section 1013.

Where an elevation change of 30 inches (762 mm) or less occurs between a cross aisle and the adjacent floor or grade below, guards not less than 26 inches (660 mm) above the aisle floor shall be provided.

Exception: Where the backs of seats on the front of the cross aisle project 24 inches (610 mm) or more above the adjacent floor of the aisle, a guard need not be provided.

1028.14.2 Sightline-constrained guard heights. Unless subject to the requirements of Section 1028.14.3, a fascia or railing system in accordance with the guard requirements of Section 1013 and having a minimum height of 26 inches (660 mm) shall be provided where the floor or footboard elevation is

more than 30 inches (762 mm) above the floor or grade below and the fascia or railing would otherwise interfere with the sightlines of immediately adjacent seating. At bleachers, a guard must be provided where required by ICC 300.

1028.14.3 Guards at the end of aisles. A fascia or railing system complying with the guard requirements of Section 1013 shall be provided for the full width of the aisle where the foot of the aisle is more than 30 inches (762 mm) above the floor or grade below. The fascia or railing shall be a minimum of 36 inches (914 mm) high and shall provide a minimum 42 inches (1067 mm) measured diagonally between the top of the rail and the nosing of the nearest tread.

1028.15 Bench seating. Where bench seating is used, the number of persons shall be based on one person for each 18 inches (457 mm) of length of the bench.

SECTION 1029 EMERGENCY ESCAPE AND RESCUE

1029.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in Group R and I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency escape and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way or to a yard or court that opens to a public way.

Exceptions:

1. In other than Group R-3 occupancies, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
2. In other than Group R-3 occupancies, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.
3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.
4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.
5. High-rise buildings in accordance with Section 403.

6. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court or exterior exit balcony that opens to a public way.
7. Basements without habitable spaces and having no more than 200 square feet (18.6 m²) in floor area shall not be required to have emergency escape windows.

1029.2 Minimum size. Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m²).

Exception: The minimum net clear opening for emergency escape and rescue grade-floor openings shall be 5 square feet (0.46 m²).

1029.2.1 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

1029.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

1029.4 Operational constraints. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over emergency escape and rescue openings provided the minimum net clear opening size complies with Section 1029.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed in existing buildings, smoke alarms shall be installed in accordance with Section 907.2.11 regardless of the valuation of the alteration.

1029.5 Window wells. An emergency escape and rescue opening with a finished sill height below the adjacent ground level shall be provided with a window well in accordance with Sections 1029.5.1 and 1029.5.2.

1029.5.1 Minimum size. The minimum horizontal area of the window well shall be 9 square feet (0.84 m²), with a minimum dimension of 36 inches (914 mm). The area of the window well shall allow the emergency escape and rescue opening to be fully opened.

1029.5.2 Ladders or steps. Window wells with a vertical depth of more than 44 inches (1118 mm) shall be equipped with an approved permanently affixed ladder

or steps. Ladders or rungs shall have an inside width of at least 12 inches (305 mm), shall project at least 3 inches (76 mm) from the wall and shall be spaced not more than 18 inches (457 mm) on center (o.c.) vertically for the full height of the window well. The ladder or steps shall not encroach into the required dimensions of the window well by more than 6 inches (152 mm). The ladder or steps shall not be obstructed by the emergency escape and rescue opening. Ladders or steps required by this section are exempt from the stairway requirements of Section 1009.

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4101:1-11-01 Accessibility.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

**SECTION 1101
GENERAL**

1101.1 Scope. The provisions of this chapter shall control the design and construction of facilities for accessibility for *individuals with disabilities*.

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A117.1 *as amended in section 1112 of this chapter*. Any references to ICC A 117.1 throughout this code shall be applied with the amendments indicated in section 1112 of this chapter.

**SECTION 1102
DEFINITIONS**

1102.1 Definitions. The following *terms* shall, for the purposes of this chapter and as used elsewhere in the code, have the meanings shown herein:

ACCESSIBLE. A site, building, facility or portion thereof that complies with this chapter.

ACCESSIBLE ROUTE. A continuous, unobstructed path that complies with this chapter.

ACCESSIBLE UNIT. A dwelling unit or sleeping unit that complies with this code and the provisions for Accessible units in ICC A117.1.

AREA OF SPORT ACTIVITY. *That portion of an indoor or outdoor space, where the play or practice of a sport occurs*

CIRCULATION PATH. An exterior or interior way of passage from one place to another for pedestrians.

COMMON USE. Interior or exterior circulation paths, rooms, spaces or elements that are not for public use and are made available for the shared use of two or more people.

DETECTABLE WARNING. A standardized surface feature built in or applied to walking surfaces or other elements to warn visually impaired persons of hazards on a circulation path.

DWELLING UNIT OR SLEEPING UNIT, MULTISTORY. See definition for “Multistory unit.”

DWELLING UNIT OR SLEEPING UNIT, TYPE A. See definition for “Type A unit.”

DWELLING UNIT OR SLEEPING UNIT, TYPE B. See definition for “Type B unit.”

EMPLOYEE WORK AREA. All or any portion of a space used only by employees and only for work. Corridors, toilet rooms, kitchenettes and break rooms are not employee work areas.

FACILITY. All or any portion of buildings, structures, site improvements, elements and pedestrian or vehicular routes located on a site.

INTENDED TO BE OCCUPIED AS A RESIDENCE. This refers to a dwelling unit or sleeping unit that can or will be used all or part of the time as the occupant’s place of abode.

MULTILEVEL ASSEMBLY SEATING. Seating that is arranged in distinct levels where each level is comprised of either multiple rows, or a single row of box seats accessed from a separate level.

MULTISTORY UNIT. A dwelling unit or sleeping unit with habitable space located on more than one story.

PLAY AREA. *A portion of a site containing play components designed and constructed for children.*

PUBLIC ENTRANCE. An entrance that is not a service entrance or a restricted entrance.

PUBLIC-USE AREAS. Interior or exterior rooms or spaces that are made available to the general public.

RESTRICTED ENTRANCE. An entrance that is made available for common use on a controlled basis, but not public use, and that is not a service entrance.

SELF-SERVICE STORAGE FACILITY. Real property designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing personal property on a self-service basis.

SERVICE ENTRANCE. An entrance intended primarily for delivery of goods or services.

SITE. A parcel of land bounded by a lot line or a designated portion of a public right-of-way.

TYPE A UNIT. A dwelling unit or sleeping unit designed and constructed for accessibility in accordance with this code and the provisions for Type A units in ICC A117.1.

TYPE B UNIT. A dwelling unit or sleeping unit designed and constructed for accessibility in accordance with this code and the provisions for Type B units in ICC A117.1, *which complies* with the design and construction requirements of the federal Fair Housing Act.

WHEELCHAIR SPACE. A space for a single wheelchair and its occupant.

SECTION 1103 SCOPING REQUIREMENTS

1103.1 Where required. Sites, buildings, structures, facilities, elements and spaces, temporary or permanent, shall be accessible to *individuals* with disabilities.

1103.2 General exceptions. Sites, buildings, structures, facilities, elements and spaces shall be exempt from this chapter to the extent specified in this section.

1103.2.1 Specific requirements. Accessibility is not required in buildings and facilities, or portions thereof, to the extent permitted by Sections 1104 through ~~1110~~ 1111.

~~1103.2.2 Existing buildings.~~ Existing buildings shall comply with Section ~~3411~~.

~~1103.2.3~~ 1103.2.2 Employee work areas. Spaces and elements within employee work areas shall only be required to comply with Sections ~~907.9.1.2~~ 907.5.2.3.2, 1007 and 1104.3.1 and shall be designed and constructed so that individuals with disabilities can approach, enter and exit the work area. Work areas, or portions of work areas, *other than raised courtroom stations in accordance with Section 1108.4.1.4*, that are less than 300 square feet (30 m²) in area and located 7 inches (178 mm) or more above or below the ground or finish floor where the change in elevation is essential to the function of the space shall be exempt from all requirements.

~~1103.2.4~~ 1103.2.3 Detached dwellings. Detached one- two-*and three-* family dwellings, *their* accessory structures, and their associated sites and facilities, are not required to *comply with this chapter*.

~~1103.2.5~~ 1103.2.4 Utility buildings. *Group U occupancies are not required to comply with this chapter other than the following:*

- 1. In agricultural buildings not used for agricultural purposes as defined in Section 3781.06 of the Revised Code, access is required to paved work areas and areas open to the general public.*

Provisions of the federal law, contained within the 2010 “ADA Standards for Accessible Design” may apply to agricultural buildings used for agricultural purposes even though these buildings are outside the scope of this code.

- 2. Private garages or carports that contain required accessible parking.*

~~1103.2.6~~ 1103.2.5 Construction sites. Structures, sites and equipment directly associated with the actual processes of construction including, but not limited to, scaffolding, bridging, materials hoists, materials storage or construction trailers are not required to *comply with this chapter*. *Portable toilet units provided for use exclusively by construction personnel on a construction site are not required to be accessible or to be on an accessible route.*

1103.2.7 ~~1103.2.6~~ Raised areas. Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands are not required to *comply with this chapter*.

1103.2.8 ~~1103.2.7~~ Limited access spaces. Spaces accessed only by ladders, catwalks, crawl spaces, freight elevators or very narrow passageways are not required to *comply with this chapter*.

1103.2.9 ~~1103.2.8~~ Areas in places of religious worship. Raised or lowered areas, or portions of areas, in places of religious worship that are less than 300 sq.ft. (30 m²) in area and located 7 inches (178 mm) or more above or below the finished floor and used primarily for the performance of religious ceremonies are not required to comply with this Chapter. Performance areas not primarily used for religious ceremonies shall comply with Section 1108.2.8.

1103.2.9 Equipment spaces. Spaces frequented only by *service* personnel for *occasional* maintenance, repair or monitoring of equipment are not required to comply with this chapter.

1103.2.10 ~~Single-occupant structures.~~ ~~Single-occupant structures, accessed only by passageways below grade or elevated above standard curb height including, but not limited to, toll booths that are accessed only by underground tunnels, are not required to be accessible or to be on an accessible route.~~ Highway Toll Booths. Highway toll-booths where the access is only provided by bridges above the vehicular traffic or underground tunnels, are not required to comply with this Chapter.

1103.2.11 Residential Group R-1. Buildings of Group R-1 containing not more than five *sleeping units* for rent or hire that are also occupied as the residence of the proprietor are not required to *comply with this chapter*.

1103.2.12 Day care facilities. Where a day care facility is part of a *dwelling unit*, only the portion of the structure utilized for the day care facility is required to *be accessible*.

1103.2.13 Detention and correctional facilities. In detention and correctional facilities, *common use* areas that are used only by inmates or detainees and security personnel, and that do not serve holding cells or

housing cells required to be Accessible units, are not required to *comply with this chapter*.

1103.2.14 Walk-in coolers and freezers. Walk-in coolers and freezers intended for employee use only are not required to *comply with this chapter*.

1103.2.15 Existing buildings. *Existing buildings shall comply with Section 3411.*

SECTION 1104 ACCESSIBLE ROUTE

1104.1 Site arrival points. *At least one route* within the site shall be provided from *accessible facilities*; public transportation stops; accessible parking; accessible passenger loading zones; and public streets or sidewalks to the accessible building entrance served.

Exception: Other than in buildings or facilities containing or serving Type B units, an accessible route shall not be required between site arrival points and the building or facility entrance if the only means of access between them is a vehicular way not providing for pedestrian access.

1104.2 Within a site. At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements and accessible spaces that are on the same site.

Exceptions:

1. An accessible route is not required between accessible buildings, accessible facilities, accessible elements and accessible spaces that have, as the only means of access between them, a vehicular way not providing for pedestrian access.
2. *An accessible route to recreational facilities shall only be required to the extent specified in Section 1110.*

1104.3 Connected spaces. When a building or portion of a building is required to be accessible, *at least one* accessible route shall be provided to each portion of the building, to accessible building entrances connecting *accessible pedestrian walkways* and the *public way*.

Exceptions:

1. *Stories and mezzanines exempted by Section 1104.4.*

2. In a building, room or space used for assembly purposes with *fixed seating*, an *accessible route* shall not be required to serve levels where *wheelchair spaces* are not provided.
3. ~~Vertical access to elevated employee work stations within a courtroom is not required at the time of initial construction, provided a ramp, lift or elevator can be installed without requiring reconfiguration or extension of the courtroom or extension of the electrical system.~~ Vertical access to elevated employee work stations within a courtroom complying with Section 1108.4.1.4.
4. An *accessible route to recreational facilities* shall only be required to the extent specified in Section 1110.

1104.3.1 Employee work areas. Common use circulation paths within employee work areas shall be accessible routes.

Exceptions:

1. Common use circulation paths, located within employee work areas that are less than 1,000 square feet (93 m²) in size and defined by permanently installed partitions, counters, casework or furnishings, shall not be required to be accessible routes.
2. Common use circulation paths, located within employee work areas, that are an integral component of equipment, shall not be required to be accessible routes.
3. Common use circulation paths, located within exterior employee work areas that are fully exposed to the weather, shall not be required to be accessible routes.

1104.3.2 Press boxes. Press boxes *in a building, room or space used for assembly purposes* areas shall be on an accessible route.

Exceptions:

1. An accessible route shall not be required to press boxes in bleachers that have a *single point of entry from the bleachers*, provided that the aggregate area of all press boxes *for each playing field* is not more than 500 square feet (46 m²).
2. An accessible route shall not be required to free-standing press boxes that are *more than 12 feet (3660 mm) above grade* provided that the aggregate area of all press boxes *for each playing field* is not more than 500 square feet (46 m²).

1104.4 Multilevel buildings and facilities. At least one accessible route shall connect each accessible *story and mezzanine*, in multilevel buildings and facilities.

Exceptions:

1. An accessible route is not required to stories and mezzanines that have an aggregate area of not more than 3,000 square feet (278.7 m²) and are located above and below *accessible* levels. This exception shall not apply to:
 - 1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces *used for the sales or rental of goods and where at least one such tenant space is located on a floor level above or below the accessible levels;*
 - 1.2. *Stories or mezzanines* containing offices of health care providers (Group B or I); or
 - 1.3. Passenger transportation facilities and airports (Group A-3 or B).
 - 1.4. Government buildings *and facilities.*
 - 1.5. *Public university, college and school system buildings and facilities.*
2. *Stories or mezzanines* that do not contain accessible elements or other spaces as determined by Section 1107 or 1108 are not required to be served by an accessible route from an accessible level.
3. In air traffic control towers, an accessible route is not required to serve the cab and the floor immediately below the cab.
4. Where a two-story building or facility has one story *or mezzanine* with an occupant load of five or fewer persons that does not contain public use space, that story *or mezzanine* shall not be required to be connected by an accessible route to the story above or below.
5. *Vertical access to elevated employee work stations within a courtroom complying with section 1108.4.1.4.*

1104.5 Location. Accessible routes shall coincide with or be located in the same area as a general circulation path. Where the circulation path is interior, the accessible route shall also be interior. Where only one accessible route is provided, the accessible route shall not pass through kitchens, storage rooms, restrooms, closets or similar spaces.

Exceptions:

1. Accessible routes from parking garages contained within and serving Type B units are not required to be interior.
2. A single accessible route is permitted to pass through a kitchen or storage room in an Accessible unit, Type A unit or Type B unit.

1104.6 Security barriers. Security barriers including, but not limited to, security bollards and security check points shall not obstruct a required accessible route or accessible means of egress.

Exception: Where security barriers incorporate elements that cannot comply with these requirements, such as certain metal detectors, fluoroscopes or other similar devices, the accessible route shall be permitted to be provided adjacent to security screening devices. The accessible route shall permit persons with disabilities passing around security barriers to maintain visual contact with their personal items to the same extent provided others passing through the security barrier.

SECTION 1105 ACCESSIBLE ENTRANCES

1105.1 Public entrances. In addition to accessible entrances required by Sections 1105.1.1 through ~~1105.1.6~~ 1105.1.7, at least 60 percent of all public entrances shall be accessible.

Exceptions:

1. An accessible entrance is not required to areas not required to be accessible.
2. Loading and service entrances that are not the only entrance to a tenant space.

1105.1.1 Parking garage entrances. Where provided, direct access for pedestrians from parking structures to buildings or facility entrances shall be accessible.

1105.1.2 Entrances from tunnels or elevated walkways. Where direct access is provided for pedestrians from a pedestrian tunnel or elevated walkway to a building or facility, at least one entrance to the building or facility from each tunnel or walkway shall be accessible.

1105.1.3 Restricted entrances. Where restricted entrances are provided to a building or facility, at least one restricted entrance to the building or facility shall be accessible.

1105.1.4 Entrances for inmates or detainees. Where entrances used only by inmates or detainees and security personnel are provided at judicial facilities, detention facilities or correctional facilities, at least one such entrance shall be accessible.

1105.1.5 Service entrances. If a service entrance is the only entrance to a building or a tenant space in a facility, that entrance shall be accessible.

1105.1.6 Tenant spaces. At least one accessible entrance shall be provided to each tenant in a facility.

Exception: An accessible entrance is not required to *self-storage facilities* that are not required to be accessible.

1105.1.7 Dwelling units and sleeping units. At least one accessible entrance shall be provided to each dwelling unit and sleeping unit in a facility.

Exception: An accessible entrance is not required to dwelling units and sleeping units that are not required to be accessible units, Type A units or Type B units.

SECTION 1106 PARKING AND PASSENGER LOADING FACILITIES

1106.1 Required. Where parking is provided, accessible parking spaces shall be provided in compliance with Table 1106.1, except as required by Sections 1106.2 through 1106.4. Where more than one parking facility is provided on a site, the number of parking spaces required to be accessible shall be calculated separately for each parking facility.

Exception: This section does not apply to parking spaces used exclusively for buses, trucks, other delivery vehicles, law enforcement vehicles or vehicular impound and motor pools where lots accessed by the public are provided with an accessible passenger loading zone.

**TABLE 1106.1
ACCESSIBLE PARKING SPACES**

TOTAL PARKING SPACES PROVIDED	REQUIRED MINIMUM NUMBER OF ACCESSIBLE SPACES
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2% of total
1,001 and over	20, plus one for each 100, or fraction thereof, over 1,000

1106.2 Groups I-1, R-1, R-2, and R-3, and R-4. At least 2 percent, but not less than one, of each type of parking space provided for occupancies in Groups R-2

~~and R-3, which are required to have Accessible, Type A or Type B dwelling or sleeping units, shall be accessible. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building. Accessible parking spaces shall be provided in Groups I-1, R-1, R-2, R-3 and R-4 occupancies in accordance with items 1 through 4 as applicable.~~

1. In Groups R-2, R-3, and R-4 occupancies which are required to have Accessible, Type A or Type B dwelling or sleeping units, at least 2 percent, but not less than one, of each type of parking space provided shall be accessible.
2. In Groups I-1 and R-1 occupancies accessible parking shall be provided in accordance with Table 1106.1.
3. Where at least one parking space is provided for each dwelling unit or sleeping unit, at least one accessible parking space shall be provided for each Accessible and Type A unit.
4. Where parking is provided within or beneath a building, accessible parking spaces shall also be provided within or beneath the building.

1106.3 Hospital outpatient facilities. At least 10 percent, but not less than one, of care recipient and visitor parking spaces provided to serve hospital outpatient facilities shall be accessible.

1106.4 Rehabilitation facilities and outpatient physical therapy facilities. At least 20 percent, but not less than one, of the portion of care recipient and visitor parking spaces serving rehabilitation facilities specializing in treating conditions that affect mobility and outpatient physical therapy facilities shall be accessible.

1106.5 Van spaces. For every six or fraction of six accessible parking spaces, at least one shall be a van-accessible parking space.

Exception: In Group R-2 and R-3 occupancies, van accessible spaces located within private garages shall be permitted to have vehicular routes, entrances, parking spaces and access aisles with a minimum vertical clearance of 7 feet (2134 mm).

1106.6 Location. Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible building entrance. In parking facilities that do not serve a particular building, accessible parking spaces shall be located on the shortest route to an accessible pedestrian entrance to the parking facility. Where buildings have multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located near the accessible entrances.

Exceptions:

1. In multilevel parking structures, van-accessible parking spaces are permitted on one level.
2. Accessible parking spaces shall be permitted to be located in different parking facilities if substantially equivalent or greater accessibility is provided in terms of distance from an accessible entrance or entrances, parking fee and user convenience.

1106.7 Passenger loading zones. Passenger loading zones shall be *accessible*.

1106.7.1 Continuous loading zones. Where passenger loading zones are provided, one passenger loading zone in every continuous 100 linear feet (30.4 m) maximum of loading zone space shall be accessible.

1106.7.2 Medical facilities. A passenger loading zone shall be provided at an accessible entrance to licensed medical and long-term care facilities where people receive physical or medical treatment or care and where the period of stay exceeds 24 hours.

1106.7.3 Valet parking. A passenger loading zone shall be provided at valet parking services.

1106.7.4 Mechanical access parking garages. Mechanical access parking garages shall provide at least one passenger loading zone at vehicle drop-off and vehicle pick-up areas.

SECTION 1107 DWELLING UNITS AND SLEEPING UNITS

1107.1 General. In addition to the other requirements of this chapter, occupancies having dwelling units or sleeping units shall be provided with accessible features in accordance with this section.

1107.2 Design. Dwelling units and sleeping units that are required to be Accessible units, Type A units and Type B units shall comply with the applicable portions of Chapter 10 of ICC A117.1. Units required to be Type A units are permitted to be designed and constructed as Accessible units. Units required to be Type B units are permitted to be designed and constructed as Accessible units or as Type A units.

1107.3 Accessible spaces. Rooms and spaces available to the general public or available for use by residents and serving Accessible units, Type A units or Type B units shall be accessible. Accessible spaces shall include toilet and bathing rooms, kitchen, living and dining areas and any exterior spaces, including patios, terraces and balconies.

Exceptions:

1. *Stories and mezzanines exempted by Section 1107.4.*
2. *Recreational facilities in accordance with Section ~~1109.15~~ 1110.2.*
3. *Exterior decks, patios or balconies that are part of Type B units and have impervious surfaces, and that are not more than 4 inches (102 mm) below the finished floor level of the adjacent interior space of the unit.*

1107.4 Accessible route. At least one accessible route shall connect accessible building or facility entrances with the primary entrance of each Accessible unit, Type A unit and Type B unit within the building or facility and with those exterior and interior spaces and facilities that serve the units.

Exceptions:

1. *If due to circumstances outside the control of the owner, either the slope of the finished ground level between accessible facilities and buildings exceeds one unit vertical in 12 units horizontal (1:12), or where physical barriers or legal restrictions prevent the installation of an accessible route, a vehicular route with parking that complies with Section 1106 at each public or common use facility or building is permitted in place of the accessible route.*
2. *In Group I-3 facilities, an accessible route is not required to connect stories or mezzanines where Accessible units, all common use areas serving Accessible units and all public use areas are on an accessible route.*
3. *In Group R-2 facilities with Type A units complying with Section 1107.6.2.1.1 an accessible route is not required to connect stories or mezzanines where Type A units, all common use areas serving Type A units and all public use areas are on an accessible route.*
4. *In other than Group R-2 dormitory housing at places of education, in Group R-2 facilities with Accessible units complying with Section 1107.6.2.2.1 an accessible route is not required to connect stories or mezzanines where Accessible units, all common use areas serving Accessible units and all public use areas are on an accessible route.*
5. *In Group R-1 an accessible route is not required to connect stories or mezzanines within individual units, provided the accessible level meets the provisions for Accessible units and sleeping accommodations for two persons minimum, and a toilet facility is provided on that level.*

6. *In Group R-3 and R-4 congregate residences, an accessible route is not required to connect floors or mezzanines where Accessible units or Type B units, all common use areas serving Accessible units and Type B units and all public use areas serving Accessible and Type B units are on an accessible route.*
7. ~~*In Group I-1, I-2, R-1, R-2, R-3 or R-4 a multistory dwelling or sleeping unit which is not provided with elevator service is not required to be a Type A unit or a Type B unit.*~~
8. ~~*In Group I-1, I-2, R-1, R-2, R-3 or R-4 where a multistory unit is provided with external elevator service to only one floor, the floor provided with elevator service shall be the primary entry to the unit, shall comply with the requirements for a Type B unit and a toilet facility shall be provided on that floor.*~~
9. ~~*An accessible route between stories is not required where Type B units are not required by Sections 1107.7.1.1 and 1107.7.1.2 exempted by Section 1107.7.*~~

1107.5 Group I. Accessible units and Type B units shall be provided in Group I occupancies in accordance with Sections 1107.5.1 through 1107.5.5.

1107.5.1 Group I-1. Accessible units and Type B units shall be provided in Group I-1 occupancies in accordance with Sections 1107.5.1.1 and 1107.5.1.2.

1107.5.1.1 Accessible units. ~~*At In Group I-1 buildings where persons receiving custodial care are capable of responding to an emergency situation without assistance, at least 4 percent, but not less than one, of the dwelling units and sleeping units shall be Accessible units. In Group I-1 assisted living facilities buildings where persons receiving custodial care require limited verbal or physical assistance to respond to an emergency situation, at least ten percent, but not less than one, of the dwelling units and sleeping units shall be accessible units.*~~

1107.5.1.2 Type B units. In structures with four or more dwelling units or sleeping units intended to be occupied as a residence, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.5.2 Group I-2 nursing homes. Accessible units and Type B units shall be provided in nursing homes of Group I-2 occupancies in accordance with Sections 1107.5.2.1 and 1107.5.2.2.

1107.5.2.1 Accessible units. At least 50 percent but not less than one of each type of the dwelling units and sleeping units shall be Accessible units.

1107.5.2.2 Type B units. In structures with four or more dwelling units or sleeping units intended to be occupied as a residence, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.5.3 Group I-2 hospitals. Accessible units and Type B units shall be provided in general-purpose hospitals, psychiatric facilities, and detoxification facilities of Group I-2 occupancies in accordance with Sections 1107.5.3.1 and 1107.5.3.2.

1107.5.3.1 Accessible units. At least 10 percent, but not less than one, of the dwelling units and sleeping units shall be Accessible units.

Exception: Entry doors to accessible dwelling or sleeping units shall not be required to provide the maneuvering clearance beyond the latch side of the door.

1107.5.3.2 Type B units. In structures with four or more dwelling units or sleeping units intended to be occupied as a residence, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.5.4 Group I-2 rehabilitation facilities. In hospitals and rehabilitation facilities of Group I-2 occupancies which specialize in treating conditions that affect mobility, or units within either which specialize in treating conditions that affect mobility, 100 percent of the dwelling units and sleeping units shall be Accessible units.

1107.5.5 Group I-3. Accessible units shall be provided in Group I-3 occupancies in accordance with Sections 1107.5.5.1 through 1107.5.5.3.

1107.5.5.1 Group I-3 sleeping units. In Group I-3 occupancies, at least 3 percent of the total number of sleeping units in the facility, but not less than one unit in each classification level shall be Accessible units.

1107.5.5.2 Special holding cells and special housing cells or rooms. In addition to the Accessible units required by Section 1107.5.5.1, where special holding cells or special housing cells or rooms are provided, at least one serving each purpose shall be an Accessible unit. Cells or rooms subject to this requirement include, but are not limited to, those used for purposes of orientation, protective custody, administrative or disciplinary detention or segregation, detoxification and medical isolation.

Exception: Cells or rooms specially designed without protrusions and that are used solely for purposes of suicide prevention shall not be required to include grab bars.

1107.5.5.3 Medical care facilities. Patient sleeping units or cells required to be Accessible units in medical care facilities shall be provided in addition to any medical isolation cells required to comply with Section 1107.5.5.2.

1107.6 Group R. Accessible units, Type A units and Type B units shall be provided in Group R occupancies in accordance with Sections 1107.6.1 through 1107.6.4.

1107.6.1 Group R-1. Accessible units and Type B units shall be provided in Group R-1 occupancies in accordance with Sections 1107.6.1.1 and 1107.6.1.2.

1107.6.1.1 Accessible units. Accessible dwelling units and sleeping units shall be provided in accordance with Table 1107.6.1.1. *Where buildings contain more than 50 dwelling or sleeping units, the number of accessible units shall be determined per building. Where buildings contain 50 or fewer dwelling or sleeping units, all dwelling units and sleeping units on a site shall be considered to determine the total number of Accessible units. Accessible units shall be dispersed among the various classes of units.*

**TABLE 1107.6.1.1
ACCESSIBLE DWELLING UNITS AND SLEEPING UNITS**

TOTAL NUMBER OF UNITS	MINIMUM REQUIRED	MINIMUM REQUIRED	TOTAL NUMBER OF REQUIRED
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PROVIDED	NUMBER OF ACCESSIBLE UNITS WITHOUT ROLL-IN SHOWERS	NUMBER OF ACCESSIBLE UNITS WITH ROLL-IN SHOWERS	ACCESSIBLE UNITS
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1,000	2% of total	1% of total 3	% of total
Over 1,000	20, plus 1 for each 100, or fraction thereof, over 1,000	10 plus 1 for each 100, or fraction thereof, over 1,000	30 plus 2 for each 100, or fraction thereof, over 1,000

1107.6.1.2 Type B units. In structures with four or more dwelling units or sleeping units intended to be occupied as a residence, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.6.2 Group R-2. Accessible units, Type A units and Type B units shall be provided in Group R-2 occupancies in accordance with Sections 1107.6.2.1 and 1107.6.2.2 through 1107.6.2.3.

1107.6.2.1 Live/work units. *In live/work units constructed in accordance with Section 419, the nonresidential portion of the unit utilized for nonresidential use is required to be accessible. In a structure, where there are four or more live/work units intended to be occupied as a residence, the residential portion of the live/work unit is ~~required to be evaluated separately in accordance with Sections 1107.6.2 and 1107.7~~ shall be a Type B unit.*

Exception: *The number of Type B units is permitted to be reduced in accordance with Section 1107.7.*

1107.6.2.2 Apartment houses, monasteries and convents. Type A units and Type B units shall be provided in apartment houses, monasteries and

convents in accordance with Sections ~~1107.6.2.1.1~~ 1107.6.2.2.1 and ~~1107.6.2.1.2~~ 1107.6.2.2.2.

1107.6.2.2.1 Type A units. In Group R-2 occupancies containing more than 20 dwelling units or sleeping units, at least 2 percent but not less than one of the units shall be a Type A unit. All Group R-2 units on a site shall be considered to determine the total number of units and the required number of Type A units. Type A units shall be dispersed among the various classes of units. Bedrooms within monasteries and convents shall be counted as sleeping units for the purpose of determining the number of units. Where the sleeping units are grouped into suites, only one sleeping unit in each suite shall be permitted to count towards the number of required Type A units.

Exceptions:

1. The number of Type A units is permitted to be reduced in accordance with Section 1107.7.
2. Existing structures on a site shall not contribute to the total number of units on a site.

1107.6.2.2.2 Type B units. Where there are four or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.6.2.3 Group R-2 other than live/work units, apartment houses, monasteries and convents. In Group R-2 occupancies, other than live/work units, apartment houses, monasteries and convents ~~not~~ falling within the scope of Section 1107.6.2.1 and 1107.6.2.2, Accessible units and Type B units shall be provided in accordance with Sections 1107.6.2.3.1 and 1107.6.2.3.2. Bedrooms within congregate living facilities shall be counted as sleeping units for the purpose of determining the number of units. Where the sleeping units are grouped into suites, only one sleeping unit in each suite shall be permitted to count towards the number of required Accessible units.

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1107.6.2.3.1 Accessible units. Accessible dwelling units and sleeping units shall be provided in accordance with Table 1107.6.1.1.

1107.6.2.3.2 Type B units. Where there are four or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling unit and every sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.6.3 Group R-3. In Group R-3 occupancies where there are four or more dwelling units or sleeping units intended to be occupied as a residence in a single structure, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit. Bedrooms within congregate living facilities shall be counted as sleeping units for the purpose of determining the number of units.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.6.4 Group R-4. Accessible units and Type B units shall be provided in Group R-4 occupancies in accordance with Sections 1107.6.4.1 and 1107.6.4.2.

1107.6.4.1 Accessible units. In Group R-4 buildings where persons receiving custodial care are capable of responding to an emergency situation without assistance, other than assisted living facilities, at least one of the dwelling or sleeping units shall be an Accessible unit. In Group R-4 assisted living facilities-buildings where persons receiving custodial care require limited verbal or physical assistance to respond to an emergency situation, at least two of the dwelling or sleeping units shall be an accessible unit. Bedrooms within Group R-4 facilities shall be counted as sleeping units for the purpose of determining the number of units.

1107.6.4.2 Type B units. In structures with four or more dwelling units or sleeping units intended to be occupied as a residence, every dwelling unit and sleeping unit intended to be occupied as a residence shall be a Type B unit.

Exception: The number of Type B units is permitted to be reduced in accordance with Section 1107.7.

1107.7 General exceptions. Where specifically permitted by Section 1107.5 or 1107.6, the required number of Type A units and Type B units is permitted to be reduced in accordance with Sections 1107.7.1 through 1107.7.4.

1107.7.1 Structures without elevator service. Where no elevator service is provided in a structure, only the dwelling units and sleeping units that are located on stories indicated in Sections 1107.7.1.1 and 1107.7.1.2 are required to be Type A units and Type B units, respectively. The number of Type A units shall be determined in accordance with Section ~~1107.6.2.1.1~~ 1107.6.2.2.1.

1107.7.1.1 One story with Type B units required. At least one story containing dwelling units or sleeping units intended to be occupied as a residence shall be provided with an accessible entrance from the exterior of the structure and all units intended to be occupied as a residence on that story shall be Type B units.

1107.7.1.2 Additional stories with Type B units. On all other stories that have a building entrance in proximity to arrival points intended to serve units on that story, as indicated in Items 1 and 2, all dwelling units and sleeping units intended to be occupied as a residence served by that entrance on that story shall be Type B units.

1. Where the slopes of the undisturbed site measured between the planned entrance and all vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance are 10 percent or less, and
2. Where the slopes of the planned finished grade measured between the entrance and all vehicular or pedestrian arrival points within 50 feet (15 240 mm) of the planned entrance are 10 percent or less.

Where no such arrival points are within 50 feet (15 240 mm) of the entrance, the closest arrival point shall be used unless that arrival point serves the story required by Section 1107.7.1.1.

1107.7.2 Multistory units. A multistory dwelling or sleeping unit which is not provided with elevator service is not required to be a Type B unit. Where a multistory unit is provided with external elevator service to only one floor, the floor provided with elevator service shall be the primary entry to the unit, shall comply with the requirements for a Type B unit and, where provided within the unit, a living area, a kitchen and a toilet facility shall be provided on that floor.

1107.7.2 1107.7.3 Elevator service to the lowest story with units. Where elevator service in the building provides an accessible route only to the lowest

story containing dwelling or sleeping units intended to be occupied as a residence, only the units on that story which are intended to be occupied as a residence are required to be Type B units.

~~1107.7.3~~-1107.7.4 Site impracticality. On a site with multiple non-elevator buildings, the number of units required by Section 1107.7.1 to be Type B units is permitted to be reduced to a percentage which is equal to the percentage of the entire site having grades, prior to development, which are less than 10 percent, provided that all of the following conditions are met:

1. Not less than 20 percent of the units required by Section 1107.7.1 on the site are Type B units;
2. Units required by Section 1107.7.1, where the slope between the building entrance serving the units on that story and a pedestrian or vehicular arrival point is no greater than 8.33 percent, are Type B units;
3. Units required by Section 1107.7.1, where an elevated walkway is planned between a building entrance serving the units on that story and a pedestrian or vehicular arrival point and the slope between them is 10 percent or less are Type B units; and
4. Units served by an elevator in accordance with Section 1107.7.2 are Type B units.

~~1107.7.4~~ 1107.7.5 Design flood elevation. The required number of Type A units and Type B units shall not apply to a site where the required elevation of the lowest floor or the lowest horizontal structural building members of non-elevator buildings are at or above the design flood elevation resulting in:

1. A difference in elevation between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15 240 mm) exceeding 30 inches (762 mm), and
2. A slope exceeding 10 percent between the minimum required floor elevation at the primary entrances and vehicular and pedestrian arrival points within 50 feet (15 24 m).

Where no such arrival points are within 50 feet (15 24 mm) of the primary entrances, the closest arrival points shall be used.

SECTION 1108 SPECIAL OCCUPANCIES

1108.1 General. In addition to the other requirements of this chapter, the requirements of Sections 1108.2 through 1108.4 shall apply to specific occupancies.

1108.2 Assembly area seating. *A building, room or space used for assembly purposes with fixed seating shall comply with Sections 1108.2.1 through 1108.2.5. Lawn seating shall comply with Section 1108.2.6. Assistive listening systems shall comply with Section 1108.2.7. Performance areas viewed from assembly seating areas shall comply with Section 1108.2.8. Dining areas shall comply with Section 1108.2.9.*

1108.2.1 Services. If a service or facility is provided in an area that is not accessible, the same service or facility shall be provided on an accessible level and shall be accessible.

1108.2.2 Wheelchair spaces. In theaters, bleachers, grandstands, stadiums, arenas and other fixed seating assembly areas, accessible wheelchair spaces shall be provided in accordance with Sections 1108.2.2.1 through ~~1108.2.2.4~~1108.2.2.3.

1108.2.2.1 General seating. Wheelchair spaces shall be provided in accordance with Table 1108.2.2.1.

**TABLE 1108.2.2.1
ACCESSIBLE WHEELCHAIR SPACES**

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF WHEELCHAIR SPACES
4 to 25	1
26 to 50	2
51 to 100	4
101 to 300	5
301 to 500	6
501 to 5,000	6, plus 1 for each 150, or fraction thereof, between 501 through 5,000
5,001 and over	36 plus 1 for each 200, or fraction thereof, over 5,000

1108.2.2.2 Luxury boxes, club boxes and suites. In each luxury box, club box, and suite within arenas, stadiums and grandstands, wheelchair spaces shall be provided in accordance with Table 1108.2.2.1.

1108.2.2.3 Other boxes. In boxes other than those required to comply with Section 1108.2.2.2, the total number of wheelchair spaces provided

shall be determined in accordance with Table 1108.2.2.1. Wheelchair spaces shall be located in not less than 20 percent of all boxes provided.

~~**1108.2.2.4 Team or player seating.** At least one wheelchair space shall be provided in team or player seating areas serving areas of sport activity.~~

~~**Exception:** Wheelchair spaces shall not be required in team or player seating areas serving bowling lanes that are not required to be located on an accessible route in accordance with Section 1109.15.4.1.~~

1108.2.3 Companion seats. At least one companion seat shall be provided for each wheelchair space required by Sections 1108.2.2.1 through 1108.2.2.3.

1108.2.4 Dispersion of wheelchair spaces in multilevel assembly seating areas. In multilevel assembly seating areas, wheelchair spaces shall be provided on the main floor level and on *at least* one of each two additional floor or mezzanine levels. Wheelchair spaces shall be provided in each luxury box, club box and suite within assembly facilities. *In addition, wheelchair spaces shall be located in each balcony or mezzanine that is located on an accessible route.*

Exceptions:

1. In multilevel assembly seating areas utilized for worship services where the second floor or mezzanine level contains 25 percent or less of the total seating capacity, wheelchair spaces shall be permitted to all be located on the main level.
2. In multilevel assembly seating areas where the second floor or mezzanine level provides 25 percent or less of the total seating capacity, all wheelchair spaces shall be permitted to be located on the main level.
3. Wheelchair spaces in team or player seating serving areas of sport activity are not required to be dispersed.

1108.2.5 Designated aisle seats. At least 5 percent, but not less than one, of the total number of aisle seats provided shall be designated aisle seats and shall be the aisle seats located closest to accessible routes.

Exception: Designated aisle seats are not required in team or player seating serving areas of sport activity.

1108.2.6 Lawn seating. Lawn seating areas and exterior overflow seating areas, where fixed seats are not provided, shall connect to an accessible route.

1108.2.7 Assistive listening systems. Each *building, room or space used for assembly purposes* where audible communications are integral to the use of the space shall have an assistive listening system.

Exception: Other than in courtrooms, an assistive listening system is not required where there is no audio amplification system.

1108.2.7.1 Receivers. ~~the~~ *The number and type of receivers* shall be provided for assistive listening systems in accordance with Table 1108.2.7.1.

Exceptions:

1. Where a building contains more than one *room or space used for assembly purposes*, the total number of required receivers shall be permitted to be calculated according to the total number of seats in the building, provided that all receivers are usable with all systems and if *the rooms or spaces used for assembly purposes* required to provide assistive listening are under one management.
2. Where all seats in a *building, room or space used for assembly purposes* are served by an induction loop assistive listening system, the minimum number of receivers required by Table 1108.2.7.1 to be hearing-aid compatible shall not be required.

**TABLE 1108.2.7.1
RECEIVERS FOR ASSISTIVE LISTENING SYSTEMS**

CAPACITY OF SEATING IN ASSEMBLY AREAS	MINIMUM REQUIRED NUMBER OF RECEIVERS	MINIMUM NUMBER OF RECEIVERS TO BE HEARING-AID COMPATIBLE
50 or less	2	2
51 to 200	2, plus 1 per 25 seats over 50 seats*	2
201 to 500	2, plus 1 per 25 seats over 50 seats*	1 per 4 receivers*
501 to 1,000	20, plus 1 per 33 seats over 500 seats*	1 per 4 receivers*
1,001 to 2,000	35, plus 1 per 50 seats over 1,000 seats*	1 per 4 receivers*
Over 2,000	55, plus 1 per 100 seats over 2,000 seats*	1 per 4 receivers*

NOTE: * = or fraction thereof

1108.2.7.2 Ticket Windows. Where ticket windows are provided in stadiums and arenas at least one window at each location shall have an assistive listening system.

1108.2.7.3 Public address systems. Where stadiums, arenas and grandstands *have 15,000 fixed seats or more and* provide audible public announcements, they shall also provide *pre-recorded or real-time captions of those audible public announcements.*

1108.2.8 Performance areas. An accessible route shall directly connect the performance area to the assembly seating area where a circulation path directly connects a performance area to an assembly seating area. An accessible route shall be provided from performance areas to ancillary areas or facilities used by performers.

1108.2.9 Dining and drinking areas. In dining and drinking areas, all interior and exterior floor areas shall be accessible *and be on an accessible route.*

Exceptions:

1. An accessible route between accessible levels and stories above or below is not required where permitted by Section 1104.4, Exception 1.
2. An accessible route to *dining and drinking areas in* a mezzanine is not required, provided that the mezzanine contains less than 25 percent of the total combined area for *dining and drinking* and the same services and decor are provided in the accessible area.
3. In sports facilities, tiered dining areas providing seating required to be *accessible* shall be required to have accessible routes serving at least 25 percent of the dining area, provided that accessible routes serve *accessible* seating and where each tier is provided with the same services.
4. Employee only work areas shall comply with Sections ~~1103.2.3~~ 1103.2.2 and 1104.3.1.

1108.2.9.1 Dining surfaces. Where dining surfaces for the consumption of food or drink are provided, at least 5 percent, but not less than one, of the dining surfaces for the seating and standing spaces shall be accessible and be distributed throughout the facility and located on a level accessed by an accessible route.

1108.3 Self-service storage facilities. Self-service storage facilities shall provide accessible individual self-storage spaces in accordance with Table 1108.3.

**TABLE 1108.3
ACCESSIBLE SELF-SERVICE STORAGE FACILITIES**

TOTAL SPACES IN FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE SPACES

1 to 200	5%, but not less than 1
Over 200	10, plus 2% of total number of units over 200

1108.3.1 Dispersion. Accessible individual self-service storage spaces shall be dispersed throughout the various classes of spaces provided. Where more classes of spaces are provided than the number of required accessible spaces, the number of accessible spaces shall not be required to exceed that required by Table 1108.3. Accessible spaces are permitted to be dispersed in a single building of a multi-building facility.

1108.4 Judicial facilities. Judicial facilities shall comply with Sections 1108.4.1 through ~~1108.4.3~~ and 1108.4.2.

1108.4.1 Courtrooms. Each courtroom shall be accessible and comply with Sections 1108.4.1.1 through 1108.4.1.5.

1108.4.1.1 Jury box. A wheelchair space shall be provided within the jury box.

Exception: Adjacent companion seating is not required.

1108.4.1.2 Gallery seating. Wheelchair spaces shall be provided in accordance with Table 1108.2.2.1. Designated aisle seats shall be provided in accordance with Section 1108.2.5.

1108.4.1.3 Assistive listening systems. An assistive listening system must be provided. Receivers shall be provided for the assistive listening system in accordance with Section 1108.2.7.1.

1108.4.1.4 Employee work stations. The judge's bench, clerk's station, bailiff's station, deputy clerk's station and court reporter's station shall be located on an accessible route. The vertical access to elevated employee work stations within a courtroom is not required at the time of initial construction, provided a ramp, lift or elevator can be installed without requiring reconfiguration or extension of the courtroom or extension of the electrical system.

1108.4.1.5 Other work stations. The litigant's and counsel stations, including the lectern, shall be accessible.

1108.4.2 Holding cells. Central holding cells and court-floor holding cells shall comply with Sections 1108.4.2.1 and 1108.4.2.2.

1108.4.2.1 Central holding cells. Where separate central holding cells are provided for adult males, juvenile males, adult females or juvenile females, one of each type shall be accessible. Where central holding cells are provided and are not separated by age or sex, at least one accessible cell shall be provided.

1108.4.2.2 Court-floor holding cells. Where separate court-floor holding cells are provided for adult males, juvenile males, adult females or juvenile females, each courtroom shall be served by one accessible cell of each type. Where court-floor holding cells are provided and are not separated by age or sex, courtrooms shall be served by at least one accessible cell. Accessible cells shall be permitted to serve more than one courtroom.

~~**1108.4.3 Visiting areas.** Visiting areas shall comply with Sections 1108.4.3.1 and 1108.4.3.2.~~

~~**1108.4.3.1 Cubicles and counters.** At least 5 percent but no fewer than one of the cubicles shall be accessible on both the visitor and detainee sides. Where counters are provided, at least one shall be accessible on both the visitor and detainee sides.~~

~~**Exception:** This requirement shall not apply to the detainee side of cubicles or counters at noncontact visiting areas not serving Accessible unit holding cells.~~

~~**1108.4.3.2 Partitions.** Where solid partitions or security glazing separate visitors from detainees, at least one of each type of cubicle or counter partition shall be accessible.~~

SECTION 1109 OTHER FEATURES AND FACILITIES

1109.1 General. Accessible building features and facilities shall be provided in accordance with Sections 1109.2 through 1109.15.

Exception: *Accessible units*, Type A units and Type B units shall comply with Chapter 10 of ICC A117.1.

1109.2 Toilet and bathing facilities. Each toilet room and bathing room shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. *Except as provided for in Sections 1109.2.2*

and 1109.2.3, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be accessible.

Exceptions:

1. *Toilet rooms or bathing rooms accessed only through a private office, not for common or public use and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1.*
2. This section is not applicable to toilet and bathing rooms that serve dwelling units or sleeping units that are not required to be accessible by Section 1107.
3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be accessible.
4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be accessible.
5. Toilet rooms *or bathing rooms* that are part of critical care or intensive care patient sleeping rooms *servicing accessible units* are not required to be accessible.
6. *Toilet rooms or bathing rooms designed for a bariatric patient are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The sleeping units served by bariatric toilet or bathing rooms shall not count toward the required number of accessible sleeping units.*
7. *Where toilet facilities are primarily for children's use, required accessible water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.*

1109.2.1 Family or assisted-use toilet and bathing rooms. In assembly and mercantile occupancies, an accessible family or assisted-use toilet room shall be provided where an aggregate of six or more male and female water closets is required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the family or assisted-use toilet room requirement. In recreational facilities where separate-sex bathing rooms are provided, an accessible family or assisted-use bathing room shall be provided. Fixtures located within family or assisted-use toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.

Exception: Where each separate-sex bathing room has only one shower or bathtub fixture, a family or assisted-use bathing room is not required.

1109.2.1.1 Standard. Family or assisted-use toilet and bathing rooms shall comply with Sections 1109.2.1.2 through 1109.2.1.7.

1109.2.1.2 Family or assisted-use toilet rooms. Family or assisted-use toilet rooms shall include only one water closet and only one lavatory. A family or assisted-use bathing room in accordance with Section 1109.2.1.3 shall be considered a family or assisted-use toilet room.

Exception: A urinal is permitted to be provided in addition to the water closet in a family or assisted-use toilet room.

1109.2.1.3 Family or assisted-use bathing rooms. Family or assisted-use bathing rooms shall include only one shower or bathtub fixture. Family or assisted-use bathing rooms shall also include one water closet and one lavatory. Where storage facilities are provided for separate-sex bathing rooms, accessible storage facilities shall be provided for family or assisted-use bathing rooms.

1109.2.1.4 Location. Family or assisted-use toilet and bathing rooms shall be located on an accessible route. Family or assisted-use toilet rooms shall be located not more than one story above or below separate-sex toilet rooms. The accessible route from any separate-sex toilet room to a family or assisted-use toilet room shall not exceed 500 feet (152 m).

1109.2.1.5 Prohibited location. In passenger transportation facilities and airports, the accessible route from separate-sex toilet rooms to a family or assisted-use toilet room shall not pass through security checkpoints.

1109.2.1.6 Clear floor space. Where doors swing into a family or assisted-use toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1219 mm) shall be provided, within the room, beyond the area of the door swing.

1109.2.1.7 Privacy. Doors to family or assisted-use toilet and bathing rooms shall be securable from within the room.

1109.2.2 Water closet compartment. Where water closet compartments are provided in a toilet room or bathing room, at least *five percent of the total number of compartments shall be wheelchair-accessible compartments*. Where the combined total water closet compartments and urinals provided in a toilet room or bathing room is six or more, at least *five percent of the total number*

of compartments shall be ambulatory-accessible water closet compartment shall be provided in addition to the wheelchair-accessible compartment.

1109.2.3 Lavatories. Where lavatories are provided, at least 5 percent, but not less than one, shall be accessible. *Where an accessible lavatory is located within the accessible water closet compartment, ~~that lavatory shall not be the only~~ at least one additional accessible lavatory shall be provided in the multi-compartment toilet room outside the water closet compartment.* Where the total lavatories provided in a toilet room or bathing facility is six or more, at least one lavatory with enhanced reach ranges, shall be provided.

1109.3 Sinks. Where sinks are provided, at least 5 percent but not less than one provided in accessible spaces shall *be accessible*:

Exception: Mop or service sinks are not required to be accessible or be on an accessible route.

1109.4 Kitchens and kitchenettes. Where kitchens and kitchenettes are provided in accessible spaces or rooms, they shall be accessible and be on an accessible route.

1109.5 Drinking fountains. Where drinking fountains are provided on an exterior site, on a floor, or within a secured area, the drinking fountains shall be provided in accordance with Sections 1109.5.1 and 1109.5.2.

1109.5.1 Minimum number. *No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.*

Exceptions:

1. A single drinking fountain *with two separate spouts* that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.
2. *Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.*

1109.5.2 More than the minimum number. Where more than the minimum number of drinking fountains specified in Section 1109.5.1 are provided, 50

percent of the total number of drinking fountains provided shall comply with the requirements for persons who use a wheelchair and 50 percent of the total number of drinking fountains provided shall comply with the requirements for standing persons.

Exceptions:

1. Where 50 percent of the drinking fountains yields a fraction, 50 percent shall be permitted to be rounded up or down, provided that the total number of drinking fountains complying with this section equals 100 percent of the drinking fountains.
2. *Where drinking fountains are primarily for children's use, drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.*

1109.6 Saunas and Steam Rooms. *Where provided, saunas and steam rooms shall be accessible.*

Exception: *Where saunas or steam rooms are clustered at a single location, at least 5 percent of the saunas and steam rooms, but not less than one, of each type in each cluster shall be accessible.*

1109.7 Elevators. Passenger elevators on an accessible route shall be accessible and comply with *Chapter 30*.

1109.8 Lifts. Platform (wheelchair) lifts are permitted to be a part of a required *accessible route* in new construction where indicated in Items 1 through 12. Platform (wheelchair) lifts shall be installed in accordance with ASME A18.1.

1. An accessible route to performing areas and speaker platforms.
2. An accessible route to wheelchair spaces required to comply with the wheelchair space dispersion requirements of Sections 1108.2.2 through 1108.2.6.
3. An accessible route to spaces that are not open to the general public with an occupant load of not more than five.
4. An accessible route *to or within an individual dwelling or sleeping unit required to be an Accessible unit, Type A unit or Type B unit.*
5. An accessible route to jury boxes and witness stands; raised courtroom stations including judges' benches, clerks' stations, bailiffs' stations, deputy clerks' stations and court reporters' stations; and to depressed areas such as the well of the court.
6. An accessible route to load and unload areas serving amusement rides.
7. An accessible route to play components or soft contained play structures.

8. An accessible route to team or player seating areas serving areas of sport activity.
9. *An accessible route instead of gangways serving recreational boating facilities and fishing piers and platforms.*
10. An accessible route where existing exterior site constraints make use of a ramp or elevator infeasible.
11. *An accessible route to raised platforms in places of religious worship.*

1109.9 Storage. Where fixed or built-in storage elements such as cabinets, coat hooks, shelves, medicine cabinets, lockers, closets and drawers are provided in required accessible spaces, at least *five percent, but not less than one of each type shall be accessible.*

1109.9.1 Equity. *Accessible facilities and spaces shall be provided with the same storage elements as provided in the similar non-accessible facilities and spaces.*

1109.9.2 Shelving and display units. Self-service shelves and display units shall be located on an accessible route. Such shelving and display units shall not be required to comply with reach-range provisions.

1109.10 Mail receptacles. *Where provided, mail receptacles shall be accessible in accordance with Sections 1109.10.1 or 1109.10.2.*

1109.10.1 Dwelling units and sleeping units. *Where mail receptacles are provided for Accessible, Type A or Type B dwelling and sleeping units, accessible mail receptacles shall be provided in accordance with 1109.10.1.1 or 1109.10.1.2.*

1109.10.1.1 Centralized mail receptacles. *Where each individual mail compartment of a centralized mail receptacle is assigned to a specific dwelling unit or sleeping unit, the individual mail compartments shall comply with 1109.10.1.1.1 or 1109.10.1.1.2.*

1109.10.1.1.1 Buildings without an elevator. *In a structure without an elevator, all individual mail compartments assigned to Accessible Units, Type A Units and Type B Units in each location shall be accessible.*

1109.10.1.1.2 Buildings with an elevator. *In a structure with an elevator, fifty percent of all individual mail compartments in*

each location shall be accessible. Individual mail compartments assigned to Accessible and Type A units shall be included in the accessible mailboxes. In addition to the individual mail compartments assigned to dwelling or sleeping units, an additional number of individual mail compartments that is equal to ten percent of the total number of dwelling units and sleeping units, but not less than one, at each location shall be accessible.

1109.10.1.1.3 Parcel lockers. *All parcel lockers of centralized mail receptacles shall be accessible.*

1109.10.1.2 Individual house-mounted and curbside mail receptacles. *Where an individual house-mounted or curbside mail receptacle serves a dwelling unit or sleeping unit that is required to be an Accessible unit, Type A unit or Type B unit, the mail receptacle shall be accessible.*

1109.10.2 Other occupancies. *Where mail receptacles are provided in occupancies not falling within the purview of Section 1109.10.1, at least 5 percent, but not less than one, of each type in each location, shall be accessible.*

1109.11 Seating at tables, counters and work surfaces. *Where seating or standing space at fixed or built-in tables, counters or work surfaces is provided in accessible spaces, at least 5 percent of the seating and standing spaces, but not less than one, shall be accessible.*

Exception: *Check-writing surfaces at check-out aisles not required to comply with Section 1109.11.2 are not required to be accessible.*

1109.11.1 Dispersion. *Accessible fixed or built-in seating at tables, counters or work surfaces shall be distributed throughout the space or facility containing such elements and located on a level accessed by an accessible route.*

1109.11.2 Visiting areas. *Visiting areas in judicial facilities and Group I-3 shall comply with Sections 1109.11.2.1 and 1109.11.2.2.*

1109.11.2.1 Cubicles and counters. *At least 5 percent, but not less than one of the cubicles, shall be accessible on both the visitor and detainee sides. Where counters are provided, at least one shall be accessible on both the visitor and detainee sides.*

Exception: *This requirement shall not apply to the detainee side of cubicles or counters at noncontact visiting areas not serving Accessible unit holding cells.*

1109.11.2.2 Partitions. *Where solid partitions or security glazing separate visitors from detainees, at least one of each type of cubicle or counter partition shall be accessible.*

1109.12 Service facilities. Service facilities shall provide for accessible features in accordance with Sections 1109.12.1 through 1109.12.5.

1109.12.1 Dressing, fitting and locker rooms. Where dressing rooms, fitting rooms or locker rooms are provided, at least 5 percent, but not less than one, of each type of use in each cluster provided shall be accessible.

1109.12.2 Check-out aisles. Where check-out aisles are provided, accessible check-out aisles shall be provided in accordance with Table 1109.12.2. Where check-out aisles serve different functions, accessible check-out aisles shall be provided in accordance with Table 1109.12.2 for each function. Where check-out aisles are dispersed throughout the building or facility, accessible check-out aisles shall also be dispersed. Traffic control devices, security devices and turnstiles located in accessible check-out aisles or lanes shall be accessible.

Exception: Where the public use area is under 5000 square feet (465 m²) no more than one accessible check-out aisle shall be required.

**TABLE 1109.12.2
ACCESSIBLE CHECK-OUT AISLES**

TOTAL CHECK-OUT AISLES OF EACH FUNCTION	MINIMUM NUMBER OF ACCESSIBLE CHECK-OUT AISLES OF EACH FUNCTION
1 to 4	1
5 to 8	2
9 to 15	3
Over 15	3, plus 20% of additional aisles

1109.12.3 Point of sale and service counters. Where counters are provided for sales or distribution of goods or services, at least one of each type provided shall be accessible. Where such counters are dispersed throughout the building or facility, accessible counters shall also be dispersed.

1109.12.4 Food service lines. Food service lines shall be accessible. Where self-service shelves are provided, at least 50 percent, but not less than one, of each type provided shall be accessible.

1109.12.5 Queue and waiting lines. Queue and waiting lines servicing accessible counters or check-out aisles shall be accessible.

1109.13 Controls, operating mechanisms and hardware. Controls, operating mechanisms and hardware intended for operation by the occupant, including switches that control lighting and ventilation and electrical convenience outlets, in accessible spaces, along accessible routes or as parts of accessible elements shall be accessible.

Exceptions:

1. Operable parts that are intended for use only by service or maintenance personnel shall not be required to be accessible.
2. Electrical or communication receptacles serving a dedicated use shall not be required to be accessible.
3. Where two or more outlets are provided in a kitchen above a length of counter top that is uninterrupted by a sink or appliance, one outlet shall not be required to be accessible.
4. Floor electrical receptacles shall not be required to be accessible.
5. HVAC diffusers shall not be required to be accessible.
6. Except for light switches, where redundant controls are provided for a single element, one control in each space shall not be required to be accessible.
7. Access doors or gates in barrier walls and fences protecting pools, spas and hot tubs shall be permitted to *comply with 1008.1.9.2.*

~~**1109.13.1 Operable window.** Where operable windows are provided in rooms that are required to be accessible in accordance with Sections 1107.5.1.1, 1107.5.2.1, 1107.5.3.1, 1107.5.4, 1107.6.1.1, 1107.6.2.1.1, 1107.6.2.2.1 and 1107.6.4.1, at least one window in each room shall be accessible and each required operable window shall be accessible.~~

~~**Exception:** Accessible windows are not required in bathrooms and kitchens.~~

1109.14 Fuel-dispensing systems. Fuel-dispensing systems shall be accessible.

1109.15 Gaming machines and gaming tables. Where provided, two percent, but not less than one of each type of gaming tables provided shall be accessible and provided with a front approach. Where provided, two percent of gaming machines

provided shall be accessible and provided with a front approach. Accessible gaming machines shall be distributed throughout the different types of gaming machines provided.

1109.16 Detectable warnings. *Passenger transit platform edges bordering a drop-off and not protected by platform screens or guards shall have a detectable warning.*

Exception: *Detectable warnings are not required at bus stops.*

SECTION 1110 RECREATIONAL FACILITIES

1110.1 General. *Recreational facilities shall be provided with accessible features to the extent indicated in Sections 1110.2 through 1110.4 in accordance with the recreational facility provisions in ICC A117.1.*

1110.2 Facilities serving Group R-2, R-3 and R-4 occupancies. *Recreational facilities that serve Group R-2, R-3 and Group R-4 shall comply with Section 1110.2.1 through 1110.2.3 as applicable.*

1110.2.1 Facilities serving Accessible units. *In Group R-2 and R-4 occupancies where recreational facilities serve Accessible units, every recreational facility of each type serving Accessible units shall be accessible.*

1110.2.2 Facilities serving Type A and Type B units in a single building. *In Group R-2, R-3 and R-4 occupancies where recreational facilities serve a single building containing Type A units or Type B units, 25 percent, but not less than one, of each type of recreational facility shall be accessible. Every recreational facility of each type on a site shall be considered to determine the total number of each type that is required to be accessible.*

1110.2.3 Facilities serving Type A and Type B units in multiple buildings. *In Group R-2, R-3 and R-4 occupancies on a single site where multiple buildings containing Type A units or Type B units are served by recreational facilities, 25 percent, but not less than one, of each type of recreational facility serving each building shall be accessible. The total number of each type of recreational facility that is required to be accessible shall be determined by considering every recreational facility of each type serving each building on the site.*

1110.3 Other occupancies. *All recreational facilities not falling within the purview of Section 1110.2 shall be accessible.*

1110.4 Recreational facilities. *Recreational facilities shall be accessible and be on an accessible route to the extent specified in this section.*

1110.4.1 Areas of sports activity. *Each area of sport activity shall be on an accessible route and shall not be required to be accessible except as provided for in Sections 1110.4.2 through 1110.4.15.*

1110.4.2 Team or player seating. *At least one wheelchair space shall be provided in team or player seating areas serving areas of sport activity.*

Exception: *Wheelchair spaces shall not be required in team or player seating areas serving bowling lanes that are not required to be accessible route in accordance with Section 1110.4.3.*

1110.4.3 Bowling lanes. *An accessible route shall be provided to at least 5 percent, but no less than one, of each type of bowling lane.*

1110.4.4 Court sports. *In court sports, at least one accessible route shall directly connect both sides of the court.*

1110.4.5 Raised boxing or wrestling rings. *Raised boxing or wrestling rings are not required to be accessible or to be on an accessible route.*

1110.4.6 Raised refereeing, judging and scoring areas. *Raised structures used solely for refereeing, judging or scoring a sport are not required to be accessible or to be on an accessible route.*

1110.4.7 Animal Containment Areas. *Animal containment areas that are not within public use areas are not required to be accessible or to be on an accessible route.*

1110.4.8 ~~Amusement~~ Access to and onto amusement rides. *~~Amusement~~ Access to and onto amusement rides that move persons through a fixed course within a defined area shall comply with Sections 1110.4.8.1 through 1110.4.8.3.*

Exception: *Mobile or portable amusement rides shall not be required to be accessible.*

1110.4.8.1 Load and unload areas. Load and unload areas serving amusement rides shall be accessible and be on an accessible route. Where load and unload areas have more than one loading or unloading position, at least one loading and unloading position shall be on an accessible route.

1110.4.8.1.1 ~~Wheelchair~~ Access to wheelchair spaces, ride seats designed for transfer, and transfer devices. ~~Where amusement rides are in the load and unload position, the position serving a wheelchair space, for amusement ride seats designed for transfer and transfer devices~~ Transfer devices, when positioned for loading and unloading, and the loading and unloading positions serving on amusement ride equipped with a wheelchair space or serving an amusement ride seat designed for transfer shall be on an accessible route.

~~1110.4.8.2 Minimum number.~~ ~~Amusement~~ **Note:** Coordination must be performed for amusement rides shall provide regulated by the Ohio department of agriculture to determine whether the ride provides at least one wheelchair space, amusement ride seat designed for transfer, or transfer device.

Exceptions:

1. Amusement rides that are controlled or operated by the rider are not required to comply with this section.
2. Amusement rides designed primarily for children, where children are assisted on and off the ride by an adult, are not required to comply with this section.
3. Amusement rides that do not provide seats that are built-in or mechanically fastened shall not be required to comply with this section.

1110.4.9 Recreational Boating Facilities. Boat slips required to be accessible by Sections 1110.4.9.1 and 1110.4.9.2 and boarding piers at boat launch ramps required to be accessible by Section 1110.4.9.3 shall be on an accessible route.

1110.4.9.1 Boat Slips. Accessible boat slips shall be provided in accordance with Table 1110.4.9.1. All units on the site shall be combined to determine the number of accessible boat slips required. Where the number of boat slips is not identified, each 40 feet (12 m) of boat slip edge

provided along the perimeter of the pier shall be counted as one boat slip for the purpose of this section.

Exception: Boat slips not designed for embarking or disembarking are not required to be accessible or be on an accessible route.

**TABLE 1110.4.9.1
BOAT SLIPS**

Total Number of Boating Slips Provided	Minimum Number of Required Accessible Boating Slips
1 to 25	1
26 to 50	2
51 to 100	3
101 to 150	4
151 to 300	5
301 to 400	6
401 to 500	7
501 to 600	8
601 to 700	9
701 to 800	10
801 to 900	11
901 to 1000	12
1001 and over	12, plus 1 for every 100, or fraction thereof, over 1000

1110.4.9.2 Dispersion. Accessible boat slips shall be dispersed throughout the various types of boat slips provided. Where the minimum number of accessible boat slips has been met, no further dispersion shall be required.

1110.4.9.3 Boarding Piers at Boat Launch Ramps. Where boarding piers are provided at boat launch ramps, at least 5 percent, but no fewer than one, of the boarding piers shall be accessible.

1110.4.10 Exercise Machines and Equipment. At least one of each type of exercise machines and equipment shall be on an accessible route.

1110.4.11 Fishing Piers and Platforms. Fishing piers and platforms shall be accessible and be on an accessible route.

1110.4.12 Miniature golf facilities. Miniature golf facilities shall comply with 1110.4.12.1 through 1110.4.12.3.

1110.4.12.1 Minimum Number. At least 50 percent of holes on miniature golf courses shall be accessible.

1110.4.12.2 Miniature Golf Course Configuration. *Miniature golf courses shall be configured so that the accessible holes are consecutive. Miniature golf courses shall provide an accessible route from the last accessible hole to the course entrance or exit without requiring travel through any other holes on the course.*

Exception: *One break in the sequence of consecutive holes shall be permitted provided that the last hole on the miniature golf course is the last hole in the sequence.*

1110.4.12.3 Accessible route. *Holes required to comply with 1110.4.12.1, including the start of play, shall be on an accessible route.*

~~**1110.4.13 Play Areas.** *Play areas containing play components designed and constructed for children shall be accessible and be located on an accessible route.*~~

~~**1110.4.14**~~ **1110.4.13 Swimming pools, wading pools, hot tubs and spas.** *Swimming pools, wading pools, hot tubs and spas shall be accessible and be on an accessible route.*

Exceptions:

1. *Catch Pools or a designated section of a pool used as a terminus for a water slide flume shall not be required to provide an accessible means of entry provided that a portion of the catch pool edge is on an accessible route.*
2. *Where spas or hot tubs are provided in a cluster, at least 5 percent, but no less than one, spa or hot tub in each cluster shall be accessible and be on an accessible route.*
3. *Swimming pools, wading pools, spas and hot tubs that are required to be accessible by 1110.2.2 and 1110.2.3 are not required to provide accessible means of entry into the water.*

~~**1110.4.14.1**~~ **1110.4.13.1 Raised diving boards and diving platforms.** *Raised diving boards and diving platforms are not required to be accessible or to be on an accessible route.*

~~**1110.4.14.2**~~ **1110.4.13.2 Water Slides.** *Water slides are not required to be accessible or to be on an accessible route.*

~~**1110.4.15**~~ **1110.4.14 Shooting Facilities with Firing Positions.** *Where shooting facilities with firing positions are designed and constructed at a site,*

at least 5 percent, but no *less* than one, of each type of firing position shall be accessible and be on an accessible route.

~~1110.4.16~~ 1110.4.15 **Golf Facilities.** *Buildings and amenities serving a golf course, such as parking areas, golf cart rental stations, toilet rooms, clubhouses and other structures shall be accessible and be located on an accessible route.*

~~1110.4.16.1~~ 1110.4.15.1 **Golf Courses.** *Golf course elements directly associated with practicing and playing the golf course such as the tee grounds, tee boxes, putting greens, golf cart paths, practice putting greens, practice teeing grounds, and teeing stations at driving ranges are not regulated by this code.*

Provisions of the federal law, contained within the 2010 ADA Standards for Accessible Design, sections 238 and 1006, apply to the golf course and contain requirements for regulating the design of the golf course which are outside the scope of this code.

1110.4.16 **Play Areas.** *Play areas containing play components designed and constructed for children shall be accessible and be located on an accessible route.*

SECTION 1111 SIGNAGE

1111.1 Signs. Required accessible elements shall be identified by the International Symbol of Accessibility at the following locations:

1. Accessible parking spaces required by Section 1106.
2. Accessible parking spaces required by Section 1106.2, except in ~~In-Group Groups~~ I-1, R-2, ~~and R-3~~ and R-4 facilities, where parking spaces are assigned to specific dwelling units or sleeping units, identification of accessible parking spaces shall not be required.
3. Accessible passenger loading zones.
4. Accessible rooms where multiple single-user toilet or bathing rooms are clustered at a single location.
5. Accessible entrances where not all entrances are accessible.
6. Accessible check-out aisles where not all aisles are accessible. The sign, where provided, shall be above the check-out aisle in the same location as the check-out aisle number or type of check-out identification.
7. Family or assisted use toilet and bathing rooms.

8. Accessible dressing, fitting and locker rooms where not all such rooms are accessible.
9. Accessible areas of refuge in accordance with Section 1007.9.
10. Exterior areas for assisted rescue in accordance with Section 1007.9.
11. *In recreational facilities, lockers that are required to be accessible in accordance with Section 1109.9.*

1111.1.1 Signs to designate accessible parking spaces and passenger loading zones. *Accessible parking spaces, van-accessible spaces and passenger loading zones required by section 1106 to be reserved for individuals with disabilities, shall be provided with a sign mounted on a fixed or movable post or otherwise affixed in a vertical position so that the sign is clearly visible to the driver of a vehicle when parked in such a location. A notice shall be affixed to this sign or posted adjacent to it that states the amount of the fine established by section 4511.99 of the Revised Code for the offense of parking a vehicle in this location if it is not legally entitled to do so.*

Note: The fine established by section 4511.99 of the Revised Code shall be not less than two hundred fifty dollars ~~not~~ or more than five hundred dollars.

1111.2 Directional signage. Directional signage indicating the route to the nearest like accessible element shall be provided at the following locations. These directional signs shall include the International Symbol of Accessibility *and sign characters shall meet the visual character requirements in accordance with ICC A117.1:*

1. Inaccessible building entrances.
2. Inaccessible public toilets and bathing facilities.
3. Elevators not serving an accessible route.
4. At each separate-sex toilet and bathing room indicating the location of the nearest *family/assisted use* toilet or bathing room where provided in accordance with Section 1109.2.1.
5. At exits and exit stairways serving a required accessible space, but not providing an approved accessible means of egress, signage shall be provided in accordance with Section 1007.10.
6. *Where drinking fountains for persons using wheelchairs and drinking fountains for standing persons are not located adjacent to each other, directional signage shall be provided indicating the location of the other drinking fountains.*

1111.3 Other signs. Signage indicating special accessibility provisions shall be provided as shown:

1. Each assembly area required to comply with Section 1108.2.7 shall provide a sign notifying patrons of the availability of assistive listening systems *complying with the ICC A117.1 requirements for visual characters and shall include the “International Symbol for Access for Hearing Loss”*.

Exception: Where ticket offices or windows are provided, signs are not required at each assembly area provided that signs are displayed at each ticket office or window informing patrons of the availability of assistive listening systems.
2. At each door to an area of refuge, an exterior area for assisted rescue, an egress stairway, exit passageway and exit discharge, signage shall be provided in accordance with Section 1011.4.
3. At areas of refuge, signage shall be provided in accordance with Section 1007.11.
4. At exterior areas for assisted rescue, signage shall be provided in accordance with Section 1007.11.
5. At two-way communication systems, signage shall be provided in accordance with Section 1007.8.2.
6. Within *interior exit stairways and ramps, floor level* signage shall be provided in accordance with Section 1022.8.
7. *At toilet rooms and at entrances, toilet room signage shall be provided in accordance with Section 2902.4 and 2902.4.1.*
- 7.8. *Signs identifying the type of access provided on amusement rides required to be accessible by Section 1110 shall be provided at entries to queues and waiting lines. In addition, where accessible unload areas also serve as accessible load areas, signs indicating the location of the accessible load and unload areas shall be provided at entries to queues and waiting lines. The directional sign characters shall meet the visual character requirements in accordance with ICC A117.1.*

1111.4 Variable Message Signs. Where provided in the locations in Sections 1111.4.1 and 1111.4.2, Variable Message Signs (VMS) shall comply with the VMS requirements of ICC A117.1

1111.4.1 Transportation facilities. Where provided in transportation facilities, variable message signs conveying transportation related information shall comply with Section 1111.4.

1111.4.2 Emergency shelters. Where provided in buildings that are designated as emergency shelters, variable message signs conveying emergency related information shall comply with Section 1111.4.

Exception: Where equivalent information is provided in an audible manner, VMS signs are not required to comply with ICC A117.1.

Section 1112.0
Modifications to ICC/ANSI A117.1.

1112.1 General. The text and content of ICC A117.1 shall be modified as indicated in Sections 1112.2 through 1112.5

1112.2 Changes to ICC A117.1, Chapter 3. Modify the following:

1. Change the description of figure 302.2 to read: **CARPET PILE HEIGHT**
2. Change the description of figure 302.3 to read: **ELONGATED OPENINGS IN FLOOR OR GROUND SURFACES**
3. Change the description of figure 303.2 to read: **VERTICAL CHANGE IN LEVEL**

1112.3 Changes to ICC A117.1, Chapter 4. Modify the following:

1. Change the section description for Section 404 to: **404 Doors, Doorways and Gates**
2. Change Section 404.1 to read: **General.** Doors, doorways and gates that are part of the accessible route shall comply with Section 404. Gates shall comply with the requirements for doors.
3. Delete the following: Sections 406.12; 406.13; and, 406.14.

1112.4 Changes to ICC A117.1, Chapter 6. Modify the following:

1. Change the last sentence in Section 603.3 to read: Where mirrors are located above counters that do not contain lavatories, the mirror shall be mounted with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the floor. (Remainder of section and exception to remain unchanged).
2. Change Section 604.10.2 to read: **Size.** The minimum area of an ambulatory accessible compartment shall be 60 inches (1525 mm) minimum in depth and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

1112.5 Changes to ICC A117.1, Chapter 11. Modify the following:

1. *Delete the following: The entire Section 1106.*

Effective: 07/01/2014

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CERTIFIED ELECTRONICALLY

Certification

04/14/2014

Date

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1/1/02, 8/15/03, 3/1/05, 9/6/05, 7/1/07, 11/1/07,
1/1/09, 11/1/11, 3/15/12, 3/1/13

4101:1-13-01 Energy efficiency.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

**SECTION 1301
GENERAL**

1301.1 Scope. This chapter governs the design and construction of buildings for energy efficiency.

1301.1.1 Criteria. Buildings shall be designed and constructed in accordance with the *applicable provisions of the “International Energy Conservation Code” or the requirements of “ASHRAE 90.1” listed in Chapter 35 of this code.*

1301.2 Modification to International Energy Conservation Code. The following changes shall be made to the International Energy Conservation Code:

1. Table 402.4.2-

a. In the first row, second column, delete the last item titled “Air-permeable insulation is inside of an air barrier”.

b. Delete the last row.

2. Section 402.4.3 shall read “Fireplaces.** New wood-burning fireplaces shall have doors or tight-fitting flue dampers and outdoor combustion air. If using tight-fitting doors on factory-built fireplaces listed and labeled in accordance with UL 127, the doors shall be tested and listed for the fireplace.”**

3. Section 403.9 – Delete section and all subsections.

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4101:1-17-01 Structural tests and special inspections.

[Comment: When a reference is made within this rule to a federal statutory provision, an industry consensus standard, or any other technical publication, the specific date and title of the publication as well as the name and address of the promulgating agency are listed in rule 4101:1-35-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:1-1-01 of the Administrative Code.]

**SECTION 1701
GENERAL**

1701.1 Scope. The provisions of this chapter shall govern the quality, workmanship and requirements for materials covered. Materials of construction and tests shall conform to the applicable standards listed in this code.

1701.2 New materials. New building materials, equipment, appliances, systems or methods of construction not provided for in this code, and any material of questioned suitability proposed for use in the construction of a building or structure, shall be subjected to the tests prescribed in this chapter and in the approved rules to determine character, quality and limitations of use.

1701.3 Used materials. The use of second-hand materials that meet the minimum requirements of this code for new materials shall be permitted.

**SECTION 1702
DEFINITIONS**

1702.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

~~**APPROVED AGENCY.** As used in this chapter, an approved agency is an established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved in accordance with the rules of the board of building standards. The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the approved agency and their personnel are permitted to act as the special inspector for the work designed by them, provided those personnel meet the qualification requirements of section 1704.~~

APPROVED FABRICATOR. An established and qualified person, firm or corporation approved *in accordance with the rules of the board of building standards*.

CERTIFICATE OF COMPLIANCE. A certificate stating that materials and products meet specified standards or that work was done in compliance with approved construction documents.

DESIGNATED SEISMIC SYSTEM. Those architectural, electrical and mechanical systems and their components that require design in accordance with Chapter 13 of ASCE 7 and for which the component importance factor, I_p , is greater than 1 in accordance with Section 13.1.3 of ASCE 7.

FABRICATED ITEM. Structural, load-bearing or lateral load-resisting assemblies consisting of materials assembled prior to installation in a building or structure, or subjected to operations such as heat treatment, thermal cutting, cold working or reforming after manufacture and prior to installation in a building or structure. Materials produced in accordance with standard specifications referenced by this code, such as rolled structural steel shapes, steel-reinforcing bars, masonry units, and wood structural panels or in accordance with a standard, listed in Chapter 35, which provides requirements for quality control done under the supervision of *an approved agency* shall not be considered “fabricated items.”

INSPECTION CERTIFICATE. An identification applied on a product by an approved agency containing the name of the manufacturer, the function and performance characteristics, and the name and identification of an approved agency that indicates that the product or material has been inspected and evaluated by an approved agency (see Section 1703.5 and “Label,” “Manufacturer’s designation” and “Mark”).

INTUMESCENT FIRE-RESISTANT COATINGS. Thin film liquid mixture applied to substrates by brush, roller, spray or trowel which expands into a protective foamed layer to provide fire-resistant protection of the substrates when exposed to flame or intense heat.

MAIN WINDFORCE-RESISTING SYSTEM. An assemblage of structural elements assigned to provide support and stability for the overall structure. The system generally receives wind loading from more than one surface.

MASTIC FIRE-RESISTANT COATINGS. Liquid mixture applied to a substrate by brush, roller, spray or trowel that provides fire-resistant protection of a substrate when exposed to flame or intense heat.

SPECIAL INSPECTION. Inspection as herein required of the materials, installation, fabrication, erection or placement of components and connections requiring special expertise to ensure compliance with approved construction documents and referenced standards (see Section 1704).

SPECIAL INSPECTION AGENCY. *An established, independent, nationally recognized and accredited, third-party conformity assessment body regularly engaged in performing special inspections as required by Chapter 17.*

SPECIAL INSPECTOR. *A qualified person who shall demonstrate competence for the inspection of the particular type of construction or operation requiring special inspection. A special inspector shall be an employee of an accredited special inspection agency recognized by the board in accordance with section 114 and rule 4101:7-6-01 of the Administrative Code, the registered design professional of record involved in the design of the project, or an agent contracted by the owner or registered design professional to perform special inspections whose qualifications comply with section 1704.1.*

SPECIAL INSPECTION, CONTINUOUS. The full-time observation of work requiring special inspection by an approved special inspector who is present in the area where the work is being performed.

SPECIAL INSPECTION, PERIODIC. The part-time or intermittent observation of work requiring special inspection by an approved special inspector who is present in the area where the work has been or is being performed and at the completion of the work.

SPRAYED FIRE-RESISTANT MATERIALS. Cementitious or fibrous materials that are sprayed to provide fire-resistant protection of the substrates.

STRUCTURAL OBSERVATION. The visual observation of the structural system by a registered design professional for general conformance to the approved construction documents. Structural observation does not include or waive the responsibility for the inspection required by Section 108, 1704 or other sections of this code.

SECTION 1703 APPROVALS

~~**1703.1 Approved agency.** An approved agency shall provide all information as necessary to determine that the agency meets the applicable requirements.~~

~~**1703.1.1 Independence.** An approved agency shall be objective, competent and independent from the contractor responsible for the work being inspected. The agency shall also disclose possible conflicts of interest so that objectivity can be confirmed.~~

~~**1703.1.2 Equipment.** An approved agency shall have adequate equipment to perform required tests. The equipment shall be periodically calibrated.~~

~~**1703.1.3 Personnel.** An approved agency shall employ experienced personnel educated in conducting, supervising and evaluating tests and/or inspections.~~

~~**1703.2 Written approval.** Any material, appliance, equipment, system or method of construction meeting the requirements of this code shall be approved in writing after satisfactory completion of the required tests and submission of required test reports.~~

~~**1703.3 Approved record.** For any material, appliance, equipment, system or method of construction that has been approved, a record of such approval, including the conditions and limitations of the approval, shall be kept on file in the building official's office and shall be open to public inspection at appropriate times.~~

~~**1703.4 Performance.** Specific information consisting of test reports conducted by an approved testing agency in accordance with standards referenced in Chapter 35, or other such information as necessary, shall be provided for the building official to determine that the material meets the applicable code requirements.~~

~~**1703.4.1 Research and investigation.** Sufficient technical data shall be submitted to the building official to substantiate the proposed use of any material or assembly. If it is determined that the evidence submitted is satisfactory proof of performance for the use intended, the building official shall approve the use of the material or assembly subject to the requirements of this code. The costs, reports and investigations required under these provisions shall be paid by the applicant.~~

~~**1703.4.2 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.~~

~~**1703.5 Labeling.** Where materials or assemblies are required by this code to be labeled, such materials and assemblies shall be labeled by an approved agency in accordance with Section 1703. Products and materials required to be labeled shall be labeled in accordance with the procedures set forth in Sections 1703.5.1 through 1703.5.3.~~

~~**1703.5.1 Testing.** An approved agency shall test a representative sample of the product or material being labeled to the relevant standard or standards. The approved agency shall maintain a record of the tests performed. The record shall provide sufficient detail to verify compliance with the test standard.~~

~~**1703.5.2 Inspection and identification.** The approved agency shall periodically perform an inspection, which shall be in-plant if necessary, of the product or material that is to be labeled. The inspection shall verify that the labeled product or material is representative of the product or material tested.~~

~~**1703.5.3 Label information.** The label shall contain the manufacturer's or distributor's identification, model number, serial number or definitive information describing the product or material's performance characteristics and approved agency's identification.~~

~~**1703.6 Evaluation and follow-up inspection services.** Where structural components or other items regulated by this code are not visible for inspection after completion of a prefabricated assembly, the applicant shall submit a report of each prefabricated assembly. The report shall indicate the complete details of the assembly, including a description of the assembly and its components, the basis upon which the assembly is being evaluated, test results and similar information and other data as necessary for the building official to determine conformance to this code.~~

~~**1703.6.1 Follow-up inspection.** The applicant shall provide for special inspections of fabricated items in accordance with Section 1704.2.~~

~~**1703.6.2 Test and inspection records.** Copies of necessary test and inspection records shall be filed with the building official. *Refer to section 114.3.*~~

SECTION 1704 SPECIAL INSPECTIONS

1704.1 General. Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more ~~approved agencies~~ *special inspectors* to perform inspections during construction on the types of work listed under Section 1704. These inspections are in addition to the inspections identified in Section 108.

~~The special inspector shall be a qualified person who shall demonstrate competence for the inspection of the particular type of construction or operation requiring special inspection. The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the approved agencies and their personnel are permitted to act as the special inspector for the work designed by them, provided those personnel meet the qualification requirements of this section.~~ The special inspector shall provide written documentation to the building official demonstrating his or her competence and relevant experience or training. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this code.

Exceptions:

1. Special inspections are not required for work of a minor nature or *work utilizing basic design principles and materials*.
2. Special inspections are not required for building components unless the design involves the practice of professional engineering or architecture as defined by applicable state statutes and regulations governing the professional registration and certification of engineers or architects.
3. *Deleted.*

1704.1.1 Statement of special inspections. The applicant shall submit a statement of special inspections prepared by the registered design professional in responsible charge as a condition for issuance *of a plan approval*. This statement shall be in accordance with Section 1705.

Exceptions:

1. A statement of special inspections is not required for structures designed and constructed in accordance with the conventional construction provisions of Section 2308.
2. The statement of special inspections is permitted to be prepared by a qualified person approved by the building official for construction not designed by a registered design professional.

1704.1.2 Report requirement. Special inspectors shall keep records of inspections. The special inspector shall furnish inspection reports to the building official, and to the registered design professional in responsible charge. Reports shall indicate that work inspected was or was not completed in conformance to approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the building official and to the registered design professional in responsible charge prior to the completion of that phase of the work. A final report documenting required special inspections and correction of any discrepancies noted in the inspections shall be submitted *to the building official prior to the issuance of the certificate of occupancy*.

1704.2 Inspection of fabricators. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, special inspection of the fabricated items shall be required by this section and as required elsewhere in this code.

1704.2.1 Fabrication and implementation procedures. The special inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards. The special inspector shall review the procedures for completeness and adequacy relative to the code requirements for the fabricator's scope of work.

Exception: Special inspections as required by Section 1704.2 shall not be required where the fabricator is approved in accordance with Section 1704.2.2.

1704.2.2 Fabricator approval. Special inspections required by Section 1704 are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by ~~an approved independent special inspection~~ a board recognized industry trade association certification program or a board recognized fabricator inspection agency. Such fabricator inspection agency shall be accredited by a national evaluation and accreditations service approved by the board recognized by the board in accordance with rule 4101:7-6-01 of the Administrative Code. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building official stating that the work was performed in accordance with the approved construction documents.

Special inspections required by this code are not required for work done on the premises of a fabricator authorized by the board as an industrialized unit manufacturer pursuant to Section 113.

1704.3 Steel construction. The special inspections for steel elements of buildings and structures shall be as required by Section 1704.3 and Table 1704.3.

Exceptions:

1. Special inspection of the steel fabrication process shall not be required where the fabricator does not perform any welding, thermal cutting or heating operation of any kind as part of the fabrication process. In such cases, the fabricator shall be required to submit a detailed procedure for material control that demonstrates the fabricator's ability to maintain suitable records and procedures such that, at any time during the fabrication process, the material specification, grade and mill test reports for the main stress-carrying elements are capable of being determined.
2. The special inspector need not be continuously present during welding of the following items, provided the materials, welding procedures and qualifications of welders are verified prior to the start of the work; periodic inspections are made of the work in progress and a visual inspection of all welds is made prior to completion or prior to shipment of shop welding.
 - 2.1. Single-pass fillet welds not exceeding $\frac{5}{16}$ inch (7.9 mm) in size.
 - 2.2. Floor and roof deck welding.
 - 2.3. Welded studs when used for structural diaphragm.
 - 2.4. Welded sheet steel for cold-formed steel members.
 - 2.5. Welding of stairs and railing systems.

1704.3.1 Welding. Welding inspection and welding inspector qualification shall be in accordance with this section.

**TABLE 1704.3
REQUIRED VERIFICATION AND INSPECTION OF STEEL
CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD ^a	OBC REFERENCE
1. Material verification of high-strength bolts, nuts and washers:				
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	—	X	AISC 360, Section A3.3 and applicable ASTM material standards	
b. Manufacturer's certificate of compliance required.	—	X	—	—
2. Inspection of high-strength bolting:				
a. Snug-tight joints.	—	X	AISC 360, Section M2.5	1704.3.3
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.	—	X		
c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation.	X	—		
3. Material verification of structural steel and cold-formed steel deck:				
a. For structural steel, identification markings to conform to AISC 360.	—	X	AISC 360, Section M5.5	
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	—	X	Applicable ASTM material standards	
c. Manufacturer's certified test reports.	—	X		
4. Material verification of weld filler materials:				
a. Identification markings to conform to AWS specification in the approved construction documents.	—	X	AISC 360, Section A3.5 and applicable AWS A5 documents	—
b. Manufacturer's certificate of compliance required.	—	X	—	—
5. Inspection of welding:				

a. Structural steel and cold-formed steel deck:				
1) Complete and partial joint penetration groove welds.	X	—	AWS D1.1	1704.3.1
2) Multipass fillet welds.	X	—		
3) Single-pass fillet welds $>^5/16$ "	X	—		
4) Plug and slot welds.	X	—		
5) Single-pass fillet welds $\leq^5/16$ "	X	X		
6) Floor and roof deck welds.	—	X	AWS D1.3	
b. Reinforcing steel:				
1) Verification of weldability of reinforcing steel other than ASTM A 706.	—	X	AWS D1.4 ACI 318: Section 3.5.2	—
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement. _	X	—		
3) Shear reinforcement. _	X	—		
4) Other reinforcing steel.	—	X		
6. Inspection of steel frame joint details for compliance:				
a. Details such as bracing and stiffening.	—	X	—	1704.3.2
b. Member locations.	—	X		
c. Application of joint details at each connection.	—	X		

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1707.1, Special inspection for seismic resistance.

1704.3.1.1 Structural steel. Welding inspection and welding inspector qualification for structural steel shall be in accordance with AWS D1.1.

1704.3.1.2 Cold-formed steel. Welding inspection and welding inspector qualification for cold-formed steel floor and roof decks shall be in accordance with AWS D1.3.

1704.3.1.3 Reinforcing steel. Welding inspection and welding inspector qualification for reinforcing steel shall be in accordance with AWS D1.4 and ACI 318.

1704.3.2 Details. The special inspector shall perform an inspection of the steel frame to verify compliance with the details shown on the approved

construction documents, such as bracing, stiffening, member locations and proper application of joint details at each connection.

1704.3.3 High-strength bolts. Installation of high-strength bolts shall be inspected in accordance with AISC 360.

1704.3.3.1 General. While the work is in progress, the special inspector shall determine that the requirements for bolts, nuts, washers and paint; bolted parts and installation and tightening in such standards are met. For bolts requiring pretensioning, the special inspector shall observe the preinstallation testing and calibration procedures when such procedures are required by the installation method or by project plans or specifications; determine that all plies of connected materials have been drawn together and properly snugged and monitor the installation of bolts to verify that the selected procedure for installation is properly used to tighten bolts. For joints required to be tightened only to the snug-tight condition, the special inspector need only verify that the connected materials have been drawn together and properly snugged.

1704.3.3.2 Periodic monitoring. Monitoring of bolt installation for pretensioning is permitted to be performed on a periodic basis when using the turn-of-nut method with matchmarking techniques, the direct tension indicator method or the alternate design fastener (twist-off bolt) method. Joints designated as snug tight need be inspected only on a periodic basis.

1704.3.3.3 Continuous monitoring. Monitoring of bolt installation for pretensioning using the calibrated wrench method or the turn-of-nut method without matchmarking shall be performed on a continuous basis.

1704.3.4 Cold-formed steel trusses spanning 60 feet or greater. Where a cold-formed steel truss clear span is 60 feet (18 288 mm) or greater, the special inspector shall verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.

1704.4 Concrete construction. The special inspections and verifications for concrete construction shall be as required by this section and Table 1704.4.

Exception: Special inspections shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock.
2. Continuous concrete footings supporting walls of buildings three stories or less above grade plane that are fully supported on earth or rock where:
 - 2.1. The footings support walls of light-frame construction;
 - 2.2. The footings are designed in accordance with Table 1809.7; or
 - 2.3. The structural design of the footing is based on a specified compressive strength, f'_c , no greater than 2,500 pounds per square inch (psi) (17.2

- MPa), regardless of the compressive strength specified in the construction documents or used in the footing construction.
3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is less than 150 psi (1.03 MPa).
 4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.
 5. Concrete patios, driveways and sidewalks, on grade.

**TABLE 1704.4
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE
CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD ^a	OBC REFERENCE
1. Inspection of reinforcing steel, including prestressing tendons, and placement.	—	X	ACI 318: 3.5, 7.1-7.7	1913.4
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	—	—	AWS D1.4 ACI 318: 3.5.2	—
3. Inspection of bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.	X	—	ACI 318: 8.1.3, 21.2.8	1911.5, 1912.1
4. Inspection of anchors installed in hardened concrete.	—	X	ACI 318: 3.8.6, 8.1.3, 21.2.8	1912.1
5. Verifying use of required design mix.	—	X	ACI 318: Ch. 4, 5.2-5.4	1904.2.2, 1913.2, 1913.3
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	—	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1913.10
7. Inspection of concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 5.9, 5.10	1913.6, 1913.7, 1913.8
8. Inspection for maintenance of specified curing temperature and techniques.	—	X	ACI 318: 5.11-5.13	1913.9
9. Inspection of prestressed concrete: a. Application of prestressing forces. b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.	X X	—	ACI 318: 18.20 ACI 318: 18.18.4	—
10. Erection of precast concrete members.	—	X	ACI 318: Ch. 16	—

11. Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 6.2	—
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 6.1.1	—

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1707.1, Special inspection for seismic resistance.

1704.4.1 Materials. In the absence of sufficient data or documentation providing evidence of conformance to quality standards for materials in Chapter 3 of ACI 318, the testing of materials *shall be* in accordance with the appropriate standards and criteria for the material in Chapter 3 of ACI 318. Weldability of reinforcement, except that which conforms to ASTM A 706, shall be determined in accordance with the requirements of Section 3.5.2 of ACI 318.

1704.5 Masonry construction. Masonry construction shall be inspected and verified in accordance with the requirements of Sections 1704.5.1 through 1704.5.3, depending on the occupancy category of the building or structure.

Exception: Special inspections shall not be required for:

1. Empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or Chapter 14, respectively, or by Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5, respectively, when they are part of structures classified as Occupancy Category I, II or III in accordance with Section 1604.5.
2. Masonry foundation walls constructed in accordance with Table 1807.1.6.3(1), 1807.1.6.3(2), 1807.1.6.3(3) or 1807.1.6.3(4).
3. Masonry fireplaces, masonry heaters or masonry chimneys installed or constructed in accordance with Section 2111, 2112 or 2113, respectively.

1704.5.1 Empirically designed masonry, glass unit masonry and masonry veneer in Occupancy Category IV. The minimum special inspection program for empirically designed masonry, glass unit masonry or masonry veneer designed by Section 2109, 2110 or Chapter 14, respectively, or by Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5, respectively, in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1704.5.1.

1704.5.2 Engineered masonry in Occupancy Category I, II or III. The minimum special inspection program for masonry designed by Section 2107 or 2108 or by chapters other than Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5 in structures classified as Occupancy Category I, II or III, in accordance with Section 1604.5, shall comply with Table 1704.5.1.

1704.5.3 Engineered masonry in Occupancy Category IV. The minimum special inspection program for masonry designed by Section 2107 or 2108 or by chapters other than Chapter 5, 6 or 7 of TMS 402/ACI 530/ASCE 5 in structures classified as Occupancy Category IV, in accordance with Section 1604.5, shall comply with Table 1704.5.3.

1704.6 Wood construction. Special inspections of the fabrication process of prefabricated wood structural elements and assemblies shall be in accordance with Section 1704.2. Special inspections of site-built assemblies shall be in accordance with this section.

1704.6.1 High-load diaphragms. High-load diaphragms designed in accordance with Table 2306.2.1(2) shall be installed with special inspections as indicated in Section 1704.1. The special inspector shall inspect the wood structural panel sheathing to ascertain whether it is of the grade and thickness shown on the approved building plans. Additionally, the special inspector must verify the nominal size of framing members at adjoining panel edges, the nail or staple diameter and length, the number of fastener lines and that the spacing between fasteners in each line and at edge margins agrees with the approved building plans.

1704.6.2 Metal-plate-connected wood trusses spanning 60 feet or greater. Where a truss clear span is 60 feet (18 288 mm) or greater, the special inspector shall verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package.

1704.7 Soils. Special inspections for existing site soil conditions, fill placement and load-bearing requirements shall be as required by this section and Table 1704.7. The approved geotechnical report, and the construction documents prepared by the registered design professionals shall be used to determine compliance. During fill placement, the special inspector shall determine that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report.

Exceptions:

1. Where Section 1803 does not require reporting of materials and procedures for fill placement, the special inspector shall verify that the in-place dry density of the compacted fill is not less than 90 percent of the maximum dry density at optimum moisture content determined in accordance with ASTM D 1557.
2. *A geotechnical investigation is not required where satisfactory data from adjacent areas is available that demonstrates an investigation is not necessary for any of the conditions in Sections 1803.5.1 through 1803.5.6 and Sections 1803.5.10 and 1803.5.11*

1704.8 Driven deep foundations. Special inspections shall be performed during installation and testing of driven deep foundation elements as required by Table

1704.8. The approved geotechnical report, and the construction documents prepared by the registered design professionals, shall be used to determine compliance.

1704.9 Cast-in-place deep foundations. Special inspections shall be performed during installation and testing of cast-in-place deep foundation elements as required by Table 1704.9. The approved geotechnical report, and the construction documents prepared by the registered design professionals, shall be used to determine compliance.

1704.10 Helical pile foundations. Special inspections shall be performed continuously during installation of helical pile foundations. The information recorded shall include installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent installation data as required by the registered design professional in responsible charge. The approved geotechnical report and the construction documents prepared by the registered design professional shall be used to determine compliance.

1704.11 Vertical masonry foundation elements. Special inspection shall be performed in accordance with Section 1704.5 for vertical masonry foundation elements.

**TABLE 1704.5.1
LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF
MASONRY CONSTRUCTION**

VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
	CONTINUOUS	PERIODIC	OBC SECTION	TMS 402/ACI 530/ASCE 5 ^a	TMS 602/ACI 530.1/ASCE 6 ^a
1. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	—	X	—	—	Art. 1.5
2. Verification of f_m and f_{AAC} prior to construction except where specifically exempted by this code.	—	X	—	—	Art. 1.4B
3. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.	X	—	—	—	Art. 1.5B.1.b.3
4. As masonry construction begins, the following shall be verified to ensure compliance:					
a. Proportions of site-prepared mortar.	—	X	—	—	Art. 2.6A
b. Construction of mortar joints.	—	X	—	—	Art. 3.3B

c. Location of reinforcement, connectors, prestressing tendons and anchorages.	—	X	—	—	Art. 3.4, 3.6A
d. Prestressing technique.	—	X	—	—	Art. 3.6B
e. Grade and size of prestressing tendons and anchorages.	—	X	—	—	Art. 2.4B, 2.4H
5. During construction the inspection program shall verify:					
a. Size and location of structural elements.	—	X	—	—	Art. 3.3F
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	—	X	—	Sec. 1.2.2(e), 1.16.1	—
c. Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.	—	X	—	Sec. 1.15	Art. 2.4, 3.4
d. Welding of reinforcing bars.	X	—	—	Sec. 2.1.9.7.2, 3.3.3.4(b)	—
e. Preparation, construction and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.	X	—	—	—	Art. 3.6B
6. Prior to grouting, the following shall be verified to ensure compliance:					
a. Grout space is clean.	—	X	—	—	Art. 3.2D
b. Placement of reinforcement and connectors, and prestressing tendons and anchorages.	—	X	—	Sec. 1.13	Art. 3.4
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6B
d. Construction of mortar joints.	—	X	—	—	Art. 3.3B
7. Grout placement shall be verified to ensure compliance:	X	—	—	—	Art. 3.5

a. Grouting of prestressing bonded tendons.	X	—	—	—	Art. 3.6C
8. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	—	X	Sec. 2105.2.2, 2105.3	—	Art. 1.4

For SI: °C = [(°F) - 32]/1.8.

a. The specific standards referenced are those listed in Chapter 35.

TABLE 1704.5.3
LEVEL 2 REQUIRED VERIFICATION AND INSPECTION OF
MASONRY CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE FOR CRITERIA		
			OBC SECTION	TMS 402/ACI 530/ASCE 5 ^a	TMS 602/ACI 530.1/ASCE 6 ^a
1. Compliance with required inspection provisions of the construction documents and the approved submittals.	—	X	—	—	Art. 1.5
2. Verification of f'_m and f'_{AAC} prior to construction and for every 5,000 square feet during construction.	—	X	—	—	Art. 1.4B
3. Verification of proportions of materials in premixed or preblended mortar and grout as delivered to the site.	—	X	—	—	Art. 1.5B
4. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.	X	—	—	—	Art. 1.5B.1.b.3
5. The following shall be verified to ensure compliance:					
a. Proportions of site-prepared mortar, grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6A
b. Placement of masonry units and construction of mortar joints.	—	X	—	—	Art. 3.3B
c. Placement of reinforcement, connectors and prestressing tendons and anchorages.	—	X	—	Sec. 1.15	Art. 3.4, 3.6A
d. Grout space prior to grout.	X	—	—	—	Art. 3.2D
e. Placement of grout.	X	—	—	—	Art. 3.5
f. Placement of prestressing grout.	X	—	—	—	Art. 3.6C
g. Size and location of structural elements.	—	X	—	—	Art. 3.3F

h. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	X	—	—	Sec.1.2.2(e), 1.16.1	—
i. Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.	—	X	—	Sec. 1.15	Art. 2.4, 3.4
j. Welding of reinforcing bars.	X	—	—	Sec. 2.1.9.7.2, 3.3.3.4 (b)	—
k. Preparation, construction and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D
l. Application and measurement of prestressing force.	X	—	—	—	Art. 3.6B
6. Preparation of any required grout specimens and/or prisms shall be observed.	X	—	Sec. 2105.2.2, 2105.3	—	Art. 1.4

For SI: °C = [(°F) - 32]/1.8, 1 square foot = 0.0929 m².

a. The specific standards referenced are those listed in Chapter 35.

TABLE 1704.7
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X
2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of compacted fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	—
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	—	X

TABLE 1704.8
REQUIRED VERIFICATION AND INSPECTION OF DRIVEN DEEP FOUNDATION ELEMENTS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
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1. Verify element materials, sizes and lengths comply with the requirements.	X	—
2. Determine capacities of test elements and conduct additional load tests, as required.	X	—
3. Observe driving operations and maintain complete and accurate records for each element.	X	—
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	X	—
5. For steel elements, perform additional inspections in accordance with Section 1704.3.	—	—
6. For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1704.4.	—	—
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	—	—

**TABLE 1704.9
REQUIRED VERIFICATION AND INSPECTION OF CAST-IN-PLACE
DEEP FOUNDATION ELEMENTS**

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. Observe drilling operations and maintain complete and accurate records for each element.	X	—
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes.	X	—
3. For concrete elements, perform additional inspections in accordance with Section 1704.4.	—	—

1704.12 Sprayed fire-resistant materials. Special inspections for sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be in accordance with Sections 1704.12.1 through 1704.12.6. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. Special inspections shall be performed after the rough installation of

electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, where applicable.

1704.12.1 Physical and visual tests. The special inspections shall include the following tests and observations to demonstrate compliance with the listing and the fire-resistance rating:

1. Condition of substrates.
2. Thickness of application.
3. Density in pounds per cubic foot (kg/m^3).
4. Bond strength adhesion/cohesion.
5. Condition of finished application.

1704.12.2 Structural member surface conditions. The surfaces shall be prepared in accordance with the approved fire-resistance design and the written instructions of approved manufacturers. The prepared surface of structural members to be sprayed shall be inspected before the application of the sprayed fire-resistant material.

1704.12.3 Application. The substrate shall have a minimum ambient temperature before and after application as specified in the written instructions of approved manufacturers. The area for application shall be ventilated during and after application as required by the written instructions of approved manufacturers.

1704.12.4 Thickness. No more than 10 percent of the thickness measurements of the sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be less than the thickness required by the approved fire-resistance design, but in no case less than the minimum allowable thickness required by Section 1704.12.4.1.

1704.12.4.1 Minimum allowable thickness. For design thicknesses 1 inch (25 mm) or greater, the minimum allowable individual thickness shall be the design thickness minus $\frac{1}{4}$ inch (6.4 mm). For design thicknesses less than 1 inch (25 mm), the minimum allowable individual thickness shall be the design thickness minus 25 percent. Thickness shall be determined in accordance with ASTM E 605. Samples of the sprayed fire-resistant materials shall be selected in accordance with Sections 1704.12.4.2 and 1704.12.4.3.

1704.12.4.2 Floor, roof and wall assemblies. The thickness of the sprayed fire-resistant material applied to floor, roof and wall assemblies shall be determined in accordance with ASTM E 605, making not less than four measurements for each 1,000 square feet (93 m^2) of the sprayed area in each story or portion thereof.

1704.12.4.2.1 Cellular decks. Thickness measurements shall be selected from a square area, 12 inches by 12 inches (305 mm by 305

mm) in size. A minimum of four measurements shall be made, located symmetrically within the square area.

1704.12.4.2.2 Fluted decks. Thickness measurements shall be selected from a square area, 12 inches by 12 inches (305 mm by 305 mm) in size. A minimum of four measurements shall be made, located symmetrically within the square area, including one each of the following: valley, crest and sides. The average of the measurements shall be reported.

1704.12.4.3 Structural members. The thickness of the sprayed fire-resistant material applied to structural members shall be determined in accordance with ASTM E 605. Thickness testing shall be performed on not less than 25 percent of the structural members on each floor.

1704.12.4.3.1 Beams and girders. At beams and girders thickness measurements shall be made at nine locations around the beam or girder at each end of a 12-inch (305 mm) length.

1704.12.4.3.2 Joists and trusses. At joists and trusses, thickness measurements shall be made at seven locations around the joist or truss at each end of a 12-inch (305 mm) length.

1704.12.4.3.3 Wide-flanged columns. At wide-flanged columns, thickness measurements shall be made at 12 locations around the column at each end of a 12-inch (305 mm) length.

1704.12.4.3.4 Hollow structural section and pipe columns. At hollow structural section and pipe columns, thickness measurements shall be made at a minimum of four locations around the column at each end of a 12-inch (305 mm) length.

1704.12.5 Density. The density of the sprayed fire-resistant material shall not be less than the density specified in the approved fire-resistance design. Density of the sprayed fire-resistant material shall be determined in accordance with ASTM E 605. The test samples for determining the density of the sprayed fire-resistant materials shall be selected as follows: From each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m²) or portion thereof of the sprayed area in each story.

From beams, girders, trusses and columns at the rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m²) of floor area or portion thereof in each story.

1704.12.6 Bond strength. The cohesive/adhesive bond strength of the cured sprayed fire-resistant material applied to floor, roof and wall assemblies and structural members shall not be less than 150 pounds per square foot (psf) (7.18 kN/m²). The cohesive/adhesive bond strength shall be determined in accordance with the field test specified in ASTM E 736

by testing in-place samples of the sprayed fire-resistant material selected in accordance with Sections 1704.12.6.1 through 1704.12.6.3.

1704.12.6.1 Floor, roof and wall assemblies. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m²) of the sprayed area in each story or portion thereof.

1704.12.6.2 Structural members. The test samples for determining the cohesive/adhesive bond strength of the sprayed fire-resistant materials shall be selected from beams, girders, trusses, columns and other structural members at the rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m²) of floor area or portion thereof in each story.

1704.12.6.3 Primer, paint and encapsulant bond tests. Bond tests to qualify a primer, paint or encapsulant shall be conducted when the sprayed fire-resistant material is applied to a primed, painted or encapsulated surface for which acceptable bond-strength performance between these coatings and the fire-resistant material has not been determined. A bonding agent approved by the SFRM manufacturer shall be applied to a primed, painted or encapsulated surface where the bond strengths are found to be less than required values.

1704.13 Mastic and intumescent fire-resistant coatings. Special inspections for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be in accordance with AWCI 12-B. Special inspections shall be based on the fire-resistance design as designated in the approved construction documents.

1704.14 Exterior insulation and finish systems (EIFS). Special inspections shall be required for all EIFS applications.

Exceptions:

1. Special inspections shall not be required for EIFS applications installed over a water-resistive barrier with a means of draining moisture to the exterior.
2. Special inspections shall not be required for EIFS applications installed over masonry or concrete walls.

1704.14.1 Water-resistive barrier coating. A water-resistive barrier coating complying with ASTM E 2570 requires special inspection of the water-resistive barrier coating when installed over a sheathing substrate.

1704.15 Special cases. Special inspections shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1. Construction materials and systems that are alternatives to materials and systems prescribed by this code.

2. Unusual design applications of materials described in this code.
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.

1704.16 Special inspection for smoke control. Smoke control systems shall be tested by a special inspector.

1704.16.1 Testing scope. The test scope shall be as follows:

1. During erection of ductwork and prior to concealment for the purposes of leakage testing and recording of device location.
2. Prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements and detection and control verification.

1704.16.2 Qualifications. Special inspection agencies for smoke control shall have expertise in fire protection engineering, mechanical engineering and certification as air balancers.

SECTION 1705 STATEMENT OF SPECIAL INSPECTIONS

1705.1 General. Where special inspection or testing is required by Section 1704, 1707 or 1708, the registered design professional in responsible charge shall prepare a statement of special inspections in accordance with Section 1705 for submittal by the applicant (see Section 1704.1.1).

1705.2 Content of statement of special inspections. The statement of special inspections shall identify the following:

1. The materials, systems, components and work required to have special inspection or testing by the building official or by the registered design professional responsible for each portion of the work.
2. The type and extent of each special inspection.
3. The type and extent of each test.
4. Additional requirements for special inspection or testing for seismic or wind resistance as specified in Section 1705.3, 1705.4, 1707 or 1708.
5. For each type of special inspection, identification as to whether it will be continuous special inspection or periodic special inspection.

1705.3 Seismic resistance. The statement of special inspections shall include seismic requirements for cases covered in Sections 1705.3.1 through 1705.3.5.

Exception: Seismic requirements are permitted to be excluded from the statement of special inspections for structures designed and constructed in accordance with the following:

1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, SDS, as determined in Section

- 1613.5.4, does not exceed 0.5g; and the height of the structure does not exceed 35 feet (10 668 mm) above grade plane; or
2. The structure is constructed using a reinforced masonry structural system or reinforced concrete structural system; the design spectral response acceleration at short periods, SDS, as determined in Section 1613.5.4, does not exceed 0.5g, and the height of the structure does not exceed 25 feet (7620 mm) above grade plane; or
 3. *Deleted.*

1705.3.1 Seismic-force-resisting systems. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F, in accordance with Section 1613.

Exception: Requirements for the seismic-force-resisting system are permitted to be excluded from the statement of special inspections for steel systems in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, R, of 3 or less, excluding cantilever column systems.

1705.3.2 Designated seismic systems. Designated seismic systems in structures assigned to Seismic Design Category D, E or F.

1705.3.3 Seismic Design Category C. The following additional systems and components in structures assigned to Seismic Design Category C:

1. Heating, ventilating and air-conditioning (HVAC) ductwork containing hazardous materials and anchorage of such ductwork.
2. Piping systems and mechanical units containing flammable, combustible or highly toxic materials.
3. Anchorage of electrical equipment used for emergency or standby power systems.

1705.3.4 Seismic Design Category D. The following additional systems and components in structures assigned to Seismic Design Category D:

1. Systems required for Seismic Design Category C.
2. Exterior wall panels and their anchorage.
3. Suspended ceiling systems and their anchorage.
4. Access floors and their anchorage.
5. Steel storage racks and their anchorage, where the importance factor is equal to 1.5 in accordance with Section 15.5.3 of ASCE 7.

1705.3.5 Seismic Design Category E or F. The following additional systems and components in structures assigned to Seismic Design Category E or F:

1. Systems required for Seismic Design Categories C and D.
Electrical equipment.

1705.3.6 Seismic requirements in the statement of special inspections. When Sections 1705.3 through 1705.3.5 specify that seismic requirements be included, the statement of special inspections shall identify the following:

1. The designated seismic systems and seismic-force-resisting systems that are subject to special inspections in accordance with Sections 1705.3 through 1705.3.5.
2. The additional special inspections and testing to be provided as required by Sections 1707 and 1708 and other applicable sections of this code, including the applicable standards referenced by this code.

1705.4 Wind resistance. The statement of special inspections shall include wind requirements for structures constructed in the following areas:

1. In wind Exposure Category B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 m/s) or greater.
2. In wind Exposure Category C or D, where the 3-second-gust basic wind speed is 110 mph (49 m/s) or greater.

1705.4.1 Wind requirements in the statement of special inspections. When Section 1705.4 specifies that wind requirements be included, the statement of special inspections shall identify the main wind-force-resisting systems and wind-resisting components subject to special inspections as specified in Section 1705.4.2.

1705.4.2 Detailed requirements. The statement of special inspections shall include at least the following systems and components:

1. Roof cladding and roof framing connections.
2. Wall connections to roof and floor diaphragms and framing.
3. Roof and floor diaphragm systems, including collectors, drag struts and boundary elements.
4. Vertical wind-force-resisting systems, including braced frames, moment frames and shear walls.
5. Wind-force-resisting system connections to the foundation.
6. Fabrication and installation of systems or components required to meet the impact-resistance requirements of Section 1609.1.2.

Exception: Fabrication of manufactured systems or components that have a label indicating compliance with the wind-load and impact-resistance requirements of this code.

SECTION 1706 SPECIAL INSPECTIONS FOR WIND REQUIREMENTS

1706.1 Special inspections for wind requirements. Special inspections itemized in Sections 1706.2 through 1706.4, unless exempted by the exceptions to Section 1704.1, are required for buildings and structures constructed in the following areas:

1. In wind Exposure Category B, where the 3-second-gust basic wind speed is 120 miles per hour (52.8 m/sec) or greater.

2. In wind Exposure Categories C or D, where the 3-second-gust basic wind speed is 110 mph (49 m/sec) or greater.

1706.2 Structural wood. Continuous special inspection is required during field gluing operations of elements of the main windforce-resisting system. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system, including wood shear walls, wood diaphragms, drag struts, braces and hold-downs.

Exception: Special inspection is not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other components of the main windforce-resisting system, where the fastener spacing of the sheathing is more than 4 inches (102 mm) on center.

1706.3 Cold-formed steel light-frame construction. Periodic special inspection is required during welding operations of elements of the main windforce-resisting system. Periodic special inspection is required for screw attachment, bolting, anchoring and other fastening of components within the main windforce-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.

Exception: Special inspection is not required for cold-formed steel light-frame shear walls, braces, diaphragms, collectors (drag struts) and hold-downs where either of the following apply:

1. The sheathing is gypsum board or fiberboard.
2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the fastener spacing of the sheathing is more than 4 inches (102 mm) on center (o.c.).

1706.4 Wind-resisting components. Periodic special inspection is required for the following systems and components:

1. Roof cladding.
2. Wall cladding.

SECTION 1707 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

1707.1 Special inspections for seismic resistance. Special inspections itemized in Sections 1707.2 through 1707.9, unless exempted by the exceptions of Section 1704.1, 1705.3, or 1705.3.1, are required for the following:

1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F, as determined in Section 1613.
2. Designated seismic systems in structures assigned to Seismic Design Category D, E or F.

3. Architectural, mechanical and electrical components in structures assigned to Seismic Design Category C,D, E or F that are required in Sections 1707.6 and 1707.7.

1707.2 Structural steel. Special inspection for structural steel shall be in accordance with the quality assurance plan requirements of AISC 341.

Exceptions:

1. Special inspections of structural steel in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, R , of 3 or less, excluding cantilever column systems.
2. For ordinary moment frames, ultrasonic and magnetic particle testing of complete joint penetration groove welds are only required for demand critical welds.

1707.3 Structural wood. Continuous special inspection is required during field gluing operations of elements of the seismic-force-resisting system. Periodic special inspection is required for nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels and hold-downs.

Exception: Special inspection is not required for wood shear walls, shear panels and diaphragms, including nailing, bolting, anchoring and other fastening to other components of the seismic-force-resisting system, where the fastener spacing of the sheathing is more than 4 inches (102 mm) on center (o.c.).

1707.4 Cold-formed steel light-frame construction. Periodic special inspection is required during welding operations of elements of the seismic-force-resisting system. Periodic special inspection is required for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including shear walls, braces, diaphragms, collectors (drag struts) and hold-downs.

Exception: Special inspection is not required for cold-formed steel light-frame shear walls, braces, diaphragms, collectors (drag struts) and hold-downs where either of the following apply:

1. The sheathing is gypsum board or fiberboard.
2. The sheathing is wood structural panel or steel sheets on only one side of the shear wall, shear panel or diaphragm assembly and the fastener spacing of the sheathing is more than 4 inches (102 mm) o.c.

1707.5 Storage racks and access floors. Periodic special inspection is required during the anchorage of access floors and storage racks 8 feet (2438 mm) or greater in height in structures assigned to Seismic Design Category D, E or F.

1707.6 Architectural components. Periodic special inspection during the erection and fastening of exterior cladding, interior and exterior nonbearing walls

and interior and exterior veneer in structures assigned to Seismic Design Category D, E or F.

Exceptions:

1. Special inspection is not required for exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer 30 feet (9144 mm) or less in height above grade or walking surface.
2. Special inspection is not required for exterior cladding and interior and exterior veneer weighing 5 psf (24.5 N/m²) or less.
3. Special inspection is not required for interior nonbearing walls weighing 15 psf (73.5 N/m²) or less.

1707.7 Mechanical and electrical components. Special inspection for mechanical and electrical equipment shall be as follows:

1. Periodic special inspection is required during the anchorage of electrical equipment for emergency or standby power systems in structures assigned to Seismic Design Category C, D, E or F;
2. Periodic special inspection is required during the installation of anchorage of other electrical equipment in structures assigned to Seismic Design Category E or F;
3. Periodic special inspection is required during installation of piping systems intended to carry flammable, combustible or highly toxic contents and their associated mechanical units in structures assigned to Seismic Design Category C, D, E or F;
4. Periodic special inspection is required during the installation of HVAC ductwork that will contain hazardous materials in structures assigned to Seismic Design Category C, D, E or F; and
5. Periodic special inspection is required during the installation of vibration isolation systems in structures assigned to Seismic Design Category C, D, E or F where the construction documents require a nominal clearance of ¼ inch (6.4 mm) or less between the equipment support frame and restraint.

1707.8 Designated seismic system verifications. The special inspector shall examine designated seismic systems requiring seismic qualification in accordance with Section 1708.4 and verify that the label, anchorage or mounting conforms to the certificate of compliance.

1707.9 Seismic isolation system. Periodic special inspection is required during the fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system.

**SECTION 1708
STRUCTURAL TESTING FOR SEISMIC RESISTANCE**

1708.1 Testing and qualification for seismic resistance. The testing and qualification specified in Sections 1708.2 through 1708.5, unless exempted from special inspections by the exceptions of Section 1704.1, 1705.3 or 1705.3.1 are required as follows:

1. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F, as determined in Section 1613 shall meet the requirements of Sections 1708.2 and 1708.3, as applicable.
2. Designated seismic systems in structures assigned to Seismic Design Category C, D, E or F subject to the special certification requirements of ASCE 7 Section 13.2.2 are required to be tested in accordance with Section 1708.4.
3. Architectural, mechanical and electrical components in structures assigned to Seismic Design Category C, D, E or F with an $I_p = 1.0$ are required to be tested in accordance with Section 1708.4 where the general design requirements of ASCE 7 Section 13.2.1, Item 2 for manufacturer's certification are satisfied by testing.
4. The seismic isolation system in seismically isolated structures shall meet the testing requirements of Section 1708.5.

1708.2 Concrete reinforcement. Where reinforcement complying with ASTM A 615 is used to resist earthquake-induced flexural and axial forces in special moment frames, special structural walls and coupling beams connecting special structural walls, in structures assigned to Seismic Design Category B, C, D, E or F as determined in Section 1613, the reinforcement shall comply with Section 21.1.5.2 of ACI 318. Certified mill test reports shall be provided for each shipment of such reinforcement. Where reinforcement complying with ASTM A 615 is to be welded, chemical tests shall be performed to determine weldability in accordance with Section 3.5.2 of ACI 318.

1708.3 Structural steel. Testing for structural steel shall be in accordance with the quality assurance plan requirements of AISC 341.

Exceptions:

1. Testing for structural steel in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, R , of 3 or less, excluding cantilever column systems.
2. For ordinary moment frames, ultrasonic and magnetic particle testing of complete joint penetration groove welds are only required for demand critical welds.

1708.4 Seismic certification of nonstructural components.

The registered design professional shall state the applicable seismic certification requirements for nonstructural components and designated seismic systems on the construction documents.

1. The manufacturer of each designated seismic system components subject to the provisions of ASCE 7 Section 13.2.2 shall test or analyze the component and

- its mounting system or anchorage and submit a certificate of compliance for review and acceptance by the registered design professional responsible for the design of the designated seismic system and for approval by the building official. Certification shall be based on an actual test on a shake table, by three-dimensional shock tests, by an analytical method using dynamic characteristics and forces, by the use of experience data (i.e., historical data demonstrating acceptable seismic performance) or by more rigorous analysis providing for equivalent safety.
2. Manufacturer's certification of compliance for the general design requirements of ASCE 7 Section 13.2.1 shall be based on analysis, testing or experience data.
- 1708.5 Seismically isolated structures.** For required system tests, see Section 17.8 of ASCE 7.

SECTION 1709 CONTRACTOR RESPONSIBILITY

1709.1 Contractor responsibility. Each contractor responsible for the construction of a main wind-or seismic-force-resisting system, designated seismic system or a wind-or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

SECTION 1710 STRUCTURAL OBSERVATIONS

1710.1 General. Where required by the provisions of Section 1710.2 or 1710.3, the owner shall employ a registered design professional to perform structural observations as defined in Section 1702.

Prior to the commencement of observations, the structural observer shall submit to the building official a written statement identifying the frequency and extent of structural observations.

At the conclusion of the work included in the *approval*, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved.

1710.2 Structural observations for seismic resistance. Structural observations shall be provided for those structures assigned to Seismic Design Category D, E

or F, as determined in Section 1613, where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with Table 1604.5.
2. The height of the structure is greater than 75 feet (22 860 mm) above the base.
3. The structure is assigned to Seismic Design Category E, is classified as Occupancy Category I or II in accordance with Table 1604.5, and is greater than two stories above grade plane.
4. When so designated by the registered design professional responsible for the structural design.
5. When such observation is specifically required by the building official.

1710.3 Structural observations for wind requirements. Structural observations shall be provided for those structures sited where the basic wind speed exceeds 110 mph (49 m/sec) determined from Figure 1609, where one or more of the following conditions exist:

1. The structure is classified as Occupancy Category III or IV in accordance with Table 1604.5.
2. The building height of the structure is greater than 75 feet (22 860 mm).
3. When so designated by the registered design professional responsible for the structural design.
4. When such observation is specifically required by the building official.

SECTION 1711 DESIGN STRENGTHS OF MATERIALS

1711.1 Conformance to standards. The design strengths and permissible stresses of any structural material that are identified by a manufacturer's designation as to manufacture and grade by mill tests shall conform to the specifications and methods of design of accepted engineering practice or the approved rules in the absence of applicable standards.

1711.2 New materials. For materials that are not specifically provided for in this code, the design strengths and permissible stresses shall be established by tests as provided for in Section 1712.

SECTION 1712 ALTERNATIVE TEST PROCEDURE

1712.1 General. In the absence of approved rules or other approved standards, the building official shall accept duly authenticated reports from approved agencies in respect to the quality and manner of use of new materials or assemblies as provided for in Section 114. The *responsibility for and* cost of all

tests and other investigations required under the provisions of this code shall be borne by the applicant.

SECTION 1713 TEST SAFE LOAD

1713.1 Where required. Where proposed construction is not capable of being designed by approved engineering analysis, or where proposed construction design method does not comply with the applicable material design standard, the system of construction or the structural unit and the connections shall be subjected to the tests prescribed in Section 1715. The building official shall accept certified reports of such tests conducted by an approved testing agency, provided that such tests meet the requirements of this code and approved procedures.

SECTION 1714 IN-SITU LOAD TESTS

1714.1 General. Whenever there is a reasonable doubt as to the stability or load-bearing capacity of a completed building, structure or portion thereof for the expected loads, an engineering assessment shall be required. The engineering assessment shall involve either a structural analysis or an in-situ load test, or both. The structural analysis shall be based on actual material properties and other as-built conditions that affect stability or load-bearing capacity, and shall be conducted in accordance with the applicable design standard. If the structural assessment determines that the load-bearing capacity is less than that required by the code, load tests shall be conducted in accordance with Section 1714.2. If the building, structure or portion thereof is found to have inadequate stability or load-bearing capacity for the expected loads, modifications to ensure structural adequacy or the removal of the inadequate construction shall be required.

1714.2 Test standards. Structural components and assemblies shall be tested in accordance with the appropriate material standards listed in Chapter 35. In the absence of a standard that contains an applicable load test procedure, the test procedure shall be developed by a registered design professional and approved. The test procedure shall simulate loads and conditions of application that the completed structure or portion thereof will be subjected to in normal use.

1714.3 In-situ load tests. In-situ load tests shall be conducted in accordance with Section 1714.3.1 or 1714.3.2 and shall be supervised by a registered design professional. The test shall simulate the applicable loading conditions specified in Chapter 16 as necessary to address the concerns regarding structural stability of the building, structure or portion thereof.

1714.3.1 Load test procedure specified. Where a standard listed in Chapter 35 contains an applicable load test procedure and acceptance criteria, the test procedure and acceptance criteria in the standard shall apply. In the absence of specific load factors or acceptance criteria, the load factors and acceptance criteria in Section 1714.3.2 shall apply.

1714.3.2 Load test procedure not specified. In the absence of applicable load test procedures contained within a standard referenced by this code or acceptance criteria for a specific material or method of construction, such existing structure shall be subjected to a test procedure developed by a registered design professional that simulates applicable loading and deformation conditions. For components that are not a part of the seismic-load-resisting system, the test load shall be equal to two times the unfactored design loads. The test load shall be left in place for a period of 24 hours. The structure shall be considered to have successfully met the test requirements where the following criteria are satisfied:

1. Under the design load, the deflection shall not exceed the limitations specified in Section 1604.3.
2. Within 24 hours after removal of the test load, the structure shall have recovered not less than 75 percent of the maximum deflection.
3. During and immediately after the test, the structure shall not show evidence of failure.

SECTION 1715 PRECONSTRUCTION LOAD TESTS

1715.1 General. In evaluating the physical properties of materials and methods of construction that are not capable of being designed by approved engineering analysis or do not comply with applicable material design standards listed in Chapter 35, the structural adequacy shall be predetermined based on the load test criteria established in this section.

1715.2 Load test procedures specified. Where specific load test procedures, load factors and acceptance criteria are included in the applicable design standards listed in Chapter 35, such test procedures, load factors and acceptance criteria shall apply. In the absence of specific test procedures, load factors or acceptance criteria, the corresponding provisions in Section 1715.3 shall apply.

1715.3 Load test procedures not specified. Where load test procedures are not specified in the applicable design standards listed in Chapter 35, the load-bearing and deformation capacity of structural components and assemblies shall be determined on the basis of a test procedure developed by a registered design professional that simulates applicable loading and deformation conditions. For components and assemblies that are not a part of the seismic-force-resisting

system, the test shall be as specified in Section 1715.3.1. Load tests shall simulate the applicable loading conditions specified in Chapter 16.

1715.3.1 Test procedure. The test assembly shall be subjected to an increasing superimposed load equal to not less than two times the superimposed design load. The test load shall be left in place for a period of 24 hours. The tested assembly shall be considered to have successfully met the test requirements if the assembly recovers not less than 75 percent of the maximum deflection within 24 hours after the removal of the test load. The test assembly shall then be reloaded and subjected to an increasing superimposed load until either structural failure occurs or the superimposed load is equal to two and one-half times the load at which the deflection limitations specified in Section 1715.3.2 were reached, or the load is equal to two and one-half times the superimposed design load. In the case of structural components and assemblies for which deflection limitations are not specified in Section 1715.3.2, the test specimen shall be subjected to an increasing superimposed load until structural failure occurs or the load is equal to two and one-half times the desired superimposed design load. The allowable superimposed design load shall be taken as the lesser of:

1. The load at the deflection limitation given in Section 1715.3.2.
2. The failure load divided by 2.5.
3. The maximum load applied divided by 2.5.

1715.3.2 Deflection. The deflection of structural members under the design load shall not exceed the limitations in Section 1604.3.

1715.4 Wall and partition assemblies. Load-bearing wall and partition assemblies shall sustain the test load both with and without window framing. The test load shall include all design load components. Wall and partition assemblies shall be tested both with and without door and window framing.

1715.5 Exterior window and door assemblies. The design pressure rating of exterior windows and doors in buildings shall be determined in accordance with Section 1715.5.1 or 1715.5.2.

Exception: Structural wind load design pressures for window units smaller than the size tested in accordance with Section 1715.5.1 or 1715.5.2 shall be permitted to be higher than the design value of the tested unit provided such higher pressures are determined by accepted engineering analysis. All components of the small unit shall be the same as the tested unit. Where such calculated design pressures are used, they shall be validated by an additional test of the window unit having the highest allowable design pressure.

1715.5.1 Exterior windows and doors. Exterior windows and sliding doors shall be tested and labeled as conforming to AAMA/WDMA/CSA101/I.S.2/A440. The label shall state the name of the

manufacturer, the approved labeling agency and the product designation as specified in AAMA/WDMA/CSA101/I.S.2/A440. Exterior side-hinged doors shall be tested and labeled as conforming to AAMA/WDMA/CSA101/I.S.2/A440 or comply with Section 1715.5.2. Products tested and labeled as conforming to AAMA/WDMA/CSA 101/I.S.2/A440 shall not be subject to the requirements of Sections 2403.2 and 2403.3.

1715.5.2 Exterior windows and door assemblies not provided for in Section 1715.5.1. Exterior window and door assemblies shall be tested in accordance with ASTM E 330. Structural performance of garage doors shall be determined in accordance with either ASTM E 330 or ANSI/DASMA 108, and shall meet the acceptance criteria of ANSI/DASMA 108. Exterior window and door assemblies containing glass shall comply with Section 2403. The design pressure for testing shall be calculated in accordance with Chapter 16. Each assembly shall be tested for 10 seconds at a load equal to 1.5 times the design pressure.

1715.6 Test specimens. Test specimens and construction shall be representative of the materials, workmanship and details normally used in practice. The properties of the materials used to construct the test assembly shall be determined on the basis of tests on samples taken from the load assembly or on representative samples of the materials used to construct the load test assembly. Required tests shall be conducted or witnessed by an ~~approved agency~~ special inspector.

SECTION 1716 MATERIAL AND TEST STANDARDS

1716.1 Test standards for joist hangers and connectors.

1716.1.1 Test standards for joist hangers. The vertical load-bearing capacity, torsional moment capacity and deflection characteristics of joist hangers shall be determined in accordance with ASTM D 1761 using lumber having a specific gravity of 0.49 or greater, but not greater than 0.55, as determined in accordance with AF&PA NDS for the joist and headers.

Exception: The joist length shall not be required to exceed 24 inches (610 mm).

1716.1.2 Vertical load capacity for joist hangers. The vertical load capacity for the joist hanger shall be determined by testing a minimum of three joist hanger assemblies as specified in ASTM D 1761. If the ultimate vertical load for any one of the tests varies more than 20 percent from the average ultimate vertical load, at least three additional tests shall be conducted. The allowable vertical load of the joist hanger shall be the lowest value determined from the following:

1. The lowest ultimate vertical load for a single hanger from any test divided by three (where three tests are conducted and each ultimate vertical load does not vary more than 20 percent from the average ultimate vertical load).
2. The average ultimate vertical load for a single hanger from all tests divided by three (where six or more tests are conducted).
3. The average from all tests of the vertical loads that produce a vertical movement of the joist with respect to the header of $\frac{1}{8}$ inch (3.2 mm).
4. The sum of the allowable design loads for nails or other fasteners utilized to secure the joist hanger to the wood members and allowable bearing loads that contribute to the capacity of the hanger.
5. The allowable design load for the wood members forming the connection.

1716.1.3 Torsional moment capacity for joist hangers. The torsional moment capacity for the joist hanger shall be determined by testing at least three joist hanger assemblies as specified in ASTM D 1761. The allowable torsional moment of the joist hanger shall be the average torsional moment at which the lateral movement of the top or bottom of the joist with respect to the original position of the joist is $\frac{1}{8}$ inch (3.2 mm).

1716.1.4 Design value modifications for joist hangers. Allowable design values for joist hangers that are determined by Item 4 or 5 in Section 1716.1.2 shall be permitted to be modified by the appropriate duration of loading factors as specified in AF&PA NDS but shall not exceed the direct loads as determined by Item 1, 2 or 3 in Section 1716.1.2. Allowable design values determined by Item 1, 2 or 3 in Section 1716.1.2 shall not be modified by duration of loading factors.

1716.2 Concrete and clay roof tiles.

1716.2.1 Overturning resistance. Concrete and clay roof tiles shall be tested to determine their resistance to overturning due to wind in accordance with SBCCI SSTD 11 and Chapter 15.

1716.2.2 Wind tunnel testing. When roof tiles do not satisfy the limitations in Chapter 16 for rigid tile, a wind tunnel test shall be used to determine the wind characteristics of the concrete or clay tile roof covering in accordance with SBCCI SSTD 11 and Chapter 15.

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