



# Department of Commerce

Division of Industrial Compliance

John R. Kasich, Governor

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## FEBRUARY 2017 STAKEHOLDER MEETING RESIDENTIAL CODE OF OHIO PROPOSED CHANGES

Ohio Administrative Code Rule Number	RCO Section	Reason for Proposed Change
4101:8-1-01	101.2	Clarify applicability of electrical code to bodies of water as defined in the National Electrical Code
	101.2(1)	Expands exemption for manufactured homes regulated by the Ohio Manufactured Homes Commission to include alterations, additions and utility connections and adds exemptions for other non-occupied structures
	101.2(14)	Clarifies that when an owner may use prescriptive requirements of the RCO as alternative compliance option for commercial building, the building remains within the scope of the OBC
	102.10 Building(11)	Clarifies that an owner may install battery operated smoke and carbon monoxide alarms without obtaining approval when no other construction is taking place
	102.10 Electrical(6)	Clarify applicability of electrical code to bodies of water as defined in the National Electrical Code
	102.10 Plumbing(2)	Permits replacement of one plumbing fixture to be exempt from approval
	102.11	Incorporates enforcement options for park districts from RC 3781.10(E)(9)

	104.2.1.3	Requires the residential building official to identify special conditions that may affect timing of inspections and work the building owner to establish mutually agreed upon inspection times
	111.1.2	Adds option for issuance of certificate of completion instead of certificate of occupancy for alterations and repairs
	114.3.2.1	Permits residential building officials to accept evaluation service (ES) reports for alternative compliance
	104.2.2.1.1, 107.4	General editorial changes and clarifications
4101:8-44-01	4401.2	Updates reference to the Ohio Plumbing Code to include amendments adopted through October 2016

## **4101:8-1-01 Administration.**

*[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 4101:8-43-01 of the Administrative Code. The application of the referenced standards shall be limited and as prescribed in section 102.5 of rule 4101:8-1-01 of the Administrative Code.]*

### **SECTION 101 GENERAL**

**101.1 Title.** Chapters 4101:8-1 to 4101:8-25, 4101:8-29, 4101:8-34, and 4101:8-44 of the Administrative Code are designated as the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” for which the designation “RCO” may be substituted. The 2009 edition of the “International Residential Code”, first printing, Chapters 2 through 24, 29, and 44 as published by the “International Code Council, Inc.” is used as the basis of this document as is incorporated fully except as modified in italic herein. References in these chapters to “this code”, to the “residential code”, or to the “Residential Code of Ohio” in other sections of the Administrative Code shall mean the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings”.

**101.2 Scope.** The provisions of the “Residential Code of Ohio for One-, Two-, and Three-Family Dwellings” shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every one-, two-, or three-family dwelling, any appurtenances connected or attached to such buildings or structures, or any accessory structure incidental to that dwelling house including electrical equipment associated with bodies of water as defined in article 680 of NFPA 70 as referenced in part IX, chapter 44. This code also applies to a one-family, two-family, or three-family dwelling house that is used as a model to promote the sale of a similar dwelling house. No building or its equipment or accessories, to which the rules of the board apply shall be erected, constructed, or installed, except in conformity with the rules of the board.

*This code also applies to such other residential occupancies as referenced and to the extent indicated in section 310 of the “OBC”.*

#### **Exceptions:**

1. ~~Manufactured home units 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. This exception does not apply to alterations of, additions to, or changes of occupancy of manufactured homes.~~ 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, including additions, alterations and all utility connections from the utility service point to the manufactured home. This exception does not apply to changes of occupancy of manufactured homes, except that a manufactured home located within a manufactured home park and used by the park operator to promote the sale/rental of manufactured homes in that park remains exempt.
2. Multiple single-family dwelling structures more than three stories in height and with more than three dwelling units.
  - a. The structure of one-, two-, and three-family dwellings which are more than three stories in height shall comply with the structural requirements of the OBC or section 106.5 of this code.
3. Residential buildings attached to occupancies that are within the scope of the OBC shall comply with the requirements of the "OBC".
4. Buildings or structures containing two or three dwelling units with a shared exit shall comply with the requirements of the "OBC."
5. 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);
6. Agricultural labor camps;

7. *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 in accordance with the inspection checklist found on the board of building standard’s website.;*
8. *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.*
9. *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.*
10. *Building sewer piping.*
11. *Private water systems (including tanks, foundations, piping, and process equipment associated with these systems) regulated by the Ohio Department of Health in accordance with section 3701.344 of the Revised Code.*
12. *Wind turbines, pumps, site lighting, and flagpoles not connected to building services equipment.*
13. *The applicable provisions of the OBC shall apply when installing components, equipment, and systems for which there are no provisions in this code.*
14. *When buildings regulated by the OBC are permitted to use the construction requirements of this code, such buildings ~~are to be regulated as non-residential buildings~~ remain within the scope of the OBC.*

**101.3 Intent.** *The purpose of this code is to establish uniform minimum requirements for the erection, construction, repair, alteration, and maintenance of residential 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. Further, the rules shall consider the following:*

1.1 *The impact that the state residential building code may have upon the health, safety, and welfare of the public;*

1.2 *The economic reasonableness of the residential building code;*

1.3 *The technical feasibility of the residential building code;*

1.4 *The financial impact that the residential building code may have on the public's ability to purchase affordable housing.*

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.*

*This code does not prevent a local governing authority from adopting additional regulations governing residential structures if the regulations comply with this section.*

3.1. *A local governing authority shall, and any person may, notify the board of building standards of any regulation the local governing authority adopts related to content within the scope of this code and request that the board of building standards ~~to~~ determine whether that regulation conflicts with the state residential building code.*

- 3.1.1. *Not later than sixty days after receiving a notice to review local regulations for conflict, the board shall determine, based upon a recommendation from the advisory committee, whether the regulation conflicts with the state residential building code and shall notify any person who submitted the notice and the local governing authority that adopted the regulation of the board's determination.*
- 3.1.2 *If the board determines that a conflict does not exist, the board shall take no further action with regard to the regulation. If the board determines a conflict exists and the regulation is not necessary to protect the health or safety of the persons within the local governing authority's jurisdiction, the regulation is not valid and the local governing authority may not enforce the regulation.*
- 3.1.3 *If the board determines that a conflict exists and that the regulation is necessary to protect the health or safety of the persons within the local governing authority's jurisdiction, the board shall adopt a rule to incorporate the regulation into the state residential building code. Until the rule becomes a part of the state residential building code, the board shall grant a temporary variance to the local governing authority and any similarly situated local governing authority to which the board determines the temporary variance should apply.*

**101.4 Reasonable application.** *The rules of the board and proceedings shall be liberally construed in order to promote its purpose. When the residential 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 officials pursuant to section 114 shall be constructed and installed in accordance with such approval.*

## **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 Rules of the board.** *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 state 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.** *The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference. When a reference is made within the code 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 44.*

*Unless specified otherwise in this code, reference to the term “International Residential Code” shall be changed to “residential code”; reference to “International Fire Code” shall be changed to “fire prevention code”; and reference in design and construction provisions to “one-and two-family dwellings” shall be changed to “one-, two-, and three-family dwellings.”*



*Because the “International Code Council” has placed design and construction information throughout its model code documents, including into the fire prevention code, any referenced code requirements relating to the design, construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal, and demolition of every building or structure within the scope of this code, shall be enforced by the residential building official.*

*Where differences occur between provisions of this code and referenced standards listed in Chapter 44, the provisions of this code 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 section 113 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 residential 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.*

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

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

**102.8.1 Fire protection systems.** *Non-required fire protection systems shall be installed in accordance with Chapter 29 to the extent of the intended installation.*

**102.8.2 Elevators and lifts.** *When a non-required elevator is intended to be installed, it shall be designed and installed in accordance with the residential elevator provisions in Part 5.3 of the ANSI A17.1. Non-required platform (wheelchair) lifts shall be designed and installed in accordance with ASME A18.1.*

**102.9 Temporary structures.** *The residential 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 111.1.5. This section does not apply to time-limited occupancies in existing structures. See section 111.1.4 for time-limited occupancies.*

**102.9.1 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.*

**102.9.2 Termination of approval.** *The residential 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 use poses an immediate hazard to the public or occupants of the structure.*

**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 two hundred square feet (11.15 m<sup>2</sup>) and playground structures.*
- 2. Fences not over six feet (1829 mm) high.*
- 3. 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.*

4. *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.*
5. *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.*
6. *Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.*
7. *Swings and other playground equipment accessory to a one, two, or three-family dwelling.*
8. *Window awnings supported by an exterior wall which do not project more than fifty-four inches (1372 mm) from the exterior wall and do not require additional support.*
9. *Decks not exceeding 200 square feet (18.58 m<sup>2</sup>) in area, that are not more than 30 inches (762mm) above grade at any point, are not attached to a dwelling, and do not serve the exit door required by section 311.2.*
10. *Above-ground storage tanks as defined in rule 4101:8-2-01 of the Administrative Code and the associated tank foundations.*
11. *Battery operated smoke or carbon monoxide alarms installed in existing buildings where no construction is taking place.*

**Electrical:**

1. *Listed cord-and-plug connected temporary decorative lighting.*
2. *Reinstallation of attachment plug receptacles but not the outlets thereof.*
3. *Replacement of branch circuit overcurrent devices of the required capacity and type in the same location.*
4. *Electrical wiring, devices, appliances, apparatus, or equipment operating at less than 25 volts and not capable of supplying more than 50 watts of energy.*

5. *Repairs and Maintenance: Approval shall not be required for minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.*
6. *Electrical wiring equipment not connected to building services equipment in and adjacent to natural or artificially made bodies of water as defined in Article 682 of NFPA 70 as referenced in Chapter 35.*

**Gas:**

1. *Portable heating, cooking, or clothes drying appliances;*
2. *Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.*
3. *Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.*
4. *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. *Steam, hot or chilled water piping within any heating or cooling equipment regulated by this code.*
5. *Replacement of any ~~minor~~ part that does not alter approval of equipment or make such equipment unsafe.*
6. *Portable evaporative cooler.*

7. *Self-contained refrigeration systems containing ten pounds (4.54 kg) or less of refrigerant or that are actuated by motors of one horsepower (746 W) or less.*
8. *Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.*
9. *Heating and cooling distribution piping owned 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 of more than one fixture or rearrangement of valves, pipes or fixtures.*

**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 to residential structures made without application or notice to the residential 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 residential 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 residential buildings or parts thereof as defined in the rules of the board in accordance with the certification except as follows:*

1. **Fire.** *The 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, the boards of health of city or general health districts, or the residential 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. **Enforcement.** *This section does not exempt any officer or department from the obligation of enforcing any provision of the rules of the board.*
5. **State Projects.** *Certification does not confer any jurisdiction to a certified building department to:*
  - 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. A certified municipal, township, or county building department may exercise enforcement authority, accept and approve plans and specifications, and make inspections for a park district created pursuant to Chapter 1545. of the Revised Code upon the approval, by resolution, of the board of park commissioners of the park district requesting the department to exercise that authority and conduct those activities.*

***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 RESIDENTIAL 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 residential building departments that have been certified by the board of building standards, pursuant to rule 4101:7-3-01 of the Administrative Code, shall be responsible for performing the duties described in this section.*

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

**104.2.1 Residential building official.** *The residential 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 residential buildings or parts thereof and may perform duties outlined in this section and in sections 104.2.2.1 and 104.2.3.1 below. All residential building officials shall conduct themselves in a professional, courteous, impartial, responsive, and cooperative manner. Residential building officials shall be responsible to assure that a system is in place to track and audit all projects, to assure that all residential building department personnel perform their duties in accordance with this section, and for the overall administration of a residential building department as follows:*

**104.2.1.1 Applications and plan approvals** *The residential building official shall receive applications, examine 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.*

**104.2.1.2 Orders.** *The residential 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 residential building official, under section 108, the residential building official shall make such inspections as the building official is authorized to make or 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. The residential building official shall identify any special conditions that would affect the timing of inspections and schedule*



inspections times mutually agreed upon by the building official and the owner.

**104.2.1.4 Residential department records.** *The residential building official shall keep official records of applications received, certificate of plan approvals 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 residential construction documents shall be retained by the residential 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 the residential department's document retention regulations.*

**104.2.1.5 Department reports.** *The residential 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 in a timely manner 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~~ paragraph (F)(7) of rule 4101:7-3-01 of the Administrative Code.*

**104.2.2 Residential plans examiners.** *A residential 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 and may perform duties outlined in this section and in section 104.2.3.1 below. All residential plan examiners shall effectively communicate the results of their plan review to the owner or the owner's representative and the residential building official. A residential plans examiner shall conduct themselves in a professional, courteous, impartial, responsive, and cooperative manner.*

**104.2.2.1 Residential plans examiner.** *A residential plans examiner is responsible for the examination of all types of residential construction documents to determine compliance with the rules of the board.*

**104.2.2.1.1 Residential plans examiner trainee.** *A residential plans examiner trainee is responsible for the examination of all types of residential construction documents to determine compliance with the*

*rules of the board under the direct supervision of ~~an individual holding a residential plans examiner certification~~ the trainee supervisor as required in paragraph (F)(5)(b) of rule 4101:7-3-01 of the Administrative Code.*

**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 residential plans examiner.*

**104.2.3 Residential inspectors.** *A residential 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 residential construction documents. All residential inspectors shall inspect the work to the extent of the approval given when residential construction documents were approved by the residential building official and for which the inspection was requested. All residential 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 Residential building inspector.** *A residential building inspector is responsible to determine compliance with the approved residential construction documents in accordance with section 108.*

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

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

*A residential plumbing inspector trainee is designated to determine*

*plumbing system compliance with approved residential construction documents, in accordance with section 108, under the direct supervision of an individual holding a residential 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.** *Residential building departments may elect to employ inspectors designated as responsible for making inspections to determine that work is performed in compliance with approved construction documents certified as follows:*

**104.2.3.4.1 Residential mechanical inspector.** *A residential mechanical inspector is responsible to determine compliance with the approved residential 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 residential department does not have in its employ or under contract persons holding the residential mechanical inspector certification, then the enforcement of the mechanical provisions shall be done by the residential building inspector;*

*A residential mechanical inspector trainee is designated to determine compliance with the approved residential 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 residential mechanical inspector certification.*

**104.2.4 Liability.** *Liability of certified residential 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 Violation of duties.** *Any person affected by the improper actions of any residential building department, residential building official, residential plans examiner, residential inspector, or fire protection system designer 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 residential building or structure, or portion thereof, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, plumbing system, other residential 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 residential building official of a certified residential building department and obtain the required approval.*

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

**105.1.2 Conditional approval.** *When residential construction documents are submitted which cannot be approved under the other provisions of this rule, the residential 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 residential 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 residential 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 residential 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 residential 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 residential 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 residential building official shall issue an approval for the residential construction of foundations or any other part of a building, structure, or building service equipment before the residential 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.*

**105.2 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 residential 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 residential 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 residential construction documents.*

*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 residential construction documents 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 residential construction documents have been approved in accordance with section 107, the residential 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 residential 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 residential 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 residential 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.** *Residential construction documents 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 residential building official of a certified residential building department 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 residential building department, that determination of compliance shall be deemed sufficient to obtain approval for construction pursuant to section 105.2 and the residential building official shall issue the certificate of plan approval. Construction documents for the installation of industrialized units shall be submitted to the residential building official for approval in accordance with the provisions of section 106.1.4.*

**106.1.1 Professionally prepared construction documents.** *Construction documents which have been prepared by a 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 residential construction documents with other requirements of this code.*

**106.1.2 Residential fire protection system construction documents.** *Residential construction documents for fire protection systems authorized to be submitted by individuals certified pursuant to Chapter 4101:2-87 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 of this Code.*

**106.1.3 Information on construction documents.** *Residential construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted when approved by the residential 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 this code.*

1. **Index.** *An index of drawings located on the first sheet;*
2. **Site plan.** *A site plan showing a north orientation arrow, the size and location of new residential 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 residential 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 Residential buildings or structures located in flood hazard areas.**

*Construction documents submitted for residential 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. The elevation certification and dry flood proofing certification, when required for buildings or structures located in communities with identified flood hazard areas, shall be submitted to the residential building official.*

**2.2 Site accessibility plan.** *For structures of four or more dwellings, 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 any 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.** *Complete floor plans, including plans of full or partial basements and full or partial attics. Floor plans must show all relevant information such as door swings, stairs and ramps, windows, shafts, all portions of the means of egress, etc., and shall be sufficiently dimensioned to describe all relevant space sizes. Wall materials shall be described by cross-hatching (with explanatory key), by notation, or by other clearly understandable method. Spaces must be identified by how each space is intended to be used.*

4. **Exterior wall envelope.** *The exterior envelope shall be described in sufficient detail to determine compliance with this code and the referenced standards. Details or elevations shall be provided which describe floor to floor dimensions, 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.*
5. **Sections.** *Cross sections, wall sections, details including typical connections as required to fully describe the residential building construction showing wall, ceiling, floor and roof materials. Residential construction documents shall describe the exterior wall envelope in sufficient detail to determine compliance with this code.*
6. **Structure.** *Complete structural description of the residential building including size and location of all structural elements used in the design of the residential building and other data as required to fully describe the structural system.*
7. **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.*
8. **System descriptions.** *Description of the mechanical, plumbing and electrical systems, including: materials; location and type of fixtures and equipment; materials, and sizes of all ductwork; location and type of heating, ventilation, air conditioning and other mechanical equipment; and all lighting and power equipment.*
9. **Accessibility provisions.** *When non-required accessibility components are intended to be installed, indicate whether the project will comply*

*with Type A, Type B, Type C (Visitable), or Accessible units in ICC/ANSI A117.1 listed in Chapter 44 as pursuant to Section 320.1.*

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

**106.1.3.1 Fire protection system drawings.** *Construction documents for the fire protection system(s) shall be submitted to indicate conformance with this code and shall be approved prior to the start of system installation.*

**106.1.3.2 Manufacturer's installation instructions.** *Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.*

**106.1.4 Industrialized units.** *When construction includes the use of industrialized units 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. A copy of the construction documents approved by the board; and*
- 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.*

**106.1.4.1. 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 accessory structure 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.)*

***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 include 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.*

***106.1.4.2 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.*

*For a complete description of the Ohio industrialized unit program refer to OBC Section 113.*

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

***106.3 Amended construction documents.*** *If substantive changes to the residential building are contemplated after first document submission, or during construction, those changes must be submitted to the residential building official for review and approval prior to those changes being executed. The residential 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.*

**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.** *A 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 residential 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 residential building or addition to a residential building is constructed or erected, and before a residential building is altered or relocated, or residential building equipment is installed, or a resubmission of construction documents is required or received, residential construction documents relating to the work and equipment under consideration shall be prepared in conformity with section 106 and be submitted to the residential 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 residential 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. *Be accompanied by residential construction documents and other information as required in section 106.1.*
4. *Be signed by the owner, or the owner's authorized agent.*
5. *Give such other data and information as required by the residential building official.*
6. *Identify and clearly indicate whether the project or portion of a project intends to utilize an industrialized unit.*
7. *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 construction documents under this section is a "license" and the failure to approve such construction documents as submitted within thirty days after filing or the disapproval of such construction documents 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 residential 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.** *Residential 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 residential construction documents have been submitted to the residential building department for review and approval, the building official shall review as appropriate or shall cause the residential construction documents to be examined for compliance with the rules of the board by assigning the examination duty to an appropriately certified individual. The residential building official or plans examiner shall first determine whether the construction documents are adequate as required in section 106. If adequate, the plans examiner(s) shall examine the construction documents to determine compliance with the rules of the board.*

**107.4.1 Inadequate construction documents.** *If residential construction documents are determined to be incomplete or inadequate for examination, the residential plans examiner shall report the findings to the residential building official. The residential 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 residential building official shall proceed as required in section 107.6.*

**107.4.2 Resubmitted documents.** *If residential 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.** *Residential construction documents, if prepared by an Ohio registered design professional to conform 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.*

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

**107.5.1 Residential building official approval.** *The residential building official shall evaluate the residential plans examiner's recommendations. When the residential construction documents have been determined to conform to the applicable provisions of the rules of the board, the residential 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 residential construction documents are examined and items of noncompliance with the rules of the board are found, the residential 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 the following options shall be offered:*
  - 1.1 *The owner will revise the construction documents and resubmit to the department.*
  - 1.2 *The items of noncompliance will not be brought into compliance and will be referred to the residential 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 residential 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 residential plans examiner shall report to the building official in accordance with section 107.6.2.*

**107.6.2 Residential building official determination of noncompliance.** *The residential building official shall evaluate the results of the plans examination 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 residential building official shall also determine whether any approvals are possible, and issue the appropriate approval as described in section 105.*

**107.7 Approved residential construction document sets.** *One set of approved residential construction documents shall be kept by the residential 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 residential inspectors.*

## **SECTION 108 INSPECTION PROCESS**

**108.1 General.** *After residential 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 residential 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 residential 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 108.2.12. The residential 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 residential inspector in accordance with the approved residential construction documents.*

**108.2.1 Lot line markers required.** *Before any work is started in the construction of a residential building or an addition to a residential 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 322 shall be submitted to the residential 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 11 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 Testing of residential building service equipment.** *Inspections shall be made of all residential 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 residential building official is authorized to cause to be made or require other*

*inspections of any residential 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 – automatic sprinkler, fire alarm, or special hazards systems design.*

***108.2.11 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 the findings to the residential building official. The residential building official, after review of the findings, shall issue the certificate of occupancy in accordance with section 111.*

***108.2.12 Industrialized unit inspections.*** *If the project will include the use of industrialized units approved by the board, the residential building official shall cause inspections to be made for on-site construction to complete the installation of the industrialized unit in conformance with the applicable provisions of the rules of the board. 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 residential 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 construction documents approved by the board.*

**108.3 Inspection agencies.** *The residential 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 residential building official, or the residential 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 residential 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 residential 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 residential construction documents.** *When an individual certified to make inspections from the residential department having jurisdiction finds that completed work is in accordance with the approved residential construction documents, the certified individual 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 residential inspector's log, and communicate their findings to the residential building official. The residential 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 individual certified to make inspections from the residential department having jurisdiction finds that any work in connection with the location, erection, construction, repair, alteration, moving, or equipment of a residential building is contrary to the approved residential construction documents for the same, the residential 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 construction documents and resubmit to the residential department,*
  - 1.3 *The items of noncompliance will not be brought into compliance and will be referred to the residential 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 residential inspector's log shall be made. The notations shall include the name of the certified individual authorized to make the inspections, 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 residential construction documents, the individual certified to make inspections shall submit a report to the residential 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 individual certified to make inspections, 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 residential construction documents, the certified individual shall communicate the finding to the residential building official so that the residential 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 individual certified to make inspections, in the course of performing the assigned or requested inspections, observes an unsafe condition or a serious hazard, the certified individual shall communicate that condition to the owner or the owner's on-site representative and shall report the findings immediately to the residential building official so that the residential 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 individual certified to make inspections from the residential department having jurisdiction finds that a residential industrialized unit has been constructed contrary to the residential construction documents approved by the board, the certified individual shall report the nonconformance to the residential building official. The residential building official shall notify the board of all violations of section 108.2.13. The board or its designee and the residential building official shall determine the corrective action to be taken before the residential building is approved to be occupied.*

**108.7 Residential building official determination of noncompliance.** *The residential building official shall evaluate any report of items of noncompliance 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 residential building official shall also determine whether any approvals are possible.*

**108.8 Acceptance, performance, and operational testing.** *Acceptance, performance, and operational testing shall be conducted as required in the applicable code or referenced standard. Advanced notice of the test schedule shall be given to the building official. The residential building official may require that the tests be conducted in the presence of the building official or certified residential inspector. Testing and inspection records shall be made available to the residential 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 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 residential 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, residential 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;*

- 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 residential 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 residential 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 residential building is found to be a serious hazard, such hazard shall be eliminated or the residential building shall be vacated, and where such residential building, when vacated, remains a serious hazard, it shall be razed.*

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

**109.4.2 Restoration.** *Where the residential structure or equipment is determined to be unsafe by the residential 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 this chapter.*

## **SECTION 110 APPEALS**

**110.1 Hearing and right of appeal, local board of building appeals.** *In order to hear and decide appeals of orders, decisions, or determinations made by the residential building official relative to the application of this code, there shall be a local appeals process established within the certified jurisdiction. 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.*

## **SECTION 111 CERTIFICATE OF OCCUPANCY AND CERTIFICATE OF COMPLETION**

**111.1 Approval required to occupy.** *No residential building or structure, in whole or in part, shall be used or occupied until the residential building official has issued an approval in the form of a certificate of occupancy or certificate of completion in compliance with this section.*

**111.1.1 Certificate of occupancy.** *The certificate of occupancy shall indicate the conditions under which the residential building shall be used. The building owner shall only use the structure in compliance with the certificate of occupancy and any stated conditions. The residential structure and all approved building service equipment shall be maintained in accordance with the approval.*

*When a residential building or structure is entitled thereto (constructed according to the approved construction documents, final tests and inspections are completed, and no orders of the building official are outstanding, or as permitted in this section), the residential building official shall issue a certificate of occupancy in a timely manner.*

**~~111.1.1~~ 111.1.1.1 New residential buildings.** *A residential 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 residential building official. Occupancy of spaces within a residential building which are unaffected by the work of work shall be allowed to continue if the residential building official determines the existing spaces can be occupied safely until the completion of the work.*

**~~III.1.2~~ 111.1.1.2 Residential building alterations or additions.** *A residential 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 residential building official determines the existing spaces can be occupied safely until the completion of the alteration.*

**~~III.1.3~~ 111.1.1.3 Partial occupancy.** *Upon the request of the owner or owner's representative, a residential building official shall issue a certificate of occupancy before the completion of the entire work, provided that the residential building official determines that the space can be safely occupied prior to full completion of the residential 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.*

**~~III.1.4~~ 111.1.1.4 Time-limited occupancy.** *A residential 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 residential building official pending;*
- 2. It is established after inspection and investigation that the proposed use is not deemed to endanger public safety and welfare ~~safety~~;*
- 3. The residential building official has approved the use for an alternative purpose on a temporary basis;*

4. *The residential building official has issued a certificate of occupancy indicating any special conditions under which the building or part of the residential building can be used for the alternative purpose within the time limit specified.*

**111.1.5 111.1.1.5 *Temporary structures occupancy.*** *A residential 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 residential building official to be in compliance with section 102.9 shall be issued a "Certificate of Occupancy for Temporary Structures." The residential building official is authorized to grant extensions for demonstrated cause.*

**111.1.2 *Certificate of completion for alterations and repairs.*** *The certificate of completion for alterations and repairs shall indicate the conditions under which the building shall be used. The building owner shall only use the structure in accordance with the certificate of completion and any stated conditions. The structure and all approved building service equipment shall be maintained in accordance with the approval.*

*When the work in a building or structure is entitled thereto, the building official shall issue a certificate of completion for the work provided there are not violations of the rules of the board or orders of the building official pending or as permitted in this section. 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.*

**111.2 *Existing residential buildings.*** *Upon written request from the owner of an existing residential building or structure, the residential building official shall issue a certificate of occupancy, provided there are not violations of law or orders of the residential building official pending, and it is established after inspection and investigation that the alleged occupancy of the residential 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 residential 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 residential building or structure may be used in its several*

*parts. The certificate of occupancy or certificate of completion shall contain the following:*

- 1. The plan approval application number.*
  - 2. The name and address of the owner.*
  - 3. A description of that portion of the structure for which the certificate is issued.*
  - 4. The signature of all residential building officials having jurisdiction. When more than one residential building official has jurisdiction for a building (when the certification of the residential 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.*
- 2. The edition of the residential code under which the plan approval was issued.*
  - 3. When an automatic sprinkler system is provided, the type and description of the system shall be indicated.*
  - 4. 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 or certificate of completion.*** *The certificate of ~~occupancy~~ represents an approval that is valid only when the residential building or structure is used as approved and certifies conformance with applicable provisions of the “Residential Code of Ohio for One-, Two-, and Three-family Dwellings” 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 “RCO”, 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 residential building or system that is regulated by this code for which a plan approval and inspections are required, until approved by the residential building official.*

**111.6 Temporary connection.** *The residential building official shall approve the temporary connection of the residential 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 adopt, amend, or rescind the rules of the board on its own motion or in response to an application for changes filed pursuant to this section.*

**112.2 Changes, application to the board.** *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 Changes, application to the residential construction advisory committee.** *In addition to section 112.2, any person may apply to the residential construction advisory committee to recommend to the board that it adopt, amend, or rescind provisions of the RCO. The application for rule change shall be on forms and in format prescribed by the board and directed to the chairperson of the residential construction advisory committee. Twelve printed copies of the application shall be filed with the secretary of the board.*

**112.4 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 or to each member of the residential construction advisory committee for a recommendation to the board as appropriate.*

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

## **SECTION 113 EXISTING BUILDINGS AND STRUCTURES**

**113.1 General .** Provisions within this section shall control the alteration, repair, addition and change of occupancy if existing residential buildings.

**113.2 Maintenance.** Residential buildings, structures and the building equipment shall be maintained in a safe and sanitary condition and in accordance with the condition(s) established in current and any previous plan approvals and certificates of occupancy. Devices or safeguards which are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance.

The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection and safety systems and devices in existing structures without approval of the residential building official.

**113.3 Definitions.** The following terms shall, for the purposes of this section and as used elsewhere in the code, have the following meanings:

**CHANGE OF OCCUPANCY.** A change in the purpose or level of activity within a structure that involves a change in the application of the requirements of the code.

**HISTORIC BUILDINGS.** A residential building meeting one of the following criteria:

1. Listed or preliminarily determined to be eligible for listing in the "National Register of Historic Places"; or
2. Determined by the secretary of the U.S. department of interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district; or
3. Designated as historic under a state or local historic preservation program that is approved by the U.S. department of interior.

**113.4 Additions and alterations.** Additions or alterations to residential buildings shall conform with the requirements of the code for new construction and shall be approved by the residential building official. Additions or alterations shall not be

*made to an existing residential building or structure which will cause the existing residential building or structure to be in violation of any provisions of this code. Portions of the structure not altered and not affected by the alteration are not required to comply with the code requirements for a new structure.*

***Exception:*** *For residential buildings and structures in flood hazard areas, any additions, alterations or repairs that constitute substantial improvement of the existing structure, shall comply with the flood design requirements for new construction and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.*

***113.5 Alterations to and replacement of systems, components and materials.*** *Alterations to and replacements of an existing system (egress, fire protection, mechanical, plumbing, etc.) and materials or building components not otherwise provided for in this section, shall conform to that required for new construction to the extent of the alteration. The existing systems, materials, or components shall not be required to comply with all of the requirements of this code for new construction except to the extent that they are affected by the alteration. Alterations to and replacements of existing systems, materials, or components shall not cause them to become unsafe, hazardous, overloaded, or become less effective than when originally installed, constructed, and/or approved.*

***113.6 Replacement and repairs to systems, components and materials.*** *Replacement of residential building components, and repairs to existing systems and materials or building components not otherwise provided for in this section, shall not be required to meet the provisions for new construction, provided such work is done in accordance with the conditions of the existing approval in the same manner and arrangement as was in the existing system, is not less safe than when originally installed and is approved.*

***113.6.1 Door and window dimensions.*** *Minor reductions in the clear opening dimensions of replacement doors and windows that result from the use of different materials shall be allowed, whether or not they are permitted by this code.*

***113.6.2 Used materials and equipment.*** *The use of used materials which meet the requirements of this code for new materials is permitted. Used equipment, appliances, and devices shall not be reused unless approved by the residential building official.*



**113.7 Changes in occupancy.** *A residential building, accessory structure, or space within a residential building shall not change in its use or purpose unless it is made to comply with the requirements of this code for such use and approved by the residential building official. An approval is not required when the code requirements are the same for both uses.*

**113.7.1 Use of a residential building for other purposes.** *No change of occupancy to uses within the scope of the OBC shall be made to any existing residential building, space within, or accessory structure unless such building is made to comply with the requirements of the OBC for such occupancy and approved by the building official with OBC enforcement authority.*

**113.7.2 Type A family day care homes.** *A residential building that is intended to be used in whole or in part as a licensed type A family day-care home shall be inspected in accordance with the type A family day-care home checklist (available from the board of building standards). The residential building official shall issue a report of the findings to the Ohio department of jobs and family services.*

**113.8 Moved structures.** *Residential structures moved shall be safe and sanitary and any repair, alteration, or change in occupancy shall comply with the provisions of this code for new structures. Field work, building location, foundations and foundation connections, wind loads, seismic loads, snow loads, and flood loads, shall comply with the requirements of this code.*

*The residential building official shall be authorized to inspect, or require inspection at the expense of the owner, the various components of a relocated building to verify that they have not sustained damage. Building service equipment, mechanical, plumbing, and fire protection systems shall be tested to assure that they are in operating condition. Any repairs or alterations required as a result of such inspections shall be approved and completed prior to issuance of the certificate of occupancy.*

**113.9 Historic buildings.** *The provisions of this code relating to the construction, repair, alteration, addition, restoration and movement of residential structures, and change of occupancy shall not be mandatory for historic buildings where such residential buildings are judged by the residential building official not to constitute a distinct life safety hazard.*

**113.9.1 Flood hazard areas.** *Within flood hazard areas established, the residential building shall be brought into conformance with section 322.*

**Exception:** *Historic buildings.*

## **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.*

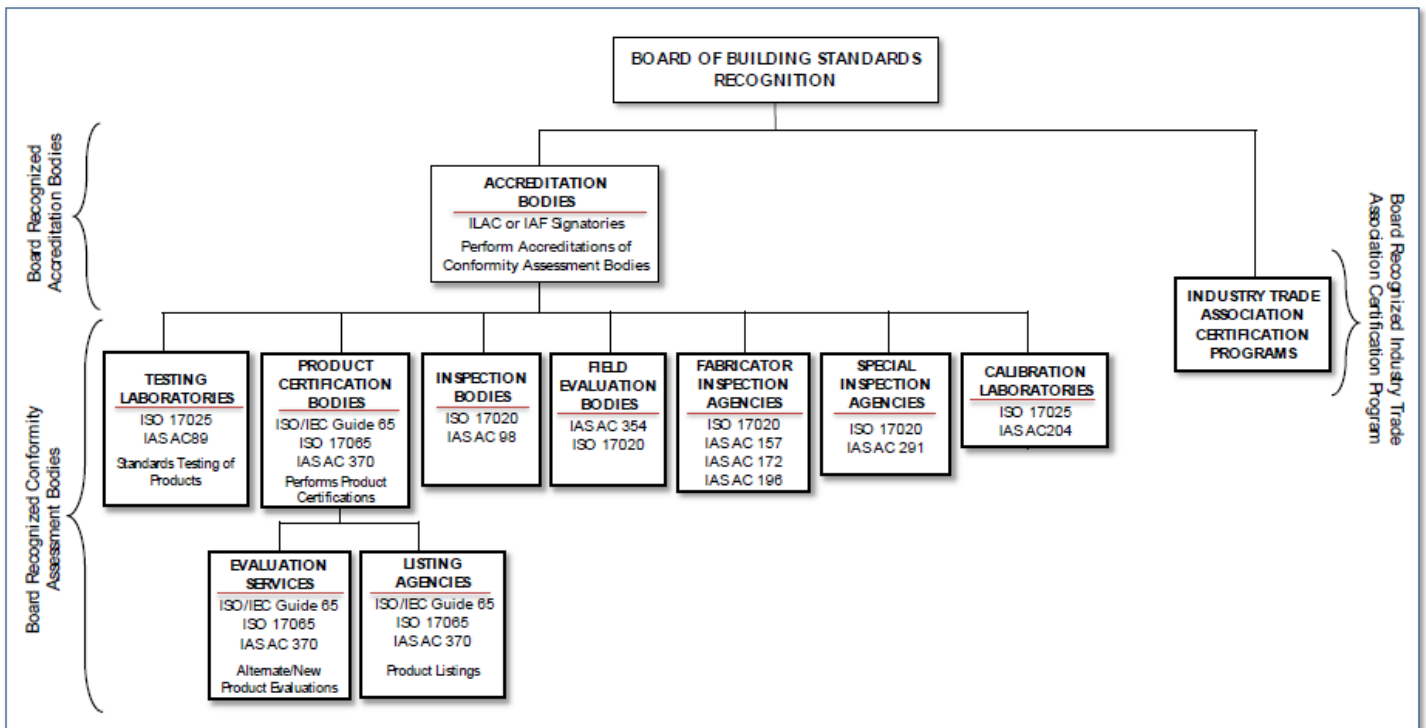
***Product.*** *A material or device designed and manufactured to perform a predetermined function. Appliances, assemblies and equipment are also considered products.*

***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



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

standard. The testing laboratory issues a report documenting the test results.

**Figure 114.2  
ORGANIZATION OF BOARD RECOGNIZED BODIES AND CERTIFICATION PROGRAMS**

**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.*

**Exception:** *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.*

**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.*

**114.3.2.1 Evaluation Service Reports.** *Building officials are authorized to accept evaluation service reports for materials, products, assemblies, and methods of construction from recognized evaluation service agencies after reviewing and verifying all of the following minimum information in the evaluation service report:*

- 1. Identification and description of the product specifically addressed in the report and a description of how the product can be identified;*
- 2. Identification of the specific code provisions to which the product was evaluated as a suitable alternative to the requirements of the code;*
- 3. The product installation requirements;*
- 4. The statement of the conditions and limitations of use of the product; and*
- 5. List the test reports used in the evaluation.*

**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 Board Organization**

### **115.1 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/>.*



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.*

**115.2 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.*

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

**115.4 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.*

**4101:8-44-01 Referenced standards.**

**SECTION 4401  
REFERENCED STANDARDS**

**4401.1 General.** *This chapter lists the standards that are referenced in various sections of this code. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title. The application of the referenced standards shall be as specified in Section 102.5.*

**4401.2 Referenced codes.** *When indicated in this code, the following codes refer to provisions in the listed chapters of the administrative code:*

<b><i>Referenced Code</i></b>	<b><i>Ohio Administrative Code Chapters</i></b>
<i>Ohio Building Code Fire Code Mechanical Code Plumbing Code</i>	<i>4101:1-1 to 4101:1-35 1301:7-1 to 1301:7-7 4101:2-1 to 4101:2-15 4101:3-1 to 4101:3-13, codified and published as the 2011 Ohio Plumbing Code, effective 11-1-2011 (including update effective <del>07-01-2014</del> 10-10-2016), and as modified in Section 2501.1.1.</i>

**4401.3 Referenced standard list.**

American Architectural Manufacturers Association  
1827 Walden Office Square, Suite 550  
Schaumburg, IL 60173

**AAMA  
Standard  
reference  
number**

**Title**

AAMA/WDMA/CSA 101/I.S.2/A440—08	North American Fenestration Standard/Specification for Windows, Doors, and Skylights
450—10	Voluntary Performance Rating Method for Muller Fenestration Assemblies
506—08	Voluntary Specifications for Hurricane Impact and Cycle Testing of Fenestration Products
711—07	Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products.

Air Conditioning Contractors of America  
2800 Shirlington Road, Suite 300  
Arlington, VA 22206

**ACCA**  
**Standard**  
**reference**  
**number**

Manual D—09	Residential Duct Systems
Manual J—04	Residential Load Calculation—Eighth Edition
Manual S—04	Residential Equipment Selection

American Concrete Institute  
38800 Country Club Drive  
Farmington Hills, MI 48331

**ACE**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
318—08	Building Code Requirements for Structural Concrete
332—08	Code Requirements for Residential Concrete Construction
530—08	Building Code Requirements for Masonry Structures
530.1—08	Specification for Masonry Structures

American Forest and Paper Association  
1111 19th Street, NW, Suite 800  
Washington, DC 20036

American Forest Products Association (Currently the American Wood Council)  
 803 Sycolin Road, Suite 201  
 Leesburg, VA 20175  
<http://www.awc.org/index.html>

**AFPA**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
NDS—05	National Design Specification (NDS) for Wood Construction—with 2005 Supplement
<i>WFCM-01</i>	Wood Frame Construction Manual for One- and Two-family Dwellings
AFPA—93	Span Tables for Joists and Rafters
PWF—07	Permanent Wood Foundation Design Specification

American Iron and Steel Institute  
 1140 Connecticut Ave, Suite 705  
 Washington, DC 20036

**AISI**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
AISI S100—07	North American Specification for the Design of Cold-formed Steel Structural Members
AISI S230—07	Standard for Cold-formed Steel Framing-prescriptive Method for One- and Two-family Dwellings

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

**AITC**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
ANSI/AITC A 190.1—07	Structural Glued Laminated Timber

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

**ANSI  
 Standard  
 reference  
 number**

**Title**

A108.1A—09	Installation of Ceramic Tile in the Wet-set Method, with Portland Cement Mortar
A108.1B—09	Installation of Ceramic Tile, Quarry Tile on a Cured Portland Cement Mortar Setting Bed with Dry-set or Latex-Portland Mortar
A108.4—09	Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-setting Epoxy Adhesive
A108.5—09	Installation of Ceramic Tile with Dry-set Portland Cement Mortar or Latex-Portland Cement Mortar
A108.6—09	Installation of Ceramic Tile with Chemical-resistant, Water-cleanable Tile-setting and -grouting Epoxy
A108.11—09	Interior Installation of Cementitious Backer Units
A118.1—10.1	American National Standard Specifications for Dry-set Portland Cement Mortar
A118.3—10.1	American National Standard Specifications for Chemical-resistant, Water-cleanable Tile-setting and Grouting Epoxy and Water-cleanable Tile-setting Epoxy Adhesive
A118.10—10.1	Specification for Load Bearing, Bonded, Waterproof Membranes for Thin-set Ceramic Tile and Dimension Stone Installation
A136.1—10.1	American National Standard Specifications for Organic Adhesives for Installation of Ceramic Tile
A137.1—08	American National Standard Specifications for Ceramic Tile
A208.1—09	Particleboard
LC1—05	Interior Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing
LC4—07	Press-connect Copper and Copper Alloy Fittings for use in Fuel Gas Distribution Systems
Z21.1—05	Household Cooking Gas Appliances

Z21.5.1—06	Gas Clothes Dryers—Volume I—Type I Clothes Dryers
Z21.8—94 (R2002)	Installation of Domestic Gas Conversion Burners
Z21.10.1—09	Gas Water Heaters—Volume I—Storage Water Heaters with Input Ratings of 75,000 Btu per hour or Less
Z21.10.3—07	Gas Water Heaters—Volume III—Storage Water Heaters with Input Ratings above 75,000 Btu per hour, Circulating and Instantaneous Water Heaters
Z21.11.2—07	Gas-fired Room Heaters—Volume II—Unvented Room Heaters
Z21.13—10	Gas-fired Low-Pressure Steam and Hot Water Boilers
Z21.15- 09	Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves
Z21.24- 06	Connectors for Gas Appliances
Z21.40.1—96 (R2002)	Gas-fired, Heat-activated Air Conditioning and Heat Pump Appliances— with Z21.40.1a-97 (R2002)
Z21.40.2—96 (R2002)	Gas-fired, Work-activated Air Conditioning and Heat Pump Appliances (Internal Combustion) — with Z21.40.2a-1997 (R2002)
Z21.42—04	Gas-fired Illuminating Appliances
Z21.47—06	Gas-fired Central Furnaces
Z21.50—07	Vented Gas Fireplaces
Z21.56—06	Gas-fired Pool Heaters
Z21.58—08	Outdoor Cooking Gas Appliances
Z21.60—03	Decorative Gas Appliances for Installation in Solid Fuel Burning Fireplaces—with Addenda Z21.60a-2003
Z21.75/CSA6.27—07	Connectors for Outdoor Gas Appliances
Z21.80—03	Line Pressure Regulators
Z21.83—98	Fuel Cell Power Plants.
Z21.84—02	Manually Listed, Natural Gas Decorative Gas Appliances for Installation in Solid Fuel-burning Fireplaces—with Addenda Z21.84a -2003
Z21.86—08	Gas-fired Vented Space Heating Appliances
Z21.88—09	Vented Gas Fireplace Heaters
Z21.91—07	Ventless Firebox Enclosures for Gas-fired Unvented Decorative Room Heaters
Z83.6—90 (R1998)	Gas-fired Infrared Heaters

Z83.8—09 Gas-fired Unit Heaters and Gas-fired Duct Furnaces  
 Z97.1—09 Safety Glazing Materials Used in Buildings—  
 Safety Performance Specifications and Methods of  
 Test

APA—The Engineered Wood Association  
 7011 South 19th  
 Tacoma, WA 98466

**APA  
 Standard  
 reference**

<b>number</b>	<b>Title</b>
APA E30—07	Engineered Wood Construction Guide

American Society of Civil Engineers Structural Engineering Institute  
 1801 Alexander Bell Drive  
 Reston, VA 20191

**ASCE/SEI  
 Standard  
 reference**

<b>number</b>	<b>Title</b>
5—08	Building Code Requirements for Masonry Structures
6—08	Specification for Masonry Structures
7—05	Minimum Design Loads for Buildings and Other Structures
24—05	Flood-resistant Design and Construction.
32—01	Design and Construction of Frost-protected Shallow Foundations

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.  
 1791 Tullie Circle, NE  
 Atlanta, GA 30329

**ASHRAE  
 Standard  
 reference**

<b>number</b>	<b>Title</b>
34—10	Designation and Safety Classification of Refrigerants
ASHRAE—09	ASHRAE Fundamentals Handbook—2009

American Society of Mechanical Engineers  
 Three Park Avenue  
 New York, NY 10016-5990

**ASME  
 Standard  
 reference  
 number**

**Title**

A17.1/CSA B44—2010

Safety Code for Elevators and Escalators

A18.1—2008

Safety Standard for Platforms and Stairway  
 Chair Lifts

B1.20.1—1983 (R2006)

Pipe Threads, General Purpose (Inch)

B16.33—2002 (R2007)

Manually Operated Metallic Gas Valves for  
 Use in Gas Piping Systems up to 125 psig  
 (Sizes ½ through 2)

B16.44—02

Manually Operated Metallic Gas Valves For  
 Use in Above-ground Piping Systems up to  
 5 psi.

B36.10M—2004

Welded and Seamless Wrought-steel Pipe

BPVC—2010

ASME Boiler and Pressure Vessel Code

CSD-1—09

Controls and Safety Devices for  
 Automatically Fired Boilers

American Society of Sanitary Engineering  
 901 Canterbury, Suite A  
 Westlake, OH 44145

ASTM International  
 100 Barr Harbor Drive  
 West Conshohocken, PA 19428

**ASTM  
 Standard  
 reference  
 number**

**Title**

A 36/A 36M—08

Specification for Carbon Structural Steel

A 53/A 53M—10a

Specification for Pipe, Steel, Black and Hot-dipped,  
 Zinc-coated Welded and Seamless



A 82/A 82M—07	Specification for Steel Wire, Plain, for Concrete Reinforcement
A 106/A 106M—10	Specification for Seamless Carbon Steel Pipe for High Temperature Service
A 153/A 153M—09	Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware
A 167—09	Specification for Stainless and Heat-resisting Chromium-nickel Steel Plate, Sheet and Strip
A 240/A 240M—10a	Standard Specification for Chromium and Chromium-nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications
A 254—9707	Specification for Copper Brazed Steel Tubing
A 307—07b	Specification for Carbon Steel Bolts and Studs, 6000 psi Tensile Strength
A 463/A 463M—09a	Standard Specification for Steel Sheet, Aluminum-coated by the Hot-dip Process.
A 510—08	Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel
A 539—99	Specification for Electric-resistance-welded Coiled Steel Tubing for Gas and Fuel Oil Lines
A 615/A 615M—09b	Specification for Deformed and Plain Billet-steel Bars for Concrete Reinforcement
A 641/A 641M—09b	Specification for Zinc-coated (Galvanized) Carbon Steel Wire
A 653/A 653M—09a	Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-iron Alloy-coated (Galvanized) by the Hot-dip Process
A 706/A 706M—09b	Specification for Low-alloy Steel Deformed and Plain Bars for Concrete Reinforcement
A 755/A 755M—03 (2008)	Specification for Steel Sheet, Metallic Coated by the Hot-dip Process and Prepainted by the Coil-coating Process for Exterior Exposed Building Products
A 778—01 (2009)e1	Specification for Welded Unannealed Austenitic Stainless Steel Tubular Products
A 792/A 792M—09a	Specification for Steel Sheet, 55% Aluminum-zinc Alloy-coated by the Hot-dip Process
A 875/A 875M—09a	Specification for Steel Sheet, Zinc-5%, Aluminum Alloy-coated by the Hot-dip Process

A 924/A 924M—10	Standard Specification for General Requirements for Steel Sheet, Metallic-coated by the Hot-Dip Process
A 951—06	Specification for Steel Wire Masonry Joint Reinforcement
A 996/A 996M—09b	Specifications for Rail-steel and Axle-steel Deformed Bars for Concrete Reinforcement
A 1003/A 1003M—10	Standard Specification for Steel Sheet, Carbon, Metallic and Nonmetallic-coated for Cold-formed Framing Members
B 42—10	Specification for Seamless Copper Pipe, Standard Sizes
B 43—09	Specification for Seamless Red Brass Pipe, Standard Sizes
B 75—02	Specification for Seamless Copper Tube
B 88—09	Specification for Seamless Copper Water Tube
B 101—07	Specification for Lead-coated Copper Sheet and Strip for Building Construction.
B 135—10	Specification for Seamless Brass Tube
B 209—07	Specification for Aluminum and Aluminum-alloy Sheet and Plate
B 227—10	Specification for Hard-drawn Copper-clad Steel Wire
B 251—10	Specification for General Requirements for Wrought Seamless Copper and Copper-alloy Tube
B 302—07	Specification for Threadless Copper Pipe, Standard Sizes
B 306—09	Specification for Copper Drainage Tube (DWV)
B 370—09	Specification for Copper Sheet and Strip for Building Construction
B 447—07	Specification for Welded Copper Tube
B 695—04 (2009)	Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel
B 813—10	Specification for Liquid and Paste Fluxes for Soldering Applications of Copper and Copper Alloy Tube
C 5—10	Specification for Quicklime for Structural Purposes
C 27—98 (2008)	Specification for Standard Classification of Fireclay and High-alumina Refractory Brick
C 28/C 28M—10	Specification for Gypsum Plasters
C 33—08	Specification for Concrete Aggregates

C 34—08	Specification for Structural Clay Load-bearing Wall Tile
C 35—01(2005)	Specification for Inorganic Aggregates for Use in Gypsum Plaster
C 36/C 36M—03	Specification for Gypsum Wallboard
C 37/C 37M—01	Specification for Gypsum Lath
C 55—09	Specification for Concrete Building Brick
C 59/C 59M—00 (2006)	Specification for Gypsum Casting and Molding Plaster
C 61/C 61M—00 (2006)	Specification for Gypsum Keene's Cement
C 62—10	Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)
C 73—05	Specification for Calcium Silicate Face Brick (Sand Lime Brick)
C 79—04a	Specification for Treated Core and Nontreated Core Gypsum Sheathing Board
C 90—09	Specification for Load-bearing Concrete Masonry Units
C 91—05	Specification for Masonry Cement
C 94/C 94M—10	Specification for Ready-mixed Concrete
C 129—06	Specification for Nonload-bearing Concrete Masonry Units
C 143/C 143M—10a	Test Method for Slump or Hydraulic Cement Concrete
C 145—85	Specification for Solid Load-bearing Concrete Masonry Units
C 150—09	Specification for Portland Cement
C 199—84 (2005)	Test Method for Pier Test for Refractory Mortar
C 203—05a	Standard Test Methods for Breaking Load and Flexural Properties of Block-type Thermal Insulation
C 207—06	Specification for Hydrated Lime for Masonry Purposes
C 208—08a	Specification for Cellulosic Fiber Insulating Board
C 216—10	Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)
C 270—10	Specification for Mortar for Unit Masonry
C 272—01 (2007)	Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
C 273—07a	Standard Test Method for Shear Properties of Sandwich Core Materials

C 315—07	Specification for Clay Flue Liners and Chimney Pots
C 406—10	Specifications for Roofing Slate
C 411—05	Test Method for Hot-surface Performance of High-temperature Thermal Insulation
C 475/C 475—02(2007)	Specification for Joint Compound and Joint Tape for Finishing Gypsum Wallboard
C 476—10	Specification for Grout for Masonry
C 514—04 (2009) <i>e1</i>	Specification for Nails for the Application of Gypsum Wallboard
C 552—07	Standard Specification for Cellular Glass Thermal Insulation
C 557—03 (2009) <i>e1</i>	Specification for Adhesives for Fastening Gypsum Wallboard to Wood Framing
C 578—10	Specification for Rigid, Cellular Polystyrene Thermal Insulation
C 587—04 (2009)	Specification for Gypsum Veneer Plaster
C 588/C 588M—03 <i>e1</i>	Specification for Gypsum Base for Veneer Plasters
C 595—10	Specification for Blended Hydraulic Cements
C 630/C 630M—03	Specification for Water-resistant Gypsum Backing Board
C 631—09	Specification for Bonding Compounds for Interior Gypsum Plastering
C 645—09 <i>a</i>	Specification for Nonstructural Steel Framing Members
C 652—10	Specification for Hollow Brick (Hollow Masonry Units Made from Clay or Shale)
C 685—10	Specification for Concrete Made by Volumetric Batching and Continuous Mixing
C 728—05 (2010)	Standard Specification for Perlite Thermal Insulation Board
C 836/C836M-10	Specification for High Solids Content, Cold Liquid-applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
C 843—99 (2006)	Specification for Application of Gypsum Veneer Plaster
C 844—10	Specification for Application of Gypsum Base to Receive Gypsum Veneer Plaster
C 847—10 <i>a</i>	Specification for Metal Lath

C 887—05 (2010)	Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar
C 897—05 (2009)	Specification for Aggregate for Job-mixed Portland Cement-based Plasters
C 920—10	Standard Specification for Elastomeric Joint Sealants
C 926—06	Specification for Application of Portland Cement-based Plaster
C 931/C 931M—04	Specification for Exterior Gypsum Soffit Board
C 933—09	Specification for Welded Wire Lath
C 954—10	Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness
C 955—09a	Specification for Load-bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases
C 957—10	Specification for High-solids Content, Cold Liquid-applied Elastomeric Waterproofing Membrane for Use with Integral Wearing Surface
C 960—04	Specification for Predecorated Gypsum Board
C 1002—07	Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases
C 1029—10	Specification for Spray-applied Rigid Cellular Polyurethane Thermal Insulation
C 1032—06	Specification for Woven Wire Plaster Base
C 1047—10a	Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base
C 1063—08	Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-based Plaster.
C 1107—08	Standard Specification for Packaged Dry, Hydraulic-cement Grout (Nonshrink)
C 1116—10	Standard Specification for Fiber-reinforced Concrete and Shotcrete
C 1167—03 (2009)	Specification for Clay Roof Tiles
C 1177/C 1177M—08	Specification for Glass Mat Gypsum Substrate for Use as Sheathing

C 1178/C 1178M—08	Specification for Glass Mat Water-resistant Gypsum Backing Panel
C 1186—08	Specification for Flat Nonasbestos Fiber Cement Sheets
C 1261—10	Specification for Firebox Brick for Residential Fireplaces
C 1278/C 1278M—07a	Specification for Fiber-reinforced Gypsum Panels
C 1283—07a	Practice for Installing Clay Flue Lining
C 1288—99(2010)	Standard Specification for Discrete Nonasbestos Fiber-cement Interior Substrate Sheets
C 1289—10	Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
C 1325—08b	Standard Specification for Nonasbestos Fiber-mat Reinforced Cement Interior Substrate Sheets.
C 1328—05	Specification for Plastic (Stucco) Cement.
C 1395/C 1395M—06a	Specification for Gypsum Ceiling Board
C 1396/C 1396M—09a	Specification for Gypsum Board.
C 1492—03(2009)	Specification for Concrete Roof Tile
C 1513—10	Standard Specification for Steel Tapping Screws for Cold-formed Steel Framing Connections
C 1658/C 1658M—06	Standard Specification for Glass Mat Gypsum Panels
D 41—05 (2010)	Specification for Asphalt Primer Used in Roofing, Dampproofing and Waterproofing
D 43—00(2006)	Specification for Coal Tar Primer Used in Roofing, Dampproofing and Waterproofing
D 225—07	Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules
D 226/D 226M—09	Specification for Asphalt-saturated (Organic Felt) Used in Roofing and Waterproofing
D 227—03	Specification for Coal Tar Saturated (Organic Felt) Used in Roofing and Waterproofing
D 312—00(2006)	Specification for Asphalt Used in Roofing.
D 422—63 (2007)	Test Method for Particle-size Analysis of Soils
D 449—03 (2008)	Specification for Asphalt Used in Dampproofing and Waterproofing.
D 450—07	Specification for Coal-tar Pitch Used in Roofing, Dampproofing and Waterproofing
D 1227—95(2007)	Specification for Emulsified Asphalt Used as a Protective Coating for Roofing

D 1248—05	Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
D 1622—08	Standard Test Method for Apparent Density of Rigid Cellular Plastics
D 1623—09	Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics
D 1693—08	Test Method for Environmental Stress-cracking of Ethylene Plastics
D 1784—08	Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
D 1863—05	Specification for Mineral Aggregate Used in Built-up Roofs
D 1970—09	Specification for Self-adhering Polymer Modified Bitumen Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
D 2126—09	Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
D 2178—04	Specification for Asphalt Glass Felt Used in Roofing and Waterproofing
D 2412—10	Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-plate Loading
D 2447—03	Specification for Polyethylene (PE) Plastic Pipe Schedules 40 and 80, Based on Outside Diameter
D 2513—09a	Specification for Thermoplastic Gas Pressure Pipe, Tubing and Fittings
D 2559—10a	Standard Specification for Adhesives for Structural Laminated Wood Products for Use Under Exterior (West Use) Exposure Conditions
D 2626—04	Specification for Asphalt-saturated and Coated Organic Felt Base Sheet Used in Roofing
D 2683—10	Specification for Socket-type Polyethylene Fittings for Outside Diameter-controlled Polyethylene Pipe and Tubing
D 2822—05	Specification for Asphalt Roof Cement
D 2823—05	Specification for Asphalt Roof Coatings
D 2824—06	Specification for Aluminum-pigmented Asphalt Roof Coatings, Nonfibered, Asbestos Fibered and Fibered without Asbestos

D 2837—08	Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
D 2846/D 2846M—09b	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-water Distribution Systems
D 2898—10	Test Methods for Accelerated Weathering of Fire-retardant-treated Wood for Fire Testing
D 3019—08	Specification for Lap Cement Used with Asphalt Roll Roofing, Nonfibered, Asbestos Fibered and Nonasbestos Fibered.
D 3035—08	Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based On Controlled Outside Diameter
D 3161—09	Test Method for Wind Resistance of Asphalt Shingles (Fan Induced Method)
D 3201—08ae1	Test Method for Hygroscopic Properties of Fire-retardant Wood and Wood-base Products
D 3309—96a (2002)	Specification for Polybutylene (PB) Plastic Hot-and Code-water Distribution System
D 3350—10	Specification for Polyethylene Plastic Pipe and Fitting Materials
D 3462/D 3462M—10a	Specification for Asphalt Shingles Made From Glass Felt and Surfaced with Mineral Granules.
D 3468—99 (2006)e01	Specification for Liquid-applied Neoprene and Chlorosulfanated Polyethylene Used in Roofing and Waterproofing
D 3679—09a	Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding
D 3737—09	Practice for Establishing Allowable Properties for Structural Glued Laminated Timber (Glulam)
D 3747—79 (2007)	Specification for Emulsified Asphalt Adhesive for Adhering Roof Insulation
D 3909—97b (2004)e01	Specification for Asphalt Roll Roofing (Glass Felt) Surfaced with Mineral Granules
D 3957—09	Standard Practices for Establishing Stress Grades for Structural Members Used in Log Buildings
D 4022—07	Specification for Coal Tar Roof Cement, Asbestos Containing
D 4318—10	Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils



D 4434/D 4434—09	Specification for Poly (Vinyl Chloride) Sheet Roofing
D 4479—07	Specification for Asphalt Roof Coatings-asbestos-free
D 4586—07	Specification for Asphalt Roof Cement-asbestos-free
D 4601—04	Specification for Asphalt-coated Glass Fiber Base Sheet Used in Roofing
D 4637/D 4637M—10	Specification for EPDM Sheet Used in Single-ply Roof Membrane
D 4829—08a	Test Method for Expansion Index of Soils
D 4869—05e01	Specification for Asphalt-saturated (Organic Felt) Underlayment Used in Steep Slope Roofing
D 4897/D 4897M—01(2009)	Specification for Asphalt Coated Glass-fiber Venting Base Sheet Used in Roofing
D 4990—97a (2005)e01	Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing
D 5019—07a	Specification for Reinforced Nonvulcanized Polymeric Sheet Used in Roofing Membrane
D 5055—10	Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-joists
D 5516—09	Test Method for Evaluating the Flexural Properties of Fire-retardant-treated Softwood Plywood Exposed to the Elevated Temperatures
D 5643—06	Specification for Coal Tar Roof Cement Asbestos-free
D 5664—10	Test Methods For Evaluating the Effects of Fire-retardant Treatments and Elevated Temperatures on Strength Properties of Fire-retardant-treated Lumber
D 5665—99a(2006)	Specification for Thermoplastic Fabrics Used in Cold-applied Roofing and Waterproofing
D 5726—98(2005)	Specification for Thermoplastic Fabrics Used in Hot-applied Roofing and Waterproofing
D 6083—05e01	Specification for Liquid-applied Acrylic Coating Used in Roofing
D 6162—08	Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements

D 6163—00 (2008)	Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements
D 6164—05 <i>e1</i>	Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements
D 6222—08	Specification for Atactic Polypropelene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcement.
D 6223/D 6223M—02(2009) <i>e01</i>	Specification for Atactic Polypropelene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcement
D 6298—05 <i>e1</i>	Specification for Fiberglass-reinforced Styrene Butadiene Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface
D 6305—08	Practice for Calculating Bending Strength Design Adjustment Factors for Fire-retardant-treated Plywood Roof Sheathing
D 6380—03(2008)	Standard Specification for Asphalt Roll Roofing (Organic Felt)
D 6694—08	Standard Specification Liquid-applied Silicone Coating Used in Spray Polurethane Foam Roofing
D 6754/D 6754M—10	Standard Specification for Ketone-ethylene-ester-based Sheet Roofing <sup>2</sup>
D 6757—07	Standard Specification for Inorganic Underlayment for Use with Steep Slope Roofing Products.
D 6841—08	Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-retardant-treated Lumber
D 6878—08 <i>e1</i>	Standard Specification for Thermoplastic-polyolefin-based Sheet Roofing.
D 6947—07	Standard Specification for Liquid Applied Moisture Cured Polyurethane Coating Used in Spray Polyurethane Foam Roofing System
D 7032—10 <i>a</i>	Standard Specification for Establishing Performance Ratings for Wood-plastic Composite Deck Boards and Guardrail Systems (Guards or Handrails).
D 7158—08 <i>d</i>	Standard Test Method for Wind Resistance of Sealed Asphalt Shingles (Uplift Force/ Uplift Resistance Method)

E 84—10 <i>b</i>	Test Method for Surface Burning Characteristics of Building Materials
E 90—04	Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
E 96/E 96M—05	Test Method for Water Vapor Transmission of Materials
E 108—10 <i>a</i>	Test Methods for Fire Tests of Roof Coverings
E 119—10 <i>b</i>	Test Methods for Fire Tests of Building Construction and Materials
E 136—09 <i>b</i>	Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C
E 283—04	Test Method for Determining the Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen
E 330—02 (2010)	Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference
E 331—00 (2009)	Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Uniform Static Air Pressure Difference
E 492—09	Specification for Laboratory Measurement of Impact Sound Transmission through Floor-ceiling Assemblies Using the Tapping Machine
E 814—10	Test Method for Fire Tests of Through-penetration Firestops
E 970—10	Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source
E 1509—04	Standard Specification for Room Heaters, Pellet Fuel-burning Type
E 1602—03(2010) <i>e1</i>	Guide for Construction of Solid Fuel Burning Masonry Heaters
E 1886—05	Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials
E 1996—09	Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact

	Protective Systems Impacted by Windborne Debris in Hurricanes
E 2178—03	Standard Test Method for Air Permeance of Building Materials
E 2231—09	Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics
E 2273—03	Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies
E 2568—09 <i>e1</i>	Standard Specification for PB Exterior Insulation and Finish Systems (EIFS)
E 2570—07	Standard Test Methods for Evaluating Water-resistant Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage
F 876—10	Specification for Cross-linked Polyethylene (PEX) Tubing
F 877—07	Specification for Cross-linked Polyethylene (PEX) Plastic Hot-and Cold-water Distribution Systems
F 1055—98(2006)	Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Fittings
F 1281—07	Specification for Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Pressure Pipe
F 1282—10	Specification for Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe
F 1554—07 <i>a</i>	Specification for Anchor Bolts, Steel, 36, 55 and 105-ksi Yield Strength
F 1667—10	Specification for Driven Fasteners, Nails, Spikes and Staples
F 1807—10 <i>e1</i>	Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
F 1960—10	Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) Tubing
F 1973—08	Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in

F 2090—10	Polyethylene (PE) and Polyamide 11 (PA 11) Fuel Gas Distribution Systems Specification for Window Fall Prevention Devices—with Emergency Escape (Egress) Release Mechanisms
F 2098—08	Standard Specification for Stainless Steel Clamps for SDR9 PEX Tubing to Metal Insert Fittings
F 2389—10	Standard for Pressure-rated Polypropylene (PP) Piping Systems
F 2623—08	Standard Specification for Polyethylene of Raised Temperature (PE-RT) SDRG Tubing

American Wood Protection Association  
P.O. Box 361784  
Birmingham, AL 35236-1784

**AWPA**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
C1—03	All Timber Products—Preservative Treatment by Pressure Processes
M4—06	Standard for the Care of Preservative-treated Wood Products
U1—10	USE CATEGORY SYSTEM: User Specification for Treated Wood Except Section 6 Commodity Specification H

Canadian General Standards Board  
Place du Portage 111, 6B1 11 Laurier Street  
Gatineau, Quebec, Canada KIA 1G6

**CGSB**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
37-GP—52M—(1984)	Roofing and Waterproofing Membrane, Sheet Applied, Elastomeric
37-GP—56M—(1985)	Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing—with December 1985 Amendment
CAN/CGSB-37.54—95	Polyvinyl Chloride Roofing and Waterproofing Membrane

Composite Panel Association  
19465 Deerfield Avenue, Suite 306  
Leesburg, VA 20176

**CPA**

**Standard  
reference**

**number**

ANSI A135.4—04

ANSI A135.5—04

ANSI A135.6—06

**Title**

Basic Hardboard

Prefinished Hardboard Paneling

Hardboard Siding

Consumer Product Safety Commission  
4330 East West Highway  
Bethesda, MD 20814-4408

**CPSC**

**Standard  
reference**

**number**

16 CFR Part 1201—(1977)

16 CFR Part 1209—(1979)

16 CFR Part 1404—(1979)

**Title**

Safety Standard for Architectural Glazing

Interim Safety Standard for Cellulose  
Insulation

Cellulose Insulation

Canadian Standards Association  
5060 Spectrum Way  
Mississauga, Ontario, Canada L4N 5N6

**CSA**

**Standard  
reference**

**number**

CSA Requirement 3—88

CSA 8-93

O325—07

**Title**

Manually Operated Gas Valves for Use in House  
Piping Systems

Requirements for Gas Fired Log Lighters for Wood  
Burning Fireplaces—with Revisions through  
January 1999

Construction Sheathing

O437-Series—93	Standards on OSB and Waferboard (Reaffirmed 2006)
101/I.S.2/A440—08	Specifications for Windows, Doors and Unit Skylights
CAN/CSA B137.10M—09	Cross-linked Polyethylene/Aluminum/Polyethylene Composite Pressure Pipe Systems

Cedar Shake & Shingle Bureau  
P. O. Box 1178  
Sumas, WA 98295-1178

**CSSB**

**Standard  
reference  
number**

**Title**

CSSB—97	Grading and Packing Rules for Western Red Cedar Shakes and Western Red Shingles of the Cedar Shake and Shingle Bureau
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Door and Access Systems Manufacturers Association International  
1300 Summer Avenue  
Cleveland, OH 44115-2851

**DASMA**

**Standard  
reference  
number**

**Title**

108—05	Standard Method for Testing Garage Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference
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United States Department of Commerce  
1401 Constitution Avenue, NW  
Washington, DC 20230

**DOC**

**Standard  
reference  
number**

**Title**

PS 1—07	Structural Plywood
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PS 2—04 Performance Standard for Wood-based Structural-use Panels  
 R803.2.1/ PS 20—05 American Softwood Lumber Standard  
 Department of Transportation  
 1200 New Jersey Avenue SE East Building, 2nd floor  
 Washington, DC 20590

**DOTn  
 Standard  
 reference  
 number**

**Title**

49 CFR, Parts 192.281(e) &  
 192.283 (b)

Transportation of Natural and Other Gas by  
 Pipeline: Minimum Federal Safety  
 Standards

Federal Emergency Management Agency  
 500 C Street, SW  
 Washington, DC 20472

**FEMA  
 Standard  
 reference  
 number**

**Title**

TB-2—08  
 FIA-TB-11—01

Flood Damage-Resistant Materials Requirements  
 Crawlspace Construction for Buildings Located in Special  
 Flood Hazard Area

Factory Mutual Global Research Standards Laboratories  
 Department 1301 Atwood Avenue, P. O. Box 7500  
 Johnson, RI 02919

**FM  
 Standard  
 reference  
 number**

**Title**

4450—(1989)  
 4880—(2010)

Approval Standard for Class 1 Insulated Steel Deck  
 Roofs—with Supplements through July 1992  
 American National Standard for Evaluating Insulated Wall  
 or Wall and Roof/Ceiling Assemblies, Plastic Interior  
 Finish Materials, Plastic Exterior Building Panels,



Wall/Ceiling Coating Systems, Interior or Exterior Finish  
Systems

Gypsum Association  
810 First Street, Northeast, Suite 510  
Washington, DC 20002-4268

**GA**

**Standard  
reference  
number**

**Title**

GA-253—07

Application of Gypsum Sheathing

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

**HPVA**

**Standard  
reference  
number**

**Title**

HP-1—2009

The American National Standard for Hardwood and  
Decorative Plywood

International Code Council, Inc.  
500 New Jersey Avenue, NW 6th Floor  
Washington, DC 20001

**ICC**

**Standard  
reference  
number**

**Title**

ICC/ANSI A117.1 - 09

Accessible and Usable Buildings and Facilities

ICC 400 - 07

Standard on the Design and Construction of Log  
Structures

ICC 500 - 08

ICC/NSSA Standard on the Design and  
Construction of Storm Shelters

ICC 600 - 08

Standard for Residential Construction in High Wind  
Regions

IEBC-09

International Existing Buildings Code

IECC - 09	International Energy Conservation Code ( <i>adoption includes only section 101 of chapter 1 and chapters 2 through 6</i> )
IFGC - 09	International Fuel Gas Code ( <i>including ICC Emergency Amendment changing section 406.7</i> )

International Organization for Standardization  
1, ch. de la Voie -Creuse Case postale 56 CH-1211  
Geneva 20, Switzerland

### ISO

**Standard  
reference  
number**

15874—03

**Title**

Polypropylene Plastic Piping Systems for Hot and Cold Water Installations

Manufacturers Standardization Society of the Valve and Fittings Industry  
127 Park Street, Northeast  
Vienna, VA 22180

### MSS

**Standard  
reference  
number**

SP-58—09

**Title**

Pipe Hangers and Supports—Materials, Design and Manufacture

North American Insulation Manufacturers Association  
44 Canal Center Plaza, Suite 310  
Alexandria, VA 22314

### NAIMA

**Standard  
reference  
number**

AH 116—02

**Title**

Fibrous Glass Duct Construction Standards, Fifth Edition

National Concrete Masonry Association  
13750 Sunrise Valley Drive  
Herndon, VA 20171-4662

**NCMA  
Standard  
reference  
number**

TR 68-A—75

**Title**

Design and Construction of Plain and Reinforced Concrete Masonry and Basement and Foundation Walls

National Fire Protection Association  
1 Batterymarch Park  
Quincy, MA 02269

**NFPA  
Standard  
reference  
number**

13—10

Installation of Sprinkler Systems (*including TIA 10-2*)

13D—10

Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes (*including TIA 10-2*)

13R-10

*Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height (including TIA 10-2)*

30-15

*Flammable and Combustible Liquids Code*

31—11

Installation of Oil-burning Equipment

37-10

*Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*

58—11

Liquefied Petroleum Gas Code

70—14

National Electrical Code

72—10

National Fire Alarm *and Signaling* Code

85—07

Boiler and Construction Systems Hazards Code

110-10

*Standard for Emergency and Standby Power Systems*

111-10

*Standard on Stored Electrical Energy Emergency and Standby Power Systems*

211—10

Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances

259—08

Test Method for Potential Heat of Building Materials

286—06

Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth

501—05

Standard on Manufactured Housing

853—10 Standard for the Installation of Stationary Fuel Cell Power Systems

National Fenestration Rating Council Inc.  
8484 Georgia Avenue, Suite 320  
Silver Spring, MD 20910

**NFRC**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
100—10	Procedure for Determining Fenestration Product U-factors
200—10	Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence
400—10	Procedure for Determining Fenestration Product Air Leakage

Portland Cement Association  
5420 Old Orchard Road  
Skokie, IL 60077

**PCA**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
100—07	Prescriptive Design of Exterior Concrete Walls for One- and Two-family Dwellings (Pub. No. EB241)

Sheet Metal & Air Conditioning Contractors National Assoc. Inc.  
4021 Lafayette Center Road  
Chantilly, VA 22021

**SMACNA**  
**Standard**  
**reference**  
**number**

	<b>Title</b>
SMACNA—03	Fibrous Glass Duct Construction Standards (2003)

The Masonry Society  
3970 Broadway, Suite 201-D

Boulder, CO 80304

**TMS**

**Standard  
reference  
number**

**Title**

302—07	Standard Method for Determining the Sound Transmission Class Rating for Masonry Walls
402—08	Building Code Requirements for Masonry Structures
602—08	Specification for Masonry Structures

Truss Plate Institute  
583 D'Onofrio Drive, Suite 200  
Madison, WI 53719

**TPI**

**Standard  
reference  
number**

**Title**

TPI 1—2007	National Design Standard for Metal-plate-connected Wood Truss Construction
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Underwriters Laboratories, Inc.  
333 Pfingsten Road  
Northbrook, IL 60062

**UL**

**Standard  
reference  
number**

**Title**

17—08	Vent or Chimney Connector Dampers for Oil-fired Appliances
58—96	Steel Underground Tanks for Flammable and Combustible Liquids—with Revisions through July 1998
80—07	Steel Tanks for Oil-burner Fuel
103—10	Factory-built Chimneys for Residential Type and Building Heating Appliances
127—08	Factory-built Fireplaces
174—04	Household Electric Storage Tank Water Heaters—with Revisions through November 2005
181—05	Factory-made Air Ducts and Air Connectors

181A—05	Closure Systems for Use with Rigid Air Ducts and Air Connectors
181B—05	Closure Systems for Use with Flexible Air Ducts and Air Connectors
217—06	Single- and Multiple-station Smoke Alarms
263—03	Standards for Fire Test of Building Construction and Materials
325—02	Standard for Door, Drapery, Gate, Louver and Window Operations and Systems—with Revisions through February 2006
343—08	Pumps for Oil-burning Appliances
441—10	Gas Vents
508—99	Industrial Control Equipment—with Revisions through July 2005
536—97	Flexible Metallic Hose—with Revisions through June 2003
641—95	Type L, Low-temperature Venting Systems—with Revisions through August 2005
651—05	Schedule 40 and Schedule 80 Rigid PVC Conduit and Fittings
723—08	Standard for Test for Surface Burning Characteristics of Building Materials
726—95	Oil-fired Boiler Assemblies—with Revisions through March 2006
727—06	Oil-fired Central Furnaces
729—03	Oil-fired Floor Furnaces
730—03	Oil-fired Wall Furnaces
732—95	Oil-fired Storage Tank Water Heaters
737—07	Fireplaces Stoves
790—04	Standard Test Methods for Fire Tests of Roof Coverings
795—06	Commercial-industrial Gas Heating Equipment.
834—04	Heating, Water Supply and Power Boilers-Electric
896—93	Oil-burning Stoves—with Revisions through May 2004
923—08	Microwave Cooking Appliances-
959—01	Medium Heat Appliance Factory-built Chimneys—with Revisions through September 2006
1040—96	Fire Test of Insulated Wall Construction—with Revisions through June 2001
1256—02	Fire Test of Roof Deck Construction.
1261—01	Electric Water Heaters for Pools and Tubs—with Revisions through June 2004

1453—04	Electronic Booster and Commercial Storage Tank Water Heaters
1479—03	Fire Tests of Through-penetration Firestops
1482—10	Solid-fuel-type Room Heaters
1715—97	Fire Test of Interior Finish Material—with Revisions through March 2004
1738—10	Venting Systems for Gas-burning Appliances, Categories II, III and IV
1777—07	Standard for Chimney Liners
1995—05	Heating and Cooling Equipment.
2017—08	Standard for General-purpose Signaling Devices and Systems—with Revisions through June 2004
2034—08	Standard for Single- and Multiple-station Carbon Monoxide Alarms.
2158A—10	Outline of Investigation for Clothes Dryer Transition Duct
2200-12	<i>Stationary Engine Generator Assemblies</i>

Underwriters' Laboratories of Canada  
7 Underwriters Road Toronto,  
Ontario, Canada M1R 3B4

#### ULC

##### Standard reference

number	Title
CAN/ULC S 102—10	Standard Methods for Test for Surface Burning Characteristics of Building Materials and Assemblies

United States - Federal Trade Commission  
600 Pennsylvania Avenue NW  
Washington, DC 20580

#### US-FTC

##### Standard reference

number	Title
CFR Title 16 Part 460	R-value Rule

Window & Door Manufacturers Association  
1400 East Touhy Avenue, Suite 470

Des Plaines, IL 60018

**WDMA  
Standard  
reference  
number**

AAMA/WDMA/CSA  
101/LS2/A440—08

**Title**

Specifications for Windows, Doors and Skylights