Effective Date is December 8, 2006
Except the new definition of the panhandle windborne debris region which is March 8, 2007

FLORIDA BUILDING CODE
2006 SUPPLEMENT

Florida Building Code, Building

CHAPTER 1, ADMINISTRATION

Section 101.4.9 Add as a new section to read as follows:

101.4.9 Manufactured buildings. For additional administrative and special code requirements, see section 428, Florida Building Code, Building, and Rule 9B-1 F.A.C.

Section 106.3 Change to read as follows:

106.3 Examination of documents. The building official shall examine or cause to be examined the accompanying construction documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of this code and other pertinent laws or ordinances.
Exceptions:
1. Building plans approved pursuant to Section 553.77(5~~6~~), Florida Statutes, and state-approved manufactured buildings are exempt from local codes enforcing agency plan reviews except for provisions of the code relating to erection, assembly or construction at the site. Erection, assembly and construction at the site are subject to local permitting and inspections.

[Remaining text unchanged.]

CHAPTER 2, DEFINITIONS

Add new definition to read as follows:

TENANT. Any person, agent, firm, corporation or division, who uses or occupies land, a building or portion of a building by title, under a lease, by payment of rent or who exercises limited control over the space.

CHAPTER 3
USE AND OCCUPANCY CLASSIFICATION

Section 304.2 Change to read as follows:

304.2 Sections 423(1) and 423(2) are applicable to community colleges ~~state university systems~~.

CHAPTER 4
SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY

Sections 403.15 Change to read as follows:

403.15 Smoke control shall be provided in accordance with Section 909.

Exception: I-2 occupancies that comply with Section 407, 419.3.12 and 420.3.16 shall not require smoke control systems in accordance with Section 909.

Sections 419.2 Change to read as follows:

419.2 Codes and standards for the design and construction of general, rehabilitative, and psychiatric hospitals, including Intensive Residential Treatment Facilities (IRTF) for children and adolescents.

419.2.1 Except as modified and required by this section of the code, Chapter 59A-3 Florida Administrative Code or by Chapter 395, Florida Statutes, all new hospitals, as listed in Section 419.2 of the code, and all additions, alterations or renovations to these existing hospitals and all ~~detached~~ outpatient facilities of ~~a~~ these hospitals, shall also be in compliance with the following codes and standards on the effective date of the code: (remaining section unchanged)

Sections 419.3 Change to read as follows:

419.3 Additional physical plant requirements for general, rehabilitation, and psychiatric hospitals, including Intensive Residential Treatment Facilities (IRTF) for children and adolescents.

419.3.1 In addition to the codes and standards referenced in Section 419.2 of the code, the following minimum standards of construction and specified minimum essential facilities, shall apply to all new hospitals, as listed in Section 419.3 of the code, all additions, alterations or renovations to ~~an~~ these existing hospitals and to outpatient facilities owned or operated by ~~a~~ these hospitals as described in Chapter 395.0163, Florida Statues, on the effective date of the code. [Remaining text unchanged.]

Section 419.3.3.1 Change to read as follows:

419.3.3.1 Toilet facilities are required for each critical care bed. When portable or built-in cabinet toilets are utilized in lieu of individual toilet rooms, provisions shall be made for user privacy, and the storage, servicing and odor control of ~~the~~ these toilet units. In addition to these provisions, ~~when~~ a permanently ~~built in toilet is~~ installed wall hung toilet fixture may be located inside of the critical care room~~, there shall be~~ when a toilet exhaust ~~fan~~ inlet is located directly above the fixture and, for patient privacy and general hygiene, ~~a~~ permanently installed washable partitions~~, at least 5 feet high (1.52 m) located between the toilet fixture and the bed.~~ or walls are located on at least three sides of the toilet fixture.

Section 419.3.9.7 Change to read as follows:

419.3.9.7 Where it is not possible to inspect fire/smoke partitions because of the fire-tested membrane, fire-rated access panels shall be installed adjacent to each side of the smoke partitions at intervals not exceeding 30 feet (9.00 m) and in such locations as necessary to view all surfaces of the partition. Fire walls, Fire Barriers, Fire Partitions, Smoke Barriers and Smoke partitions or any other wall required to have protected openings shall be effectively and permanently identified with signs or stenciling. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording for a fire/smoke partition is as follows: "FIRE AND SMOKE BARRIER – PROTECT ALL OPENINGS."

Section 419.3.11.1 Change to read as follows:

419.3.11.1 Air-handling equipment shall be located in mechanical equipment rooms unless it serves only one room and it is located in that room.

Section 419.3.12.1 Change to read as follows:

419.3.12.1 During a fire alarm, fan systems and fan equipment serving more than one room shall be stopped ~~or controlled~~ to prevent the movement of smoke by mechanical means from the zone in alarm to adjacent smoke zones.

Section 419.3.14.5 Change to read as follows:

419.3.14.5 The fire pump shall be installed in a readily accessible location ~~with direct access from the exterior.~~ When it is located on the grade level floor, there shall be direct access from the exterior.

Section 419.3.15.3 Change to read as follows:

419.3.15.3 There shall be documentation for equipotential grounding in all patient care areas, building service ground electrode systems, lightning protection ground terminals and special systems such as fire alarm, nurse call, paging, generator, emergency power, fault analysis, and breaker coordination.

Section 419.4.1.1 Change to read as follows:

419.4.1.1 "New facility" means a hospital~~, or an addition of a wing or floor to an existing hospital,~~ which has not received a Stage II Preliminary Plan approval from the Agency for Health Care Administration pursuant to this section.~~ Interior renovation, refurbishing, modifications or conversions inside of an existing structure licensed as a hospital, shall not have to meet the standards contained in this paragraph.~~

Section 419.4.2 Change to read as follows:

419.4.2 ~~New facility~~ Disaster Preparedness construction standards.
The following construction standards are in addition to the physical plant requirements described in Sections 419.2 through 419.3. These minimum standards are intended to increase the ability of the ~~new~~ facility ~~or new floor or new wing added to an existing facility~~ to be structurally capable of serving as a shelter for patients, staff and the family of patients and staff ~~(as determined by the facility)~~ and equipped to be self-supporting during and immediately following a disaster:

Section 419.4.2.1.1 Change to read as follows:

419.4.2.1.1 For planning purposes, ~~as determined by the facility~~, each new facility shall provide a minimum of 30 net square feet (2.79 m2) per patient served in the occupied patient area(s). The number of patients to be served is to be determined by the facility administrator.

Section 419.4.2.2.2 Change to read as follows:

419.4.2.2.2 The floor elevation of all new occupied patient area(s) and all patient support area(s) and patient support utilities, including mechanical, electrical (except fuel storage as noted in Section 419.~~2.1.3~~ 4.2.9.3 of this Code) and food services shall be located above the 100-year flood plain or hurricane Category 3 (Saffir-Simpson scale) hurricane surge inundation elevations, whichever requires the highest elevation~~, or~~.

Section 419.4.2.2.3 Change to read as follows:

419.4.2.2.3 New additions or floors added to existing facilities, as determined by their site locations, shall either meet sections 419.4.2.2.1 or 419.2.2.2 of this Code or be so designed and constructed as to be in compliance with the current standards of the National Flood Insurance Program of the Federal Emergency Management Agency, incorporated by reference and available from Federal Emergency Management Agency, Federal Insurance Administration, Attn. Publications, P.O. Box 70274, Washington, D.C. 20024.

Replace Sections 419.4.2.5.7 and 419.4.2.5.8 to read as follows:

§ ~~**419.4.2.5.7** When not being utilized to protect the windows, the protective system shall not restrict the operability (if provided) of the windows in the occupied patient bedrooms.~~

419.4.2.5.~~8~~ 7 When not being utilized to protect the windows, the protective systems shall not reduce the clear window opening below that required by this code for the patient room.

Section 419.4.2.9.1.3 Change to read as follows:

419.4.2.9.1.3 ~~Life safety and critical branch lighting and systems as required by the section;~~ At a minimum there shall be one clothes washer and one clothes dryer for laundry service;

Section 419.4.2.9.7 Add new text to read as follows:

419.4.2.9.7 If the facility does not have a permanent onsite optional stand-by generator to operate the normal branch electrical system, there shall be a permanently installed pre-designed electrical service entry for the normal branch electrical system that will allow a quick connection to a temporary electrical generator. This quick connection shall be installed inside of a permanent metal enclosure rated for this purpose and may be located on the exterior of the building.

Section 419.4.2.11 Change to read as follows:

419.4.2.11 External emergency communication standards.
(Reference Chapter 59A-3.081~~(b)~~ Florida Administrative Code for requirements.)

Section 420.2.2 Change to read as follows:

420.2.2 The Guidelines for Design and Construction of ~~Hospitals and~~ Health Care Facilities (the Guidelines), ~~2001 edition~~, Chapters 1-6, incorporated by reference. ~~and obtainable from the American Institute of Architects, 1735 New York Ave., N.W., Washington, D.C. 20006-5292~~.

Section 420.3.2.3. Change to read as follows:

420.3.2.3 Each resident room shall have a bedside table, a reading lamp, a well-constructed appropriate bed ~~equipped with bed rails~~, and a nonfolding type armchair for each resident. There shall be an over-bed table available for a minimum of 50 percent of the licensed beds in the facility.

Section 420.3.3.6 Change to read as follows:

420.3.3.6 Soiled utility or soiled holding room(s) shall be provided. The soiled utility function shall be comprised of a flushing rim clinical service sink with bedpan rinsing device, a double compartment sink, soiled linen receptacles, waste receptacles and a work counter with a usable minimum work surface area of 6 square feet (0.56 m^2). The total minimum size of the function shall be 80 square feet (7.43 m^2) and may be allocated among several soiled utility or soiled holding rooms. Rooms used only for the holding of soiled materials need contain only a hand washing facility. All rooms utilized for the holding of soiled materials shall meet the requirements for hazardous areas as required by NFPA 101, Life Safety Code as adopted by Florida Fire Prevention Code.

Section 420.3.10.21 Change to read as follows:

420.3.10.21 Where it is not possible to inspect fire/smoke partitions because of the fire-tested membrane, fire-rated access panels shall be installed adjacent to each side of the smoke partitions at intervals not exceeding 30 feet (9.00 m) and in such locations as necessary to view all surfaces of the partition. Fire walls, Fire Barriers, Fire Partitions, Smoke Barriers and Smoke partitions or any other wall required to have protected openings shall be effectively and permanently identified with signs or stenciling. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording for a fire/smoke partition is as follows: "FIRE AND SMOKE BARRIER – PROTECT ALL OPENINGS."

Section 420.3.16.1 Change to read as follows:

420.3.16.1 During a fire alarm, fan systems and fan equipment serving more than one room shall be stopped ~~or controlled~~ to prevent the movement of smoke by mechanical means from the zone in alarm to adjacent smoke zones.

Section 420.3.19.6 Change to read as follows:

420.3.19.6 The fire pump shall be installed in a readily accessible location. ~~with direct access from the exterior.~~ When it is located on the grade level floor, there shall be direct access from the exterior.

Section 420.3.24.1 Change to read as follows:

420.3.24.1 A nurse call system shall be provided that will register a call from each resident bed to the related staff work area(s) by activating a visual signal at the resident room door and activating a visual and audible signal in the clean utility, soiled utility, nourishment station, medication prep and the master station of the nursing unit or subnursing unit. Audible signals may be temporarily silenced, provided subsequent calls automatically reactive the audible signal. In rooms containing two or more calling stations, indicating lights shall be provided for each calling station. In multicorridor nursing units, ~~additional visible signals~~ corridor zone lights shall be installed at corridor intersections in the vicinity of staff work areas.

Section 420.3.24.3 Change to read as follows:

420.3.24.3 The nurse call master station shall not block incoming resident calls. The master station control settings ~~or handset position~~ shall not prevent the activation of the incoming audible and visual signals.

Section 420.3.24.5 Add new text to read as follows:

420.3.24.5 A corridor dome light shall be located directly outside of any resident care area that is equipped with a nurse call system.

Section 420.4.1.1 Change to read as follows:

420.4.1.1 "New facility" means a nursing home~~, or an addition of a wing or floor to an existing nursing home,~~ which has not received a Stage II Preliminary Plan approval from the Agency for Health Care Administration pursuant to this section. ~~Interior renovation, refurbishing, modifications or conversions inside of an existing structure licensed as a nursing home shall not have to meet the standards contained in this paragraph.~~

Section 420.4.2 Change to read as follows:

420.4.2 ~~New facility~~ Disaster Preparedness construction standards.
The following construction standards are in addition to the physical plant requirements described in Sections 420.2 through 420.3. These minimum standards are intended to increase the ability of the ~~new~~ facility to be structurally capable of serving as a shelter for residents, staff and the family of residents and staff and equipped to be self-supporting during and immediately following a disaster: [Remaining text unchanged.]

Section 420.4.2.1.1 Change to read as follows:

420.4.2.1.1 For planning purposes, ~~as determined by the facility~~, each new facility shall provide a minimum of 30 net square feet (2.79 m^2) per resident served in the occupied resident area(s). The number of residents to be served is to be determined by the facility administration.

Section 420.4.2.2.2 Change to read as follows:

420.4.2.2.2 The floor elevation of all new occupied resident area(s) and all resident support area(s) and resident support utilities, including mechanical, electrical (except fuel storage as noted in Section 420.4.2.9.3 of this Code) and food services shall be located above the 100-year flood plain or hurricane Category 3 (Saffir-Simpson scale) hurricane surge inundation elevations, whichever requires the highest elevation~~, or~~.

Section 420.4.2.2.3 Change to read as follows:

420.4.2.2.3 New additions or floors added to existing facilities, as determined by their site locations, shall either meet sections 420.4.2.2.1 or 420.2.2.2.2 of this Code or be so designed and constructed as to be in compliance with the current standards of the National Flood Insurance Program of the Federal Emergency Management Agency, incorporated by reference and available from Federal Emergency Management Agency, Federal Insurance Administration, Attn. Publications, P.O. Box 70274, Washington, D.C. 20024.

Section 420.4.2.5.7 and 420.4.2.5.8 Change to read as follows:

~~**420.4.2.5.7** When not being used to protect the windows, the protective system shall not restrict the operability (if provided) of the windows in the occupied resident bedrooms.~~

420.4.2.5.~~8~~ 7 When not being used to protect the windows, the protective systems shall not reduce the clear window opening below that required by this code for the resident room.

Section 420.4.2.9.1.3 Change to read as follows:

420.4.2.9.1.3 ~~Life safety and critical branch lighting and systems as required by this section;~~ At a minimum there shall be one clothes washer and one clothes dryer for laundry service;

Section 420.4.2.9.7 Add new text to read as follows:

420.4.2.9.7 If the facility does not have a permanent onsite optional stand-by generator to operate the normal branch electrical system, there shall be a permanently installed pre-designed electrical service entry for the normal branch electrical system that will allow a quick connection to a temporary electrical generator. This quick connection shall be installed inside of a permanent metal enclosure rated for this purpose and may be located on the exterior of the building.

Section 421.3.2.1 Change to read as follows:

421.3.2.1 All ambulatory surgical centers shall be equipped with a minimum of one operating room that is in compliance with the requirements of a “Class ~~B~~C” operating room as described in Chapter 9.5.F of The Guidelines.

Section 421.3.2.2 Change to read as follows:

421.3.2.2 ~~In addition to the operating room(s)~~ If provided, ~~a~~ procedure, examination, or treatment room(s) ~~shall be provided if required by the facility’s functional program. If provided, this room(s)~~ shall have a minimum clear area of 120 square feet (11.5 m2) and shall meet only the requirement for an examination/treatment room as described in The Guidelines.

Section 421.3.3.2 Change to read as follows:

421.3.3.2 At a minimum it shall be in compliance with the requirements of a recovery room for a “Class ~~B~~ C” operating room as described in Chapter 9.5.F3 of The Guidelines.

Section 421.3.5.1 Change to read as follows:

421.3.5.1 All new ambulatory surgical centers located in multistory buildings where patient treatment areas are located on other than the exit floor shall have at least one 2,500 pound (933 kg) capacity elevator that shall be in compliance with the requirements of Section 421.3.13.5 of this Code and the requirements of Chapter 30 of the Code and Chapter 69A-47, Florida Administrative Code, "Uniform Fire Safety Standards for Elevators."

Section 421.3.7.1 Change to read as follows:

421.3.7.1 During a fire alarm, fan systems and fan equipment shall be stopped ~~or controlled~~ to prevent the movement of smoke by mechanical means from the zone in alarm to adjacent smoke zones or to adjacent areas within the smoke zone if there is only one zone in the facility.

Section 421.3.9.6 Change to read as follows:

421.3.9.6 The fire pump shall be installed in a readily accessible location. ~~with direct access from the exterior.~~ When it is located on the grade level floor, there shall be direct access from the exterior.

Section 421.3.10.5 Change to read as follows:

421.3.10.5 Operating rooms shall have general lighting for the room in addition to localized specialized lighting provided by a special lighting unit~~s~~ required at the surgical table. The type of special lighting unit shall be as ~~required~~ specified by the functional program of the facility. Each special lighting unit for localized lighting at the surgical table~~s~~ shall be permanently installed and permanently connected to an independent circuit ~~and~~ that shall be powered from the critical branch. In addition, ~~A~~ a minimum of one general purpose lighting fixture shall be powered from a normal circuit in ~~an~~ all operating rooms.

Section 421.3.10.6.4 Change to read as follows:

421.3.10.6.4 There shall be no more than two duplex receptacles per circuit.

Section 421.3.11.1 Change to read as follows:

421.3.11.1 In facilities, which contain more than eight recovery beds, or where recovery beds are not in direct view from the nurse's station, a nurses' calling system shall be provided. Each recovery bed shall be provided with a call button. Two call buttons serving adjacent beds may be served by one calling station. Call shall activate a visual and audible signal at the nurses' station and in the clean workroom and soiled workroom. Call shall also activate a corridor dome light located at each patient recovery position.

Section 421.3.11.3 Add new text to read as follows:

421.3.11.3 A corridor dome light shall be located directly outside of any patient use area that is equipped with a nurse call system.

Section 421.3.13.5 Change to read as follows:

421.3.13.5 A minimum of one elevator ~~per bank~~ serving any patient treatment floor shall be in compliance with Section 421.3.5 of this Code and shall be connected to the equipment branch of the essential electric system and arranged for manual or automatic operation during loss of normal power.

Section 423.5.5.1 Change to read as follows:

423.5.5.1 "Exterior Courtyard" is a courtyard which is not roofed, has a minimum width of 40 feet (1219 mm), and

a. has an opening a minimum width of 40 feet (1219 mm), with no obstruction, on at least one end~~.~~, or

b. has fences between the buildings for security purposes and the required exiting capacity of the courtyard is provided for by means of doors or gates from the courtyard.

An exterior courtyard may be considered exterior space and used for exiting of adjacent spaces. For an exterior courtyard with an opening between 40 feet (1219 mm) and 60 feet wide (18,288 mm), the building walls and wall openings must meet the requirements of the *Florida Building Code*, *Building* Tables 601 and 602 and the maximum travel to the courtyard opening/exit shall not exceed 150 feet (45,720 mm) from any point within the courtyard. If the minimum courtyard width exceeds 60 feet (18 288mm) the travel distance to a courtyard opening/exit may exceed 150 feet (945,720 mm)

Section 423.6.1 Change to read as follows:

423.6.1 Occupancy during construction. School board and community college board facilities, or portions of facilities, shall not be occupied during construction unless exits, fire detection and early warning systems, fire protection, and safety barriers are continuously maintained and clearly marked at all times. Construction on an occupied school board site shall be separated from students and staff by secure barriers. Prior to issuance of the notice to proceed, a safety plan shall be provided by the contractor which clearly delineates areas for construction, safety barriers, exits, construction traffic during the various phases of the project and when conditions change. Where heavy machinery, as is used for earth moving or scraping, is required to work on a school board's occupied site, the work shall be separated from occupants by secure double barriers with a distance of 10 feet (3048 mm) in between. New construction, remodeling or renovations in existing facilities shall not reduce the means of egress below the requirements for new buildings; safe means of egress from a student-occupied space may be accomplished as authorized by NFPA 101, Florida Edition as adopted by the Florida Fire Prevention Code. New construction (additions) shall not block or reduce safe means of egress.

Section 423.7.6 Change to read as follows:

423.7.6 Automatic Shut Off. The fire alarm system shall shut off gas and fuel oil supplies which serve student-occupied spaces or pass through such spaces. ~~The fire alarm system shall not shut off gas supplies which serve emergency power sources. Kitchen gas supplies shall be shut off by an automatic fire extinguishing system.~~ The shut-off valve shall be located on the exterior at the service entrance to the building. The shut-off valve shall ~~have~~ be of the manual reset type.

423.7.6.1 Kitchen Gas Supplies. Kitchen gas supplies shall be shut-off by activation of the kitchen hood fire suppression system. The shut-off valve shall be installed in accordance with the manufacturer's instructions and recommendations.

423.7.6.2 Emergency Power. The fire alarm system shall not shut off gas supplies which serve emergency power sources.

Section 423.7.7 Change to read as follows:

423.7.7 Unoccupied Rooms and Concealed Spaces. Rooms or spaces for storage, custodial closets, mechanical rooms, spaces under stages with wood structures and other unoccupied or unsupervised spaces in a building shall have automatic ~~smoke or heat~~ fire alarm system detector devices installed. Any concealed space with exposed materials having a flame spread rating greater than Class A, including crawl spaces under floors, interstitial spaces between ceiling and floor or roof above and attic spaces, shall be equipped with heat detector devices. Smoke and heat detector devices shall be installed in accordance with NFPA 72. ~~In fully sprinklered buildings, heat detectors are not required. Smoke detectors, where required by the Florida Fire Prevention Code, must remain.~~

423.7.7.1 Fully Sprinklered Buildings.
In fully sprinklered buildings, fire alarm detection devices are not required except where specified in the Florida Fire Prevention Code.

Sections 423.13.8 thru 423.13.8.3 Change to read as follows:

423.13.8 Windows.
423.13.8.1 Natural light and ventilation. Natural light and ventilation requirements for new construction shall be satisfied by windows with operable glazing, providing a net free open area equivalent to 5 percent of the floor area, in all classrooms on the perimeter of buildings, where required by Chapter 1013, Florida Statutes. Auxiliary spaces, music rooms, gyms, locker and shower facilities, laboratories requiring special climate control, and large group instructional spaces having a capacity of more than 100 persons need not have operable windows for the purpose of providing natural light and ventilation. Emergency access, emergency rescue, and secondary means of egress windows may be included in the calculation to comply with this requirement.

423.13.8.2 Projecting and awning windows. Projecting and awning windows shall not be located below door head height if in, or adjacent to, a corridor or walkway.

423.13.8.3 Security/Storm Screens or Grills. If a security/storm screen or grille is installed on the outside of an emergency access, rescue or egress window assembly then that security/storm screen or grille together with the emergency rescue window assembly shall be operable from the inside by a single operation without the use of tools to allow for exit under emergency conditions. The emergency rescue window shall be identified by signage, and the release device shall be readily identifiable.

Sections 423.14.2.1 Change to read as follows:

423.14.2.1 Emergency rescue windows: Windows for emergency rescue shall comply with NFPA 101, Florida Edition as adopted by Florida Fire Prevention Code, shall be operable from the inside by a single operation, and shall be labeled "EMERGENCY RESCUE–KEEP AREA CLEAR."

Sections 423.14.8 thru 423.14.9.3 Change to read as follows:

~~**423.14.8 Provide caution signs.** Hazardous work and storage areas shall be identified by appropriate caution signs.~~

423.14.8 ~~423.14.9~~ Interior finishes.

423.14.8.1 ~~423.14.9.1~~ Floors. Floors in instructional spaces shall be covered with resilient material or carpet. Floors in gymnasium locker rooms, showers, drying areas, toilet rooms, kitchens, scullerys, food storage areas and can wash areas shall be impervious.

423.14.8.2 ~~423.14.9.2~~ Walls. Walls in toilet rooms shall be impervious to a height of at least 4 feet (1219 mm) above the floor. Walls in kitchens, scullerys, can wash areas, shower rooms shall be impervious to a height of at least 6 feet (1829 mm) above the floor. Toilet and shower partitions shall be impervious.

423.14.8.3 ~~423.14.9.3~~ Ceilings. Ceilings in group toilet rooms, kitchens, scullerys, can wash areas, showers and locker rooms shall be impervious.

Section 423.16.2 Change to read as follows:

423.16.2 Teacher Toilets. In school board facilities, faculty and staff toilets shall be separate from student toilets.

> **Exception:** Separation of faculty/staff and student toilet facilities is not required for Community Colleges.

Section 423.16.11 Change to read as follows:

423.16.11 Dousing shower and eye wash. Every science room, lab, or shop where instructors and students handle materials or chemicals potentially dangerous to human tissue shall be provided with a dousing shower and eye wash for emergency use, including a floor drain.

Section 423.17.6 Change to read as follows:

423.17.6 Sauna and Steam rooms. A "panic" switch to deactivate power to heating equipment shall be provided inside sauna and steam rooms. The panic switch shall also be tied into an alarm or other approved warning device in a supervised space in the area of the sauna and/or steam room. The operation of the switch shall be labeled to indicate the intended function.

Section 423.21.7 Change to read as follows:

423.21.7 When provided a residential-type kitchen shall include a nonslip floor, a refrigerator, a residential range, a residential-type range hood mechanically exhausted to the outside, and a fire extinguisher located within 15 feet (457 mm) of the range within the same room.

Section 423.22.3.5 Change to read as follows:

423.22.3.5 A working counter top with lavatory/sink and hot water shall be provided in each clinic.

Section 423.25.1 Change to read as follows:

423.25.1 New Facilities. New educational facilities for school boards and community college boards, unless specifically exempted by the board with the written concurrence of the applicable local emergency management agency or the Department of Community Affairs (DCA), shall have appropriate ~~core facility~~ areas designed as enhanced hurricane protection areas (EHPAs) in compliance with this section.

Section 423.25.4.3.2 Change to read as follows:

423.25.4.3.2 EHPAs ~~without windows~~ shall have mechanical ventilation systems. Ventilation shall be provided at a minimum rate of 2 cfm per square foot of EHPA floor area. The mechanical ventilation system shall be connected to the EHPA's emergency power.

Section 423.27.7 Change to read as follows:

423.27.7 Fire-retardant-treated wood (FRTW). Only FRTW which does not contain ammonium phosphates, sulfates, or halides may be used in the roof structure of Type ~~III~~ II construction, as authorized by other section of the Florida Building Code. FRTW shall comply with the specific requirements found elsewhere in these public educational facilities requirements. Contractors shall provide evidence of compliance to inspectors. Inspection access panels shall be provided to facilitate initial and annual inspections for general condition assessment of FRTW and connectors.

Section 423.27.9.1 Change to read as follows:

423.27.9.1 Rescue. Windows for emergency rescue shall comply with NFPA 101, Florida Edition as adopted by the Florida Fire Prevention Code, shall be operable from the inside by a single operation and shall be labeled "EMERGENCY RESCUE–KEEP AREA CLEAR."

Section 423.27.10.1 Change to read as follows:

423.27.10.1 Interior walls and ceilings. Interior wall and ceiling finishes in classrooms and other student use spaces shall be Class A or B as defined in NFPA 101, Florida Edition as adopted by the Florida Fire Prevention Code. Corridor finishes shall be Class A. Formaldehyde levels shall not exceed the minimum HUD standards for manufactured housing.

Section 424.1.4.2.4 Change to read as follows:

424.1.4.2.4 Overhead wiring. Overhead service wiring ~~shall not pass within an area extending a distance of 10 feet (3048 mm) horizontally away from the inside edge of the pool walls, diving structures, observation stands, towers or platforms.~~ shall comply with the currently adopted National Electrical Code NFPA 70.

Section 427.1.3.1 Change to read as follows:

427.1.3.1 Building construction requirements.
427.1.3.1.1 Construction, additions, refurbishing, renovations, and alterations to existing facilities shall comply with the following codes and standards:

1. The building codes described in the Florida Building Code;
2. The fire codes contained in Chapter 69A-44, "Minimum Fire Safety Standards for Residential Alcohol and Drug Abuse Treatment and Prevention Programs, Mental Health Residential Treatment Facilities and Crisis Stabilization Units," Florida Administrative Code, as described in the NFPA 101 Chapters 18 and 19, Special Definitions, as adopted by the Florida Fire Prevention Code, as applicable to limited health care facilities, which is included by reference in Chapter 59A-3, Florida Administrative Code.

Section 427.1.4.1 Change to read as follows:

427.1.4.1.1 New facility construction. New facility construction and additions, refurbishing, renovations and alterations to existing facilities shall comply with the following codes and standards:

1. The building codes described in the Florida Building Code.
2. The fire codes contained in Chapter 69A-44, "Minimum Fire Safety Standards for Residential Alcohol and Drug Abuse Treatment and Prevention Programs, Mental Health Residential Treatment Facilities and Crisis Stabilization Units," Florida Administrative Code, as described in the NFPA 101, Chapters 12 and 13"Special Definitions," as adopted by the Florida Fire Prevention Code, as applicable to limited health care facilities, which is included by reference in Chapter 59A-3, Florida Administrative Code.
3. The accessibility requirements of Chapter 11 of the Florida Building Code, Building.

Section 427.1.4.2.13 Change to read as follows:

427.1.4.2.13 All CSUs and SRTs equipped with electronic locks on internal doors or egress doors shall ensure that such locks have manual common key mechanical override that will operate in the event of a power failure or fire. Egress pathways and doors shall be locked as provided for in the Life Safety Code, NFPA 101 Chapter 12, as incorporated by reference in Chapter 59A-3, Florida Administrative Code as adopted by the Florida Fire Prevention Code.

Section 427.1.4.13.2 Change to read as follows:

427.1.4.13.2 Kitchens shall comply with Chapter 64E-11, Florida Administrative Code, Food Preparation and Sanitation Requirements, as well as the 1985 NFPA 101, Chapters 12 and 13, Fire Safety Requirements as incorporated by reference in Chapter 59A3, Florida Administrative Code as adopted by the Florida Fire Prevention Code. Kitchens shall be designed with flow-through type operation where food arriving is immediately placed into dry storage or freezer units without walking through food preparation areas. The flow-through type system would provide for the preparation of food, serving and dishes returned with garbage and waste going out to an adjacent dumpster and can wash with water collection curbing and drain. A concrete pad shall be provided for the trash dumpster and garbage truck entrance.

Section 427.2.2.1 Change to read as follows:

427.2.2.1 Fire safety.

427.2.2.1.1 Residential treatment facilities shall comply with all applicable federal, state and local fire safety standards as follows:

1. Level IA licensed facilities shall comply with the fire codes contained in Chapter 69A-3, Fire Prevention-General Provisions, Florida Administrative Code, as described in the NFPA 101 Chapters 18 and 19, Special Definitions as adopted by the Florida Fire Prevention Code, as applicable to limited health care facilities. [Remaining text unchanged.]

Section 437 Add the following text to read as follows:

SECTION 437
HOSPICE INPATIENT FACILITIES AND UNITS AND HOSPICE RESIDENCES

437.1 Scope. All hospice inpatient facilities and units and residences shall comply with the following design and construction standards. Enforcement and interpretation of these provisions shall be by the state agency authorized by section 553.73, Florida Statutes.

Note: Other administrative and programmatic provisions may apply. See Department of Elder Affairs (DOEA) Rule 58A-2, *Florida Administrative Code*, Agency for Health Care Administration (AHCA) Rule 59C-1, *Florida Administrative Code*, and Chapter 400 Part VI, *Florida Statutes*.

437.2 Physical Plant Requirements (Inpatient Facility and Unit).

437.2.1 As used in this rule, "inpatient facility and unit" means the location where inpatient services are provided to hospice patients that are in need of hospice inpatient care.

437.2.2 Codes and Standards.

437.2.2.1 All new inpatient units and facilities, and additions or renovations to existing units and facilities shall be in compliance with the requirements for:

1. Institutional Occupancy – Group I-2, as described in Section 308.3 of this code; and

2. The National Fire Protection Association Life Safety Code 101, Chapter 18, New Health Care Occupancy, as described in Rule 69A-3.012, F.A.C., Standards of the National Fire Protection Association and incorporated by reference in Rule 69A-3.012, F.A.C.

437.2.2.2 All new inpatient sleeping rooms shall be made accessible and shall comply with the requirements of the Florida Building Code, Chapter 11-6.1(1).

437.2.2.3 In renovations and additions to existing facilities, only that portion of the total facility affected by the project must comply with applicable sections of the codes for new facilities and units.

437.2.2.4 Existing portions of the facility that are not included in the renovation or addition but are essential to the functioning of the complete facility, as well as existing areas which receive less than substantial amounts of new work, shall comply with the applicable sections of the codes for existing inpatient facilities and units.

437.2.2.5 All existing inpatient facilities and units licensed by the Agency for Health Care Administration shall be in compliance with National Fire Protection Association Life Safety Code 101, Chapter 19, Existing Health Care Occupancy, and incorporated by reference in Rule 69A-3.012, F.A.C.

437.2.3 Construction Requirements. The following shall be provided in each inpatient facility and unit:

437.2.3.1 Each patient sleeping room shall have a minimum room area exclusive of toilet room, or permanently attached or built in closets, lockers or wardrobes, of one hundred (100) square feet (9.29 square meters) per bed for private rooms and eighty (80) square feet (7.70 square meters) per bed for double occupancy rooms.

437.2.3.2 Each patient sleeping room shall have a window or door with a clear glass light in compliance with Section 1205.2 of the Florida Building Code. The window or door shall open directly to an atrium or to the outside of the building with a minimum of twenty (20) feet (6.10 meters) in clear and unobstructed vista measured perpendicularly from the window or door.

437.2.3.3 Each patient sleeping room shall have a wardrobe, locker or closet suitable for hanging clothing of the patient.

437.2.3.4 Other than a patient sleeping room located in a hospital or nursing home, each patient sleeping room shall have access to a toilet room without having to enter the general corridor area. One toilet room shall serve no more than four beds and no more than two resident rooms. The door shall be side hinged, swing out from the toilet room, and unless otherwise required by this code, be at least 32 inches (81.28 centimeters) wide. The toilet room shall contain a water closet with grab bars on both sides and an emergency nurse call station. The water closet shall be equipped with a bedpan-rinsing device.

437.2.3.5 A hand washing facility shall be provided within each patient toilet room or within each patient bedroom.

437.2.3.6 A nurses' station, clean workroom and soiled workroom shall be provided. Access to these rooms shall be from a corridor or ante room.

437.2.3.7 A charting space for clinical staff shall be provided at each nurses' station.

437.2.3.8 A hand washing facility shall be located in or near each nurses' station.

437.2.3.9 The clean workroom shall be provided with a work counter, hand wash facility, storage facilities and covered waste receptacle.

437.2.3.10 The soiled workroom shall be provided with a service sink equipped with rinsing device, work counter, a hand washing facility, storage facilities, covered waste receptacle, and covered linen receptacle.

437.2.3.11 A drug distribution system shall be provided with provisions for the locked storage of medications. Nothing in this section shall prohibit the use of the clean workroom for drug distribution.

437.2.3.12 A clean linen storage room or closet shall be provided.

437.2.3.13 A nourishment station with equipment for preparing or serving nourishments between scheduled meals shall be provided and shall be available for patient, family, volunteers, guests and staff use. Provisions shall be made for the use and storage of small appliances such as coffee makers or toasters. A minimum of two duplex receptacles connected to a small appliance circuit shall be provided.

437.2.3.14 A nurse calling system accessible by the patient shall be provided.

437.2.3.15 Storage for administrative supplies shall be provided.

437.2.3.16 Parking for stretchers and wheelchairs in an area out of the path of normal traffic and of adequate size for the unit shall be provided.

437.2.3.17 A janitor's closet with a floor drain and storage space for housekeeping equipment and supplies shall be provided.

437.2.3.18 A multi-purpose lounge suitable and furnished for reception, recreation, dining, visitation, group social activities, and worship shall be provided.

437.2.3.19 A conference or consultation room for patient and family use shall be provided.

437.2.3.20 A washer and dryer for patients' personal use shall be provided.

437.2.6 Details.

437.2.6.1 Fixtures such as drinking fountains, public telephone, vending machines, and portable equipment shall not be located or stored so as to restrict corridor traffic or reduce the minimum required corridor width.

437.2.6.2 Doors to patient tub rooms, showers, and water closets that swing into the room shall be equipped with reversible hardware that will allow the door to swing out in an emergency.

437.2.6.3 Doors, except those to closets or spaces not subject to occupancy, shall not swing into the exit access corridors.

437.2.6.4 Windows and outer doors, if used for ventilation, shall be equipped with insect screens.

437.2.6.5 Interior thresholds and expansion joint covers shall be made flush with the floor surface.

437.2.6.6 Grab bars shall be provided at all patient toilets, showers, and tubs. The bars shall have a clearance of 1-1/2 inches (38.1 millimeters) to the walls and shall be sufficiently anchored to sustain a concentrated applied load of not less than 250 pounds (113.4 kilograms).

437.2.6.7 Single paper towel dispensers, soap dispensers and covered waste receptacles shall be provided at all hand washing facilities.

437.2.6.8 Staff hand washing facilities shall be fitted with wrist blades and a gooseneck type spout.

437.2.6.9 All hand washing facilities shall be securely anchored to withstand an applied vertical load of not less than two hundred and fifty pounds on the front of the fixture.

437.2.7 Elevators. In new multistory units and facilities an elevator shall be provided in compliance with the requirements of Chapter 30 of the Florida Building Code, Building. In addition, a hospital-type elevator large enough to accommodate a bed and attending staff shall service all patient sleeping rooms and patient treatment areas located above the ground floor. The car shall be at least 5 feet 8 inches (1.73 meters) wide by 9 feet (2.74 meters) deep and the car doors shall have a clear opening of not less than 4 feet (1.22 meters) wide and 7 feet (2.13 meters) high.

437.2.8 Mechanical System Requirements.

437.2.8.1 Air conditioning, heating and ventilating systems.

1. All patient occupied areas shall be heated or cooled by individual or central units. Heating units shall be designed to provide a minimum of 72 degrees Fahrenheit (22.22 Celsius) ambient indoor temperature and air conditioning units shall be designed to provide a minimum of 78 degrees Fahrenheit (25.55 Celsius) ambient indoor temperature.

2. All air-supply and air-exhaust systems shall be mechanically operated. Fans serving exhaust systems shall be located at the discharge end of the system.

437.2.8.2 Plumbing and other piping systems. Water distribution systems shall be arranged to provide hot water at each hot water outlet at all times. Hot water at shower, bathing, and hand washing facilities for patients' personal use shall not exceed 110 degrees Fahrenheit (43.3 degrees Celsius).

437.2.9 Electrical System Requirements.

437.2.9.1 Lighting.

1. All spaces occupied by people, machinery, and equipment within the building, approaches to building, and parking areas shall have electric lighting.

2. All patients' rooms shall have general lighting and night lighting. General room luminaries shall be switched at the entrance to the patient room.

437.2.9.2 Receptacles. All patient rooms shall have hospital grade duplex grounding type receptacles.

437.2.10 Emergency Electrical System.

437.2.10.1 A Type 1 essential electrical system shall be provided in all hospice facilities as described in National Fire Protection Association Life Safety Code 99, "Health Care Facilities", and incorporated by reference in Rule 69A-3.012, F.A.C. The emergency power for this system shall meet the requirements of a Level 1, type 10, Class 48 generator as described in National Fire Protection Association Life Safety Code 110, "Emergency Standby Power Systems", and incorporated by reference in Rule 69A-3.012, F.A.C.

437.2.10.2 In new construction, the normal main service equipment shall be separated from the emergency distribution equipment by locating it in a separate room. Transfer switches shall be considered emergency distribution equipment for this purpose.

437.2.10.3 Switches for critical branch lighting shall be completely separate from normal switching. The devices or cover plates shall be of a distinctive color. Critical branch switches are permitted to be adjacent to normal switches. Switches for life safety lighting are not permitted except as required for dusk-to-dawn automatic control of exterior lighting fixtures.

437.2.10.4 There shall be selected life safety lighting provided at a minimum of 1 footcandle and designed for automatic dusk-to-dawn operation along the travel paths from the exits to the public way or to safe areas located a minimum of 30 feet (9.14 meters) from the building.

437.2.10.5 A minimum of one elevator per bank serving any patient use floor shall be connected to the equipment branch of the essential electric system and arranged for manual or automatic operation during loss of normal power. Elevator cab lighting, controls, and communication and signal systems shall be connected to the life safety branch.

437.2.10.6 There shall be a dedicated low fuel alarm for the day tank supplying the emergency generator driver. A manual pump shall also be provided for the day tank. The alarm shall be located at the generator derangement panel.

437.2.10.7 Transfer switch contacts shall be of the open type and shall be accessible for inspection and replacement.

437.2.10.8 If required by the facility's emergency food plan, there shall be power connected to the equipment branch of the essential electrical system for kitchen refrigerators, freezers and range hood exhaust fans. Selected lighting within the kitchen and dry storage areas shall be connected to the critical branch of the essential electrical system.

437.3 Residential Units.

437.3.1 Residential units shall comply with the Florida Building Code and the National Fire Protection Association Life Safety Code 101 as adopted by the Florida Fire Prevention Code.

437.3.2 Residential units shall comply with the following codes and standards:

437.3.2.1 All new facilities and additions and renovations to existing facilities shall be in compliance with:

1. Section 310.1 of this code for Group R-4 occupancy;

2. The National Fire Protection Association Life Safety Code 101, Chapter 32, Residential Board and Care Occupancy and incorporated by reference in Rule 69A-3.012, F.A.C., and

3. Chapter 11, Section 11-6.1(1) of the Florida Building Code, Building.

437.3.2.2 All existing facilities shall comply with National Fire Protection Association Life Safety Code 101, Chapter 33, Residential Board and Care Occupancy and incorporated by reference in Rule 69A-3.012, F.A.C.

CHAPTER 7
FIRE-RESISTANCE-RATED CONSTRUCTION

Section 704.2.3 Change to read as follows:

704.2.3 Combustible projections. Combustible projections located where openings are not permitted or where protection of openings is required shall be of at least 1-hour fire-resistance-rated construction, fire retardant treated wood, Type IV construction or as required by Section 1406.3.

Section 708.1 Change to read as follows:

708.1 General The following wall assemblies shall comply with this section.
1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1, hotel occupancies, R-2 and 1-1.
3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.
4. Corridor walls as required by section 1016.1.
5. Wall separating individual tenant spaces.

Exceptions:
1. In Group B and S occupancies walls used to separate tenants shall not be required to have fire-resistance rating, provided no area between fire partitions having a 1-hour fire-resistance rating exceeds 3,000 square feet (279 m 2).
2. In aircraft hangar occupancies walls used to separate tenants shall not be required to have a fire resistance rating, provided the aircraft hanger is constructed in accordance with the requirements of section 412.2.

Section 708.4.1 Add a new section to read as follows:

708.4.1 Roof Construction. When the fire partition is continuous to the underside of the roof sheathing in occupancies of Groups R-1, R-2 and R-3 as applicable in Section 101.2, in Type III, IV and V construction the following shall be provided:
708.4.1.1 Roof Sheathing. The roof sheathing or deck shall be of approved noncombustible materials or of fire-retardant-treated wood, for a distance of 4 feet (1220 mm); or
708.4.1.2 Roof Protection. The roof shall be protected with 0.625-inch (15.88 mm) Type X gypsum board directly beneath the underside of the roof sheathing or deck, supported by a minimum of nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a minimum distance of 4 feet (1220 mm).

Section 711.3 Change to read as follows:

711.3 Fire-resistance rating. The fire-resistance rating of floor and roof assemblies shall not be less than that required by the building type of construction. Where the floor assembly separates mixed occupancies, the assembly shall have a fire-resistance rating of not less than that required by Section 302.3.2 based on the occupancies being separated. Where the floor assembly separates a single occupancy into different fire areas, the assembly shall have a fire-resistance rating of not less than that required by Section 706.3.7. Floor assemblies separating dwelling units in the same building or sleeping units in occupancies in Group R-1, hotel occupancies, R-2 and I-1; and floor assemblies separating individual tenant spaces in the same building in all other occupancies shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1. Dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB, and VB construction shall have fire-resistance ratings of not less than ½ hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

2. Individual tenant space separations in buildings of Type IIB, IIIB and VB construction in covered mall buildings are not required to have a fire-resistance rating.

[Remaining text unchanged.]

Section 712.5 Add new text to read as follows:

712.5 Fire walls, Fire Barriers, Fire Partitions, Smoke Barriers and Smoke partitions or any other wall required to have protected openings shall be effectively and permanently identified with signs or stenciling in a manner acceptable to the Authority having Jurisdiction. Such identification shall be above any decorative ceiling and in concealed spaces. Suggested wording for fire and smoke barriers: "FIRE AND SMOKE BARRIER – PROTECT ALL OPENINGS."

CHAPTER 9
FIRE PROTECTION SYSTEMS

Section 903.6.2 Change to read as follows:

903.6.2 NFPA 101 as adopted by Florida Fire Prevention Code, as regarding the requirements for fire protection sprinklers, is applicable to all multiple-family residential buildings, whether designated as townhouses, condominiums, apartment houses, tenements, garden apartments or by any other name. The attorney general has determined that for the purpose of the fire protection sprinkler requirements in Section 553.895(2), Florida Statutes, townhouses that are three or more stories tall and consist of three or more units together are multiple-family dwellings. Therefore, these types of townhouses are not exempt from being considered for the requirements to provide fire protection sprinklers (even if there are any other definitions that define a townhouse as a single-family residence). When determining whether townhouses require fire protection sprinkler systems, the building official must consider in parallel: (a) the attorney general's opinion defining the statutory language for townhouses; (b) the building code requirements, including all life-safety chapters, that provide additional determining criteria, such as construction types, fire-resistance, fire protection systems and egress; and (c) the NFPA 101 as adopted by Florida Fire Prevention Code, egress and protection determining criteria. The more restrictive criteria are then applied.

Section 909.16 Change to read as follows:

909.16 Fire-fighter's smoke control panel. A fire-fighter's smoke control panel for fire department emergency response purposes only shall be provided and shall include manual control or override of automatic control for mechanical smoke control systems. The panel shall be located in a fire command center complying with Section 911 in high-rise buildings or buildings with smoke protected assembly seating. In other buildings, the fire-fighter's smoke control panel shall be installed in an approved location adjacent to the fire alarm control panel. The fire-fighter's smoke control panel~~, and~~ shall comply with Sections 909.16.1 through 909.16.3.
[Remaining text unchanged.]

CHAPTER 10, MEANS OF EGRESS

Section 1008.1.3.6 Change to read as follows:

1008.1.3.6 The temporary installation or closure of storm shutters, panels and other approved hurricane protection devices shall be permitted on emergency escape and rescue openings in Group R occupancies during the threat of a storm. Such devices shall not be required to comply with the operational constraints of Section 1025.4. While such protection is provided, at least one means of escape from the dwelling or dwelling unit shall be provided. The means of escape shall be within the first floor of the dwelling or dwelling unit and shall not be located within a garage without a side hinged door leading directly to the exterior. Occupants in any part of the dwelling or dwelling unit shall be able to access the means of escape without passing through a lockable door not under their control.

Section 1024.6.2 Change to read as follows:

1024.6.2 Smoke-protected seating. The clear width of the means of egress for smoke-protected assembly seating shall be not less than the occupant load served by the egress element multiplied by the appropriate factor in Table 1024.6.2. The total number of seats specified shall be those within a single assembly space and exposed to the same smoke-protected environment. Interpolation is permitted between the specific values shown. A life safety evaluation, complying with NFPA 101 as adopted by Florida Fire Prevention Code, shall be done for a facility utilizing the reduced width requirements of Table 1024.6.2 for smoke-protected assembly seating.

Exception: For an outdoor smoke-protected assembly with an occupant load not greater than 18,000, the clear width shall be determined using the factors in Section 1024.6.3.

[Remaining text unchanged.]

CHAPTER 11
ACCESSIBILITY

Part "A" Correct text to read as follows:

Responsible Agencies:

10) ADA Questions and Complaints
United States Department of Justice
Voice: 1-800-514-03~~10~~ 01
TTY/TDD: 1-800-514-0383
www.usdoj.gov/disabilities.htm

Part "C" Replace the Rule 9B-7 with the current Rule 9B-7 amended 1/20/02:

CHAPTER 9B-7 FLORIDA BUILDING COMMISSION – HANDICAPPED ACCESSIBILITY STANDARDS

9B-7.001 Purpose. (Repealed)
9B-7.002 Definitions. (Repealed)
9B-7.003 Procedures.
9B-7.004 Prerequisites for Consideration of Waiver Requests. (Repealed)
9B-7.0041 Guidelines for Accessible Automated Teller Machines and Fare Vending Machines. (Repealed)
9B-7.0042 Florida Accessibility Code for Building Construction.
9B-7.005 Criteria for Granting of Waiver. (Repealed)
9B-7.006 Filing of Requests. (Repealed)

9B-7.003 Procedures.

(1) All applications for a waiver or modification of the requirements of the Act or the Code shall be filed on the Request for Waiver, Forms No. 2001-01 and 2001-02, which the Commission hereby incorporates by reference, effective January 20, 2002. Copies of Forms No. 2001-01 and 2001-02 are available by writing to the Codes and Standards Section, Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, Florida 32399-2100. Upon certification from an applicant that all information requested by these rules has been furnished, the request will be scheduled for consideration at the Commission's next scheduled meeting provided that at least 14 days notice can be given to the members of the Advisory Council.

(2) All Requests shall be prepared in accordance with the instructions on Form 1997-03, but the Commission may waive a requirement in the instructions if the Commission finds the requirement unnecessary to the consideration of the Request. A Request shall be for one Project only, and no Request shall be considered by the Commission unless it shall have first been reviewed by the Council.

(3) The Commission and the Council may delegate to staff the authority to review an application and place it on a consent agenda only in the following circumstances:
(a) A majority of the Council has recommended approval of a waiver application accompanied by a particular set of design documents;
(b) The Commission has ordered a waiver based on the same set of design documents; and
(c) The Project for which application for a waiver is made is:
1. Owned by the same owner, franchised by the same franchiser, or licensed by the same licensor as the project previously approved by the Commission; and
2. To be built according to the same set of design documents previously approved by the Commission; and
3. The design documents described in 2. above have been certified by the architect of record using Form No. 1997-04, which the Commission hereby incorporates by reference, effective October 1, 1997. Copies of Form No. 1997-04 are available by writing to the Codes and Standards Section, Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, Florida 32399-2100; and
(d) The delegation has been entered in the minutes of the meetings of the Commission and of the Council. The Commission may, upon the request of any Commission member, remove an application from the consent agenda. If an application is removed from the consent agenda, it shall be placed on the agenda for hearing in sequence that day.
(4) At its meetings, the Council shall consider all Requests, and shall prepare a recommendation for the Commission on each Request. The recommendation may be for approval, approval for a specified time, approval with a specified condition, or disapproval. If the Council finds that the Request does not give it sufficient information to make a recommendation, it may also recommend that the Commission defer action on the Request until such information is furnished. In the absence of a quorum, individual members of the Council may present recommendations to the Commission.
(5) At the meeting of the Commission, the Chairman of the Council or his designee shall present the recommendations of the Council on each Request. At its discretion, the Commission may hear any argument in support of or opposition to any Request and it may at its discretion vote upon more than one Request together. In acting upon a Request, at its discretion the Commission may wholly or partly agree or disagree with the recommendation of the Council, and may approve any Request, may approve it for a specified time, may approve it with a specified condition, may disapprove it, or may defer it for additional information.
(6) The Commission may waive one or more requirements of the Act or the Code if it finds that compliance with the literal requirements will cause an unnecessary, unreasonable, or extreme hardship. A waiver or denial of a waiver shall be applicable only to the project in the Request, and no waiver shall stand as precedent for any other project or projects. In order for the Commission to find an unnecessary, unreasonable, or extreme hardship, the owner of the project must show the following:
(a) That the hardship is caused by a condition or set of conditions affecting the owner which does not affect owners in general.
(b) That substantial financial costs will be incurred by the owner if the waiver is denied.
(c) That the owner has made a diligent investigation into the costs of compliance with the Code, but cannot find an efficient mode of compliance.
(7) The Commission shall reflect its action in a Final Order. The original of each Final Order shall be filed with the Clerk of the Department, who shall also act as Clerk of the Commission. Copies of each Final Order shall be sent by United States mail to the owner, to all professionals engaged in designing or building the project, and to the Building Official of the permitting jurisdiction. In addition, pertinent information concerning each Final Order shall be entered in a

Master Topical Index of Final Orders, which shall be maintained by the Clerk of the Commission.
Specific Authority 553.512(1) FS. Law Implemented 553.512(1) FS. History–New 1-31-79, Formerly 9B-7.03, Amended 10-1-96, 9-14-97, 9-7-00, 1-20-02.

9B-7.0042 Florida Accessibility Code for Building Construction.
The 1997 Florida Accessibility Code for Building Construction (the Code) is adopted by reference as the rule of this Commission, effective October 1, 1997. The 2001 revision to the Code are herein incorporated into this rule by reference and shall take effect on the effective date of this rule. Copies of the Code and the 2001 revision are available by writing to the Codes and Standards Section, Department of Community Affairs, 2555 Shumard Oak Boulevard, Tallahassee, Florida 32399-2100.
Specific Authority 553.503 FS. Law Implemented 553.503 FS. History–New 9-14-97, Amended 10-31-99, 1-20-02.

Part "A" Correct typo error and delete all chapter "11"reference to figures, within the body of the Code:

11-4.22.4 Water closets. If toilet stalls are provided, then at least one shall be a standard toilet stall complying with Section 11-4.17; where six or more stalls are provided, in addition to the stall complying with Section 11-4.17.3, at least one stall 36 inches (915 mm) wide with an outward swinging, self-closing door and parallel grab bars complying with Figure ~~11-~~30(d)~~(b)~~ and Section 11-4.26 shall be provided. Water closets in such stalls shall comply with Section 11-4.16. If water closets are not in stalls, then at least one shall comply with Section 11-4.16.

Change all figures names in text to remove 11- in Chapter 11

CHAPTER 12
INTERIOR ENVIRONMENT

Section 1202.1 Change text to read as shown:

1202.1 General. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

SUNROOM ~~ADDITION~~. ~~A one-story addition added to an existing building with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof.~~ 1. A room with roof panels that include sloped glazing that is a one-story structure added to an existing dwelling with an open or glazed area in excess of 40 percent of the gross area of the sunroom structure's exterior walls and roof. 2. A one-story structure added to a dwelling with structural roof panels without sloped glazing. The sunroom walls may have any configuration, provided the open area of the longer wall and one additional wall is equal to at least 65 percent of the area below 6 foot 8 inches of each wall, measured from the floor. For the purposes of this code the term sunroom as used herein shall include conservatories, sunspaces, solariums, and porch or patio covers or enclosures.
[Remaining text unchanged.]

CHAPTER 13
ENERGY EFFICIENCY

Section 13-202, Definitions. Change definitions to read as shown:

MANUFACTURED BUILDING. Means a closed structure, building assembly, or system of subassemblies, which may include structural, electrical, plumbing, heating, ventilating, or other service systems manufactured ~~in manufacturing facilities~~ for installation or erection, with or without other specified components, as a finished building or as part of a finished building, which shall include, but not be limited to, residential, commercial, institutional, storage, and industrial structures. ~~This part does not apply to mobile (manufactured) homes. Manufactured building may also mean, at the option of the manufacturer, any building of open construction made or assembled in manufactured facilities away from the building site, for installation, or assembly and installation, on the building site.~~

SPACE CONSTRAINED PRODUCT – means a central air conditioner or heat pump:
1) that has rated cooling capabilities no greater than 30,000 BTU/h;
2) that has an outdoor or indoor unit having at least two overall exterior dimensions or an overall displacement that
   (a) is substantially smaller than those of other units that are either currently usually installed in site-built single family homes, and of a similar cooling and, if heat pump, heating capacity; and
   (b) if increased, would certainly result in a considerable increase in the usual cost of installation or would certainly result in a significant loss in the utility of the product to the consumer, and
3) is of a product type that was available for purchase in the United States as of December 1, 2000.

THERMAL EFFICIENCY – For the purposes of this code, Thermal Efficiency shall be defined as included in the American National Standard Institute, Inc. standard ANSI Z 21.10.3-2001.

THROUGH-THE-WALL AIR CONDITIONER and HEAT PUMP – means a central air conditioner or heat pump that is designed to be installed totally or partially within a fixed-size opening in an exterior wall, and:
1) is manufactured prior to January 23, 2010;
2) is not weatherized;
3) is clearly and permanently marked for installation-0nly through an exterior wall;
4) has a rated cooling capacity no greater than 30,000 BTU/h;
5) exchanges all of its outdoor air across a single surface of the equipment cabinet, and

has a combined outdoor air exchange area of less than 800 square inches (split systems) or less than 1,210 square inches (single packaged systems) as measured on the surface described in 5) above.

Section 13-301.0 Change to read as shown:

ANSI

Standard reference	**Referenced in code**

number	**Title**	**section number**
ANSI Z21.10.3-2001	**Gas Water Heater, Volume 3, Storage with input ratings above 75,000 Btu/h, Circulating and Instantaneous Water Heaters**	**Table 412.1.ABC.3, 612.1.ABC.3.2E, 608.2.A.3.5**

ARI

Standard reference number	**Title**	**Referenced in code section number**
ARI 390-2001	Single Package Vertical Air-Conditioners and Heat Pumps	407.1.ABC.3.2D, 607.1.ABC.3.2D
ARI Std. 1160-2004	Performance Rating of Heat Pump Pool Heaters	Table 13-412.1.ABC.3 13-612.1.ABC.2.3.4

13-400.3 Change to read as follows:

13-400.3.ABC.3 forms. Forms referenced in Table 400.3.ABC.3 shall be used to demonstrate code compliance with this chapter. Climate zones are listed by county and city in Appendix 13-A of this chapter.

TABLE 13-400.3.ABC.3
INDEX TO COMMERCIAL CODE COMPLIANCE FORMS

METHOD		**FORM NO.**
Method A	Whole Building Performance	Form 400A-04R (FLA/COM Computer printout)
Method B	Building Envelope Trade-off	Form 400B-04R (FLA/COM Computer printout)
Method C	Buildings Prescriptive Envelope	Form 400C-04 (separate forms for N, C & S FL)

13-400.3.A Method A forms. An accurately completed Form 400A-04R (generated by the FLA/COM-2004 computer program, Version 2.5) demonstrating that code compliance has been achieved shall be submitted to the building official for Method A compliance. Calculations shall be performed for the climate zone in which the building will be located and according to the procedures specified for Method A in this subchapter.

13-400.3.B Method B forms. An accurately completed Form 400B-04R (generated by the FLA/COM-2004 computer program, Version 2.5) demonstrating that code compliance has been achieved shall be submitted to the building official for Method B compliance. Calculations shall be performed for the climate zone in which the building will be located and according to the procedures specified for Method B in this subchapter.

Sections 13-407.1.ABC.3.1.1 Change to read as shown:

13-407.1.ABC.3.1.1 Equipment Efficiency Verification. Equipment covered under the Federal Energy Policy Act of 1992 (EPACT) shall comply with U.S. Department of Energy certification requirements. For other equipment, if ~~If~~ a certification program exists for a product covered in Tables 13-407.1.ABC.3.2A through 13-407.1.ABC.3.2D, and it includes provisions for verification and challenge of equipment efficiency ratings, then the product shall be either listed in the certification program or, alternatively, the ratings shall be verified by an independent laboratory test report. If no certification program exists for a product covered in Tables 13-407.1.ABC.3.2A through 13-407.1.ABC.3.2D, the equipment efficiency ratings shall be supported by data furnished by the manufacturer. Products covered in Table 13-407.1.ABC.3.2G shall have efficiency ratings supported by data furnished by the manufacturer. Where components such as indoor or outdoor coils from different manufacturers are used ~~equipment is not rated~~, a Florida-registered engineer shall specify component efficiencies whose combined efficiency meets the minimum equipment efficiency requirements in 13-407.1.ABC.3.2.

Section 13-407.1.ABC.3.2.1 Change to read as shown:

13-407.1.ABC.3.2.1 Mandatory provisions. Equipment shown in Tables 13-407.1.ABC.3.2A through 13-407.1.ABC.3.2D shall have a minimum performance at the specified rating conditions….cooling category. [no change to first paragraph]

Tables 13-407.1.ABC.3.2A through 13-407.1.ABC.3.2D contain the minimum efficiency requirements for equipment covered by this section of the standard. The tables are organized to cover the following types of equipment:

Table 13-407.1.ABC.3.2A, Air Conditioners and Condensing Units.
Table 13-407.1.ABC.3.2B, Heat Pumps
Table 13-407.1.ABC.3.2C, Water Chilling Packages
Table 13-407.1.ABC.3.2D, Packaged Terminal and Room Air Conditioners and Heat Pumps

Exception: Water-cooled centrifugal water-chilling packages that are not designed for operation at ARI 550/590 test conditions (and thus cannot be tested to meet the requirements of Table 13-407.1.ABC.3.2C) of 44°F (7°C) leaving chilled water temperature and 85°F (29°C) entering condenser water temperature shall have a minimum full-load COP as shown in Tables 13-407.1.ABC.3.2H, I and J and a minimum (NPLV) rating as shown in Tables 13-407.1.ABC.3.2K, L and M. The table values are only applicable over the following full-load design ranges:

Leaving chiller water temperature: 40°F to 48°F (4°C to 9°C)
Condenser water temperature: 75°F to 85°F (24°C to 29°C)
Condensing water temperature rise: 5°F to 15°F (-15°C to 9°C)

Chillers designed to operate outside of these ranges or applications utilizing fluids or solutions with secondary coolants (e.g. glycol solutions or brines) with a freeze point of 27°F (-2.8°C) or less for freeze protection are not covered by this standard.

[Remaining text unchanged]

Table 13-407.1.ABC.3.2A Change/add affected rows to read as shown:

Table 13-407.1.ABC.3.2A ELECTRICALLY OPERATED UNITARY AIR CONDITIONERS AND CONDENSING UNITS– MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency[2]	Test Procedure[1]
Air Conditioners, Air Cooled	<65,000Btu/h[3]	All	Split System	13.0 ~~10.0~~ SEER	ARI 210/240
			Single Package	13.0 ~~9.7~~ SEER	
Through-the-Wall, Air Cooled	<30,000 Btu/h[3]	All	Split System	10.9 SEER	ARI 210/240
			Single Package	10.6 SEER	
Small-Duct High-Velocity, Air Cooled	<65,000 Btu/h[3]	All	Split System or Single Package	11.0 SEER[4]	ARI 210/240
Space constrained products, air conditioners	<65,000 Btu/h[3]	All	Split System or Single Package	12.0 SEER[4]	ARI 210/240

[4] As granted by U.S. Department of Energy letter of exception, specific to individual companies. SDHV products without a letter of exception shall have the same efficiency as Air-Cooled Air-conditioners.

[Rest of table unchanged]

Table 13-407.1.ABC.3.2B Change affected rows to read as shown:

Table 13-407.1.ABC.3.2B
ELECTRICALLY OPERATED UNITARY and APPLIED HEAT PUMPS– MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency[2]	Test Procedure[1]
Air Cooled (Cooling mode)	<65,000 Btu/h[3]	All	Split System	13.0 ~~10.0~~ SEER	ARI 210/240
			Single Package	13.0 ~~9.7~~ SEER	
Through-the-Wall, Air Cooled	<30,000 Btu/h[3]	All	Split System	10.9 SEER	ARI 210/240
			Single Package	10.6 SEER	
Small-Duct High-Velocity, Air Cooled, Cooling Mode	<65,000 Btu/h[3]	All	Split System	11.0 SEER[4]	ARI 210/240
Air Cooled (Heating Mode)	<65,000 Btu/h[3] (cooling capacity		Split System	7.7 ~~6.8~~ HSPF	ARI 210/240
			Single Package	7.7 ~~6.6~~ HSPF	
Through-the-Wall (Air Cooled, Heating Mode)	<30,000 Btu/h[3] (cooling capacity)		Split System	7.1 HSPF	ARI 210/240
			Single Package	7.0 HSPF	

Small-Duct High-Velocity (Air Cooled, Heating Mode)	<65,000 Btu/h[3] (cooling capacity)		Split System or Single Package	6.8 HSPF[4]	ARI 210/240
Space constrained products, heat pumps	<65,000Btu/h[3]		Split System or Single Package	7.4 HSPF	ARI 210/240

[4] As granted by U.S. Department of Energy letter of exception, specific to individual companies. SDHV products without a letter of exception shall have the same efficiency as Air-Cooled Air-conditioners.

[Rest of table unchanged]

Table 13-407.1.ABC.3.2D Change applicable rows to read as follows:

Table 13-407.1.ABC.3.2D ELECTRICALLY OPERATED PACKAGED TERMINAL AIR CONDITONERS, PACKAGED TERMINAL HEAT PUMPS, SINGLE-PACKAGE VERTICAL AIR CONDITIONERS, SINGLE-PACKAGE VERTICAL HEAT PUMPS, ROOM AIR CONDITIONERS, AND ROOM AIR CONDITIONER HEAT PUMPS – MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	**Size Category (Input)**	**Subcategory or Rating Condition**	**Minimum Efficiency**	**Test Procedure**
SPVAC (Cooling Mode)	All Capacities	95°F db/75°F wb Outdoor Air	8.6 EER	ARI 390
SPVHP (Cooling Mode)	All Capacities	95°F db/75°F wb Outdoor Air	8.6 EER	
SPVHP (Heating Mode)	All Capacities	47°F db/43°F wb Outdoor Air	2.7 COP	

[Rest of table unchanged.]

Section 13-408.1.ABC.2.2 Change to read as shown:

13-408.1.ABC.2.2 Heat pump auxiliary heat control. Heat pumps equipped with internal electric resistance heaters shall have controls that prevent supplemental heater operation when the heating load can be met by the heat pump alone during both steady-state operation and setback recovery. Supplemental heater operation is permitted during outdoor coil defrost cycles. Two means of meeting this requirement are (1) a digital or electronic thermostat designed for heat pump use that energizes auxiliary heat only when the heat pump has insufficient capacity to maintain setpoint or to warm up the space at a sufficient rate or (2) a multi-stage space thermostat and an outdoor air thermostat wired to energize auxiliary heat only on the last stage of the space thermostat and when outside air temperature is less than 40° F (4° C).

Exception: Heat pumps whose minimum efficiency is regulated by NAECA and whose HSPF rating both meets the requirements shown in Table 13-407.1.ABC.3.2B and includes all usage of internal electric resistance heating.

Section 13-410.1.ABC.1.1.2.1 Change to read as shown:

13-410.1.ABC.1.1.2.1 Part-load fan power limitation. Individual VAV fans with motors 15 ~~30~~ hp (11 ~~23~~ kW) and larger shall meet one of the following:

1. The fan shall be driven by a mechanical or electrical variable-speed drive.
2. The fan shall be a vane-axial fan with variable-pitch blades.
3. The fan shall have other controls and devices that will result in fan motor demand of no more than 30 percent of design wattage at 50 percent of design air volume when static pressure set point equals one-third of the total design static pressure, based on manufacturer’s certified fan data.

Table 13-412.1.ABC.3 Change to add row as shown:

Table 13-412.1.ABC.3
PERFORMANCE REQUIREMENTS FOR WATER HEATING EQUIPMENT.

Equipment Type	Size Category (input)	Subcategory or rating condition	Performance Required	Test Procedure
Heat Pump Pool Heaters	All	---	4.0 COP At low air temperature	ARI 1160[5]

5. Test reports from independent laboratories are required to verify procedure compliance.

Section 13-415.1.ABC.1.1 Change to read as shown:

13-415.1.ABC.1.1 Automatic lighting shutoff. Interior lighting in buildings larger than 5,000 square feet (465 m^2) shall be controlled with an automatic control device to shut off building lighting in all spaces. This automatic control device shall function on either:

1. A scheduled basis using a time-of-day operated control device that turns lighting off at specific programmed times—an independent program schedule shall be provided for areas of no more than 25,000 square feet (2323 m^2) but not more than one floor.
2. An occupant sensor that shall turn lighting off within 30 minutes of an occupant leaving a space.
3. A signal from another control or alarm system that indicates the area is unoccupied.

Exceptions: The following shall not require an automatic control device.

a. Lighting intended for 24-hour operation~~ shall not require an automatic control device~~.
b. Lighting in spaces where patient care is rendered.
c. Spaces where an automatic shutoff would endanger the safety or security of the room or building occupant(s).

Section 13-415.1.ABC.1.2 Change to read as shown:

13-415.1.ABC.1.2 Space control. Each space enclosed by ceiling-height partitions shall have at least one control device to independently control the general lighting within the space. Each manual device shall be readily accessible and located so the occupants can see the controlled lighting. ~~Each control device shall be activated either manually by an occupant or automatically by sensing an occupant. Each control device shall:~~

~~1. Control a maximum of 2,500 square feet (232 m^2) area for a space 10,000 square feet (929 m^2) or less and a maximum of 10,000 square feet (929 m^2) area for a space greater than 10,000 square feet (929 m^2), and~~
~~2. Be capable of overriding any time-of-day scheduled shut-off control for no more than four hours.~~

a. A control device shall be installed that automatically turns lighting off within 30 minutes of all occupants leaving a space, except spaces with multi-scene control, in:

1. Classrooms (not including shop classrooms, laboratory classrooms, and preschool through 12^{th} grade classrooms)
2. Conference/meeting rooms.
3. Employee lunch and break rooms.

These spaces are not required to be connected to other automatic lighting shutoff controls.

b. For all other spaces, each control device shall be activated either manually by an occupant or automatically by sensing an occupant. Each control device shall control a maximum of 2,500 square feet (232 m^2) area for a space 10,000 square feet (929 m^2) or less and a maximum of 10,000 square feet (929 m^2) area for a space greater than 10,000 square feet (929 m^2), and be capable of overriding any time-of-day scheduled shut-off control for no more than four hours.

~~Each manual control device shall be readily accessible and located so the occupant can see the controlled lighting.~~
Exception: Remote location shall be permitted for reasons of safety or security when the remote control device has an indicator pilot light as part of or next to the control device and the light is ~~it shall be~~ clearly labeled to identify the controlled lighting.

Section 13-415.1.ABC.1.4 Change to read as shown:

13-415.1.ABC.1.4 Exterior lighting control. Lighting for all exterior applications not exempted in section 415.0 shall have automatic controls capable of turning off exterior lighting when sufficient daylight is available or when the lighting is not required during nighttime hours. Lighting not designated for dusk-to-dawn operation shall be controlled by an astronomical time switch. Lighting designated for dusk-to-dawn operation shall be controlled by an astronomical time switch or photosensor. Astronomical time switches shall be capable of retaining programming and the time setting during loss of power for a period of at least 10 hours. ~~Lighting for all exterior applications not exempted under 415.0 and 415.2.ABC.1.3 shall be controlled by a photosensor or astronomical a time switch that is capable of automatically turning off the exterior lighting when sufficient daylight is available or the lighting is not required.~~

Exception: Lighting for covered vehicle entrances or exits from buildings or parking structures where required for safety, security, or eye adaptation.

13-415.2.ABC.1.3 Exterior building lighting power. ~~The exterior building façade lighting power shall not exceed 0.25 watts per square feet of the illuminated area.~~ The total exterior lighting power allowance for all ~~other~~ exterior building applications is the sum of the individual lighting power densities ~~limits~~ permitted ~~and specified~~ in Table 13-415.2.ABC.1.3 for these applications plus an additional unrestricted allowance of 5% of that sum. Trade-offs are allowed only among exterior lighting applications listed in the Table 13-415.2.ABC.1.3 "Tradable Surfaces" section. Exterior lighting for all applications (except those included in the exceptions to Section 13-415.0 and 13-415.2.ABC.1.3) shall comply with the requirements of Section 13-415.1.ABC.2.

Exceptions: Lighting used for the following exterior applications is exempt when equipped with a~~n independent~~ control device independent of the control of the nonexempt lighting::

(a) specialized signal, directional, and marker lighting associated with transportation;
~~(b) lighting used to highlight features of public monuments and registered historic landmark structures or buildings; and~~
(b) ~~(c) lighting that is integral to~~ advertising signage or directional signage;
(c) Lighting that is integral to equipment or instrumentation and is installed by its manufacturer.
(d) Lighting for theatrical purposes, including performance, stage, film, and video production;

(e) Lighting for athletic playing areas;
(f) Temporary lighting;
(g) Lighting for industrial production, material handling, transportation sites, and associated storage areas;
(h) Theme elements in theme/amusement parks; and
(i) Lighting used to highlight features of public monuments and registered historic landmark structures or buildings.

Replace Table 13-415.2.ABC.1.3 in its entirety with the following:

TABLE 13-415.2.ABC.1.3
LIGHTING POWER DENSITIES ~~LIMITS~~ FOR BUILDING EXTERIORS

Applications	Lighting Power Densities
Tradable Surfaces (Lighting Power Densities for uncovered parking areas, building grounds, building entrances and exits, canopies and overhangs, and outdoor sales areas may be traded.)	
Uncovered Parking Areas	
Parking lots and drives	0.15 W/ft^2
Building Grounds	
Walkways less than 10 feet wide	1.0 watts per linear foot
Walkways 10 feet wide or greater, plaza areas, and special feature areas	0.2 W/ft^2
Stairways	1.0 W/ft^2
Building Entrances and Exits	
Main entries	30 watts per linear foot of door width
Other doors	20 watts per linear foot of door width
Canopies and Overhangs	
Canopies (freestanding and attached and overhangs)	1.25 W/ft^2
Outdoor Sales	
Open areas (including vehicle sales lots)	0.5 W/ft^2
Street frontage for vehicle sales lots in addition to “open area” allowance	20 watts per linear foot
Non-Tradable Surfaces (Lighting Power Density calculations for the following applications can be used only for the specific application and cannot be traded between surfaces or with other exterior lighting. The following allowances are in addition to any allowance otherwise permitted in the “Tradable Surfaces” section of this table.)	
Building facades	0.2 W/ft^2 for each illuminated wall or surface or 5.0 watts per linear foot for each illuminated wall or surface length
Automated teller machines and night depositories	270 watts per location plus 90 watts per additional ATM per location
Entrances and gatehouse inspection stations at guarded facilities	1.25 W/ft^2 of uncovered area (covered areas are included in the “Canopies and Overhangs” section of “Tradable Surfaces”)
Loading areas for law enforcement, fire, ambulance, and other emergency service vehicles	0.5 W/ft^2 of uncovered area (covered areas are included in the Canopies and Overhangs” section of “Tradable Surfaces”)
Drive-up windows at fast food restaurants	400 watts per drive-through
Parking near 24-hour retail entrances	800 watts per main entry

Section 13-415.1.ABC.4 Change to read as shown:

13-415.1.ABC.4 Exit signs. Internally illuminated exit signs shall not exceed 5 watts per face. ~~Exit sign luminaries operating at greater than 20 watts shall have a minimum source efficacy of 35 lm/W.~~

Table 13-415.2.B Change to read as shown:

TABLE 13-415.2.B
LIGHTING POWER DENSITIES USING THE SPACE-BY-SPACE METHOD

Building Specific Space Types (Continued)	**LPD (W/ft^2)**
Retail (for accent lighting see Sec. 415.2.B.2)	
Sales area	1.7 ~~2.1~~
Mall concourse	1.7

[other lighting categories in table are unchanged]

13-600.3 Change to read as follows:

13-600.3.ABC.3 Forms. Code compliance by this subchapter shall be demonstrated by completing and submitting to the building official the appropriate forms described below. An original form or FLA/RES-04, Version 4.5, computerized printout, accompanied by a copy of the front page of the form as provided in Section 600.4, shall be submitted to the building department to demonstrate compliance with this code before a building permit is issued.

The code compliance form used shall be specific to the climate zone in which the building will be located. (See Appendix 13-A of the chapter for climate zone locations.)

Forms are available from the local jurisdiction permitting offices or may be obtained from the Department of Community Affairs, Codes and Standards Section, 2555 Shumard Oak Blvd., Tallahassee, Florida 32399-2100. Copies of Subchapter 6 forms may be found in Appendix 13-D of this chapter or online at www.floridabuilding.org.

13-600.3.A Forms used for Method A compliance. Form 600A-04R or a printout of the FLA/RES-04 computer program, Version 4.5, shall be used to demonstrate code compliance by Method A, the whole building performance method. The correct form for the location where the residence will be built or a printout of the FLA/RES-04 computer program, Version 4.5, for the appropriate climate zone shall be submitted to the building department to demonstrate compliance by Subchapter 13-6 before a building permit is

13-600.3.B Forms used for Method B compliance. Form 600B-04R shall be completed and submitted to the building department to demonstrate that all prescriptive requirements have been met. Form 600B-04R contains the compliance packages used to demonstrate code compliance by Method B of Subchapter 13-6, the component prescriptive method. A completed and signed form specific to the location where the residence will be built shall be submitted to the building department to obtain a building permit. Signatures on this form by persons authorized under the provisions of Section 600.3.ABC.2 shall constitute certification of code compliance by Method B of this subchapter.
Form 600B-04R shall remain on file at the building department.

13-600.3.C Forms used for Method C compliance. Form 600C-04R shall be completed and submitted to the building department to demonstrate that all prescriptive requirements have been met for buildings complying with the code by Method C, the limited applications prescriptive method. Form 600C-04R contains the requirements for code compliance for additions of 600 square feet (58 m2) or less, for renovations, for building systems, and for site-added components of manufactured buildings and manufactured homes. A completed and signed form specific to the location where the residence will be built shall be submitted to the building department to obtain a building permit. Signatures on this form by persons authorized under the provisions of Section 600.3.ABC.2 shall constitute certification of code compliance by Method C of this subchapter.
Form 600C-04R shall remain on file at the building department.

Section 13-607.1.ABC.1 Change to read as shown:

13-607.1.ABC.1 Equipment Sizing. A cooling and heating load ~~An HVAC sizing~~ calculation shall be performed on the building and shall be attached to the Form 600 submitted when application is made for a building permit, or in the event the mechanical permit is obtained at a later time, the ~~sizing~~ calculation shall be submitted with the application for the mechanical permit. Cooling and heating design loads, for the purpose of sizing HVAC equipment and designing HVAC systems, shall be determined for the dwelling spaces (typically rooms or zones) served by each piece of equipment ~~each zone within a dwelling~~ in accordance with ACCA Manual J, ACCA Manual N, or the ASHRAE Cooling and Heating Load Calculation Manual, Second Edition. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing in excess of the capacity limitations in Section 13-607.1.ABC.1.1. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems. The engineered ventilation requirement of the various procedures shall not be used as an infiltration rate when estimating infiltration loads.

Exceptions:

1. Where mechanical systems are designed by an engineer registered in the State of Florida, the engineer has the option of submitting a signed and sealed summary sheet in lieu of the complete sizing calculation(s). Such summary sheet shall include the following (by zone):

Project name/owner	Outdoor dry bulb used	Total heating required with outside air
Project address	Outdoor wet bulb used	Total sensible gain
Sizing method used	Relative humidity	Total latent gain
Area in sq.ft.	Indoor dry bulb	Total cooling required with outside air
	Grains water (difference)	

2. Systems installed in existing buildings not meeting the definition of renovation in Section 202.

13-607.1.ABC.1.1 Cooling Equipment Capacity.
Cooling only equipment shall be selected so that its total capacity ~~sensible~~ ~~capacity~~ is not less than the calculated total ~~sensible~~ load but not more than 1.15 times greater than the ~~120~~ ~~percent of the design~~ total ~~sensible~~ load calculated according to the procedure selected in Section 13-607.1.ABC.1, or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the equipment shall not be less than the calculated latent load.

The published value for ARI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's expanded performance data shall be used to select cooling-only equipment. This selection shall be based on the outdoor design dry bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet bulb temperature and the design value for entering dry bulb temperature.

Design values for entering wet bulb and dry bulb temperature shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space.

The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described herein.

Exceptions:

1: Attached single- and multiple-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total ~~sensible~~ load but not less than 80% of that load.

2: When signed and sealed by a Florida-registered engineer, in attached single- and multiple-family units, the capacity of equipment may be sized in accordance with good design practice.

Section 13-607.1.ABC.3.1.1 Change to read as shown:

13-607.1.ABC.3.1.1 Equipment Efficiency Verification. Equipment covered under the Federal Energy Policy Act of 1992 (EPACT) shall comply with U.S. Department of Energy certification requirements. For other equipment, if ~~If~~ a certification program exists for a product covered in Tables 13-607.1.ABC.3.2A through 13-607.1.ABC.3.2D, and it includes provisions for verification and challenge of equipment efficiency ratings, then the product shall be either listed in the certification program or, alternatively, the ratings shall be verified by an independent laboratory test report. If no certification program exists for a product covered in Tables 13-607.1.ABC.3.2A through 13-607.1.ABC.3.2D, the equipment efficiency ratings shall be supported by data furnished by the manufacturer. Products covered in Table 13-607.1.ABC.3.2G shall have efficiency ratings supported by data furnished by the manufacturer. Where components such as indoor or outdoor coils from different manufacturers are used ~~equipment is not rated~~, a Florida-registered engineer shall specify component efficiencies whose combined efficiency meets the minimum equipment efficiency requirements in 13-407.1.ABC.3.2.

Table 13-607.1.ABC.3.2A Change affected rows to read as shown:

Table 13-607.1.ABC.3.2A ELECTRICALLY OPERATED UNITARY AIR CONDITIONERS AND CONDENSING UNITS– MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency[2]	Test Procedure[1]
Air Conditioners, Air Cooled	<65,000Btu/h[3]	All	Split System	13.0 ~~10.0~~ SEER	ARI 210/240
			Single Package	13.0 ~~9.7~~ SEER	
Through-the-Wall, Air Cooled	<30,000 Btu/h[3]	All	Split System	10.9 SEER	ARI 210/240
			Single Package	10.6 SEER	
Small-Duct High-Velocity, Air Cooled	<65,000 Btu/h[3]	All	Split System or Single Package	11.0 SEER[4]	ARI 210/240
Space constrained products, air conditioners	<65,000 Btu/h[3]	All	Split System or Single Package	12.0 SEER[4]	ARI 210/240

[4] As granted by U.S. Department of Energy letter of exception, specific to individual companies. SDHV products without a letter of exception shall have the same efficiency as Air-Cooled Air-conditioners.

[Rest of table unchanged]

Table 13-607.1.ABC.3.2B Change affected rows to read as shown:

Table 13-607.1.ABC.3.2B
ELECTRICALLY OPERATED UNITARY and APPLIED HEAT PUMPS–
MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category	Heating Section Type	Subcategory or Rating Condition	Minimum Efficiency[2]	Test Procedure[1]
Air Cooled (Cooling mode)	<65,000 Btu/h[3]	All	Split System	13.0 ~~10.0~~ SEER	ARI 210/240
			Single Package	13.0 ~~9.7~~ SEER	
Through-the-Wall, Air Cooled	<30,000 Btu/h[3]	All	Split System	10.9 SEER	ARI 210/240
			Single Package	10.6 SEER	
Small-Duct High-Velocity, Air Cooled, Cooling Mode	<65,000 Btu/h[3]	All	Split System	11.0 ~~10~~ SEER[4]	ARI 210/240
Air Cooled (Heating Mode)	<65,000 Btu/h[3] (cooling capacity		Split System	7.7 ~~6.8~~ HSPF	ARI 210/240
			Single Package	7.7 ~~6.6~~ HSPF	
Through-the-Wall (Air Cooled, Heating Mode)	<30,000 Btu/h[3] (cooling capacity)		Split System	7.1 HSPF	ARI 210/240
			Single Package	7.0 HSPF	
Small-Duct High-Velocity (Air Cooled, Heating Mode)	<65,000 Btu/h[3] (cooling capacity)		Split System or Single Package	6.8 HSPF[4]	ARI 210/240
Space constrained products, heat pumps	<65,000Btu/h[3]		Split System or Single Package	7.4 HSPF	ARI 210/240

[4] As granted by U.S. Department of Energy letter of exception, specific to individual companies. SDHV products without a letter of exception shall have the same efficiency as Air-Cooled Air-conditioners.

[Rest of table unchanged]

Table 13-607.1.ABC.3.2D Change applicable rows to read as shown:

Table 13-607.1.ABC.3.2D
ELECTRICALLY OPERATED PACKAGED TERMINAL AIR CONDITONERS, PACKAGED TERMINAL HEAT PUMPS, SINGLE-PACKAGE VERTICAL AIR CONDITIONERS, SINGLE-PACKAGE VERTICAL HEAT PUMPS, ROOM AIR CONDITIONERS, AND ROOM AIR CONDITIONER HEAT PUMPS – MINIMUM EFFICIENCY REQUIREMENTS

Equipment Type	Size Category (Input)	Subcategory or Rating Condition	Minimum Efficiency	Test Procedure
SPVAC (Cooling Mode)	**All Capacities**	**95°F db/75°F wb Outdoor Air**	**8.6 EER**	
SPVHP (Cooling Mode)	**All Capacities**	**95°F db/75°F wb Outdoor Air**	**8.6 EER**	ARI 390
SPVHP (Heating Mode)	**All Capacities**	**47°F db/43°F wb Outdoor Air**	**2.7 COP**	

[Rest of table unchanged.]

Section 13-608.1.ABC.1 Change to read as shown:

13-608.1.ABC.1 Equipment Sizing. An HVAC equipment sizing calculation shall be performed on the building in accordance with the criteria in Section 13-607.1.ABC.1 and shall be attached to the Form 600 submitted when application is made for a building permit. This Code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing in excess of the capacity limitations in Sections 13-608.1.ABC.1.1 through 13-608.1.ABC.1.4. System sizing calculations shall not include loads due to intermittent local mechanical ventilation such as standard kitchen and bathroom exhaust systems. The engineered ventilation requirement of this code shall not be used as an infiltration rate when estimating infiltration load.

13-608.1.ABC.1.1 Heat Pumps. Heat pump sizing shall be based on the cooling requirements as calculated according to Section 13-607.1.ABC.1 and the heat pump total cooling capacity shall not be more than 1.15 times greater than the design cooling load even if the design heating load is 1.15 times greater than the design cooling load. ~~unless the refrigeration cycle heating capacity is less than the heating requirements of the conditioned space at design conditions. In that case, the refrigeration cycle heating capacity shall be sized to provide the lowest possible balance point on heating without exceeding 12.5% of the cooling load at design conditions. Capacity at the design heating temperature may be determined by interpolation or extrapolation of manufacturers' performance data if these data are not available for design temperatures.~~ The published value for ARI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer’s expanded performance data shall be used to determine heat pump cooling capacity. This selection shall be based on the outdoor design dry bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet bulb temperature and the design value for entering dry bulb temperature.

The design values for entering wet bulb temperature shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space.

Capacity at the design heating temperature may be determined by interpolation or extrapolation of manufacturers' performance data, as allowed by the manufacturer, if these data are not available for the design temperature. The auxiliary capacity plus refrigeration cycle heating capacity shall not exceed 120% of the calculated heating requirements at the 99 percent design dry bulb temperature.

The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described herein.

13-608.1.ABC.1.2 [No change].

Section 13-608.1.ABC.1.3 Change to read as shown:

Section 13-608.1.ABC.1.3 Fossil fuel heating equipment. The capacity of fossil fuel heating equipment with natural draft atmospheric burners shall not be less than the design load calculated in accordance with Section 13-608.1.ABC.1 ~~more than 120 percent of the design load calculated at the 99 percent dry bulb temperature, or the closest available size provided by the manufacturer's product lines~~.

Section 13-608.1.ABC.2.1 Add to read as shown:

13-608.1.ABC.2.1 Heat pump auxiliary heat control. Heat pumps equipped with internal electric resistance heaters shall have controls that prevent supplemental heater operation when the heating load can be met by the heat pump alone during both steady-state operation and setback recovery. Supplemental heater operation is permitted during outdoor coil defrost cycles. Two means of meeting this requirement are (1) a digital or electronic thermostat designed for heat pump use that energizes auxiliary heat only when the heat pump has insufficient capacity to maintain setpoint or to warm up the space at a sufficient rate or (2) a multi-stage space thermostat and an outdoor air thermostat wired to energize auxiliary heat only on the last stage of the space thermostat and when outside air temperature is less than 40° F (4° C).

> **Exception**: Heat pumps whose minimum efficiency is regulated by NAECA and whose HSPF rating both meets the requirements shown in Table 13-607.1.ABC.3.2B and includes all usage of internal electric resistance heating.

Section 13-608.1.B.2 Change to read as shown:

13-608.1.B.2 Gas and oil space heating. Gas and oil heating systems may be installed for all compliance packages. If installed, they shall have a minimum annual fuel utilization efficiency (AFUE) as listed on Table 13-6B-1 of Form 600B ~~and described below~~.

~~Gas- and oil-fired furnaces and vented equipment = Minimum AFUE 0.78~~
~~Gas- and oil-fired direct heating equipment = Minimum AFUE 0.73~~

Gas instantaneous (tankless) water heaters that meet the requirements established for such equipment by this code may be installed for all compliance packages.

Section 13-608.2.A.3.5 Change to read as shown:

13-608.2.A.3.5 Hydronic space gas water heating. Heating system credit multipliers to be used for combined gas storage tank water heating and space heating systems shall be determined from

Table 13-6A-21 on Form 600A based on ~~those listed in~~ the effective space heating efficiency (CA afue) as listed by the GAMA where the system has been tested to ANSI/ASHRAE 124 or may utilize the heating system credit multipliers for the water heater recovery efficiency and climate zone on Table 13-6C-15-~~12~~ in section 5.1.2 of Appendix 13-C of this chapter if not so tested. Heating system multipliers for combined gas instantaneous (tankless) water heating and space heating systems shall be determined from Table 13-6C-15.1 in section 5.1.2 of Appendix 13-C based on the Thermal Efficiency (E_t) rating of the gas instantaneous (tankless) water heater in accordance with ANSI test method Z21.10.3. A gas instantaneous (tankless) water heater shall be as defined in Section 13-612.1.ABC.3.2.3.

Section 13-612.1.ABC.2.3.1 Change to read as shown:

13-612.1.ABC.2.3.1 On-off switch required. All pool and spa heaters shall be equipped with an on-off switch mounted for easy access to allow the heater to be shut off without adjusting the thermostat setting and to allow restarting without relighting the pilot light.

[13-612.1 ABC.2.3.2 and 13-612.1.ABC.2.3.3 Remain unchanged.]

~~All gas- and oil-fired pool heaters when tested in accordance with ANSI Z 21.56 shall have a minimum thermal efficiency of 78 percent.~~

13-612.1.ABC.2.3.4 Pool heater efficiency.

All gas- and oil-fired pool heaters when tested in accordance with ANSI Z 21.56 shall have a minimum thermal efficiency of 78 percent.

Heat pump pool heaters shall be tested in accordance with ARI 1160, Table 2. Standard Rating Conditions-Low Air Temperature, and shall have a minimum COP of 4.0.

Section 13-612.1.ABC.3.2.3 Add section to read as shown:

13-612.1.ABC.3.2.3 Gas Instantaneous or Tankless Water Heaters. All gas-fired instantaneous (tankless) water heaters that a) initiate heating based on sensing water flow, b) are designed to deliver water at a controlled temperature of less than 180 °F (82 °C), c) have an input less than 200,000 Btu/h (210 MJ/h), d) have a manufacturer's specified storage capacity of less than 2 gallons (7.6 liters) and, e) have either a fixed or variable burner input shall, when tested in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, Title 10 CFR 430, meet the performance minimums established in Title 10 CFR 430.32, Energy and Water Conservation Standards and Effective Dates.

Section 13-612.1.ABC.3.5 Change to read as shown:

13-612.1.ABC.3.5 Combination service water heating and space heating equipment. Service water heating equipment used to provide additional functions (e.g. space heating) as part of a combination (integrated) system shall comply with minimum performance requirements for water heating equipment.

Combination ~~water and space heating~~ systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings of 105,000 Btu/h (360m^3/kW) or less shall utilize a water heater listed by the Gas Appliance Manufacturer's Association (GAMA). Changeouts of burners or heating elements to increase capacity shall not be made unless the unit has been listed at that capacity by GAMA.

Combination systems utilizing a storage tank water heater as the heat source for space heating purposes with input ratings greater than 105,000 Btu/h (360m^3/kW) shall comply with the criteria of Section 13-412.1.ABC~~D~~.3.4, Subchapter 13-4.

Combination systems utilizing a gas-fired instantaneous (tankless) water heater (defined in Section 13-612.1.ABC.3.2.3) as the heat source for space heating purposes shall comply with the criteria of Section 13-608.2.A.3.5.

Section 13-612.2.A.1 Change to read as shown:

Section 13-612.2.A.1 Water heater types and multipliers. Water heating systems are characterized as ~~either~~ electric resistance, natural gas, other fuels (including propane and oil) (with tank), gas instantaneous (tankless), integral heat pump water heater (with tank), or solar water heating systems (with tank). HWM or HWCM for the water heating system to be installed shall be determined from Table 13-6A-22 ~~9~~ or Table 13-6A-23 on Form 600A based on the EF of the system. For combined gas storage tank water heating and space heating systems tested to ANSI/ASHRAE 124, the EF used shall be the effective water heating efficiency (CA $_{ef}$) listed for the appliance by the Gas Appliance Manufacturer's Association (GAMA). For combined gas instantaneous (tankless) water heating and space heating systems, the EF used shall be determined in accordance with the DOE Uniform Test Method for Measuring the Energy Consumption of Water Heaters, Appendix E to Subpart B, Title 10 CFR 430. See also section 13-C6.1, Service hot water multipliers, Form 600A, supplemental, in Appendix 13-C for additional hot water multipliers.
[Remaining text unchanged.]

Appendix 13-A, Jurisdictional Data. Change to read as shown:

	JURISDICTION NUMBER	**CLIMATE ZONE**	**REPORTING GROUP**
FLAGLER COUNTY	281100	3	III
Palm Coast	281500	3	III
MIAMI-DADE COUNTY	231000	8	III
Doral	231410	8	III
Miami Gardens	232510	8	III
Palmetto Bay	233110	8	III
Pinecrest	233250	8	III
PASCO COUNTY	611000	4	I
St. Leo	611400	4	I

[rest of jurisdictions unchanged]

Appendix 13-C:

Section C1.1. Add to read as shown:

13-C1.1 Baseline features. The following features are utilized in compliance Method A of subchapter 6 of the code as "baseline" features. These features are not code minimum efficiencies; rather, they represent standard reference design building component options utilized in establishing a budget that the building shall not exceed to comply with the code.

Windows		18% of conditioned floor area	
		Equal distribution, 8 cardinal directions	
		No overhang	
		U-factor 0.75	
		SHGC 0.40	
Walls, wood frame		R-11	
Doors:	North FL	Wood	
	Central, South FL	Insulated	
Ceiling, flat		R-30	
Floor, Slab-on-grade			
	North, Central FL	R-3.5	
	South FL	R-0	
Internal gains			
		Summer	Winter
	South	CFA* 11.36	CFA*(- 0.38)
	Central	CFA*9.14	CFA* (-1.15)
	North	CFA*6.77	CFA*(-2.72)
Cooling system		SEER 13.0	
Heating system, heat pump		HSPF 7.7	
Air distribution system		R-6 duct	
Air handler location		In the garage	
Duct sealing		Distribution system efficiency 0.80	
Service water heating, electric		EF 0.92	

Section 13-C5.1.2 Combination gas hydronic systems.

Modify the title of Table 13-6C-15 to read [No change to table] :

HEATING SYSTEM CREDIT MULTIPLIERS FOR COMBINED HYDRONIC SPACE GAS WATER HEATING WITH A STORAGE TANK

Add Table 13-6C-15.1 to read as follows:

Table 13-6C-15.1
Heating System Credit Multipliers for Combined Hydronic Instantaneous (Tankless) Gas Water Heating

Tankless Water Heater Thermal Efficiency (Et)	Zones 123	Zones 456	Zones 789
.78	.52	.55	.57
.80	.51	.54	.57
.84 and up	.49	.52	.56

Add sections and tables to read as follows:

13-C6.1 Service hot water multipliers, Form 600A, supplemental.

13-C6.1.1 Gas instantaneous (tankless) water heater multipliers.

Table 13-6C-21
Gas Instantaneous (Tankless) Water Heater Multipliers

Climate Zone 123	Hot Water Multipliers (HWM)					
EF	.60-.61	.62-.63	.64-.65	.66-.67	.68-.69	.70-.71
Natural Gas HWM	1599	1547	1498	1453	1412	1375
Propane Gas HWM	2171	2101	2035	1973	1920	1869

Zone 123	Continued						
.72-.73	.74-.75	.76-.77	.78-.79	.80-.81	.82-.83	.84-.85	0.86 & Up
1341	1309	1279	1252	1226	1202	1179	1157
1821	1776	1735	1696	1660	1626	1594	1564

Climate Zone 456	Hot Water Multipliers (HWM)					
EF	.60-.61	.62-.63	.64-.65	.66-.67	.68-.69	.70-.71
Natural Gas HWM	1549	1499	1452	1408	1367	1328
Propane Gas HWM	1895	1834	1776	1722	1676	1631

Zone 456	Continued						
.72-.73	.74-.75	.76-.77	.78-.79	.80-.81	.82-.83	.84-.85	0.86 & Up
1293	1261	1231	1205	1183	1164	1148	1137
1588	1549	1513	1478	14446	1417	1389	1362

Climate Zone 789	Hot Water Multipliers (HWM)					
EF	.60-.61	.62-.63	.64-.65	.66-.67	.68-.69	.70-.71
Natural Gas HWM	1324	1281	1241	1203	1167	1134
Propane Gas HWM	1686	1631	1581	1533	1492	1452

Zone 789	Continued						
.72-.73	.74-.75	.76-.77	.78-.79	.80-.81	.82-.83	.84-.85	0.86 & Up
1103	1073	1046	1020	997	975	956	938
1415	1380	1348	1318	1290	1264	1239	1216

APPENDIX 13-D:

Form 600A Change specified rows to read as shown:

CLIMATE ZONES 1,2,3

SUMMER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS = MULTIPLIER	BASE GLASS SUBTOTAL
	.18		18.59 ~~20.04~~	

WINTER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS = MULTIPLIER	BASE GLASS SUBTOTAL
	.18		20.17 ~~12.74~~	

CLIMATE ZONES 4,5,6

SUMMER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS = MULTIPLIER	BASE GLASS SUBTOTAL
	.18		24.35 ~~25.78~~	

WINTER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS = MULTIPLIER	BASE GLASS SUBTOTAL
	.18		9.11 ~~5.86~~	

CLIMATE ZONES 7,8,9

SUMMER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS = MULTIPLIER	BASE GLASS SUBTOTAL
	.18		30.53 ~~32.50~~	

WINTER CALCULATIONS [baseline]

GLASS	.18 X	COND. FLOOR AREA X	WEIGHTED GLASS = MULTIPLIER	BASE GLASS SUBTOTAL
	.18		3.60 ~~2.36~~	

Form 600A Change specified rows to read as shown:

SUMMER BASELINE CALCULATION

COOLING SYSTEM	Base Cooling System Multiplier	Total Base Summer Points	BASE COOLING POINTS
	.325 ~~.43~~ [all zones]		

WINTER BASELINE CALCULATION

HEATING SYSTEM	Base Heating System Multiplier	Total Base Winter Points	BASE HEATING POINTS
	.554 ~~..63~~ [all zones]		

Form 600B Change the referenced language to read as shown:

Changes to page 1 [all climate zones]**: No changes are proposed to the front of the form except the date and the following:**

2. Choose one of the component packages "A" through "C ~~F~~" from Table 6B-1.by which you intend to comply with the code. Circle the column of the package you have chosen.
[#1 and 3-6 unchanged].

8. Glass type and area: ~~Single Pane~~ ~~Double Pane~~
   a. U-factor (or DEFAULT) ~~Clear glass~~ 8a. ________~~sq.ft.~~ ________~~sq.ft.~~
   b. SHGC (or DEFAULT) ~~Tint, film or solar screen~~ 8b. ________~~sq.ft.~~ ________~~sq.ft.~~
   c. Glass area 8c. ________sq.ft.

Changes to page 2 [all climate zones]:

TABLE 6B-1 Delete table 6B-1 for all climate zones and replace with the proposed tables shown below (including footnotes).

DESCRIPTION OF BUILIDNG COMPONENTS LISTED [Text remains the same except for the following]
Floor: Slab-on-grade floors without edge insulation are acceptable. Raised wood floors are not allowed when complying by Method B ~~shall have continuous stem walls with insulation placed on the stem wall or under the floor except Package D~~.
~~Electric Resistance Hot Water Option: For packages designated "Not Allowed", an electric resistance hot water system may be installed only in conjunction with one of the "Other Hot Water System Options". See below.~~

TABLE 6B-2 [Unchanged]

Form 600B-04R

NORTH 1,2,3

Table 6B-1 [Replace the current table and footnotes with the following]

COMPONENT	PACKAGE A	PACKAGE B	PACKAGE C	TO BE INSTALLED
Glass Overhang U-factor Solar Heat Gain Coefficient	< 18% glass to floor area 2' overhang required U-factor 0.65 SHGC 0.40	< 18% glass to floor area 2' overhang required U-factor 0.65 SHGC 0.65	< 18% glass to floor area 2' overhang required Double pane (Default) Clear (Default)	GFA____________% OH ____________ft. U-factor:__________ SHGC:___________
Walls (exterior or adjacent) Wood frame CBS Insulation on interior of wall	 R-value R-13 R-value R-7	 R-value R-13 R-value R-7	 R-value R-13 R-value R-7	Exterior Adjacent R= ______ ______ R= ____ _______
Doors	Solid wood or insulated	Solid wood or insulated	Solid wood or insulated	
Ceilings Under attic/single assembly	 R-value R-30	 R-value R-38	 R-value R-38	 R=____________
Floor Slab-on-grade Raised floors	 R-value R-0 Not allowed	 R-value R-0 Not allowed	 R-value R-0 Not allowed	 R= ____________ Not allowed
Cooling system	SEER 13.0	SEER 13.65	SEER 15.0	SEER:___________
Heating system Electric heat pump Gas furnace	 HSPF 7.7 AFUE 0.78 (LP gas not allowed)	 HSPF 8.1 Nat. gas AFUE 0.78 (LP gas not allowed)	 HSPF 8.5 Nat. gas AFUE 0.78 LP gas 0.80	 HSPF:___________ AFUE:___________ AFUE:___________
Water heater Electric water heater Gas water heater Other (see below)	 EF 0.94 Nat. gas EF 0.59 (LP gas not allowed)	 EF 0.92 Nat. gas EF 0.59 (LP gas not allowed)	 EF 0.92 Nat. gas EF 0.59 LP gas 0.63	 EF=____________ EF=____________ EF=____________
Air distribution system Ducts in attic Air handler location	 R-value R-6 AHU in the garage or inside conditioned space	 R-value R-6 AHU in the garage or inside conditioned space	TESTED (LP gas only) R-value R-6 AHU in the garage or inside conditioned space	< TESTED R = ____________ Location:__________

Form 600B-04R

CENTRAL 4,5,6

Table 6B1 [Replace the current table and footnotes with the following]

COMPONENT	PACKAGE A	PACKAGE B	PACKAGE C
Glass	< 18% glass to floor area	<18% glass to floor area	< 18% glass to floor area
Overhang	2' overhang required	2' overhang	2' overhang required
U-factor	U-factor 0.65	U-factor 0.98	Double pane (Default)
Solar Heat Gain Coefficient	SHGC 0.40	SHGC 0.45	Clear (Default)
Walls (exterior or adjacent)			
Wood frame	R-value R-11	R-value R-13	R-value R-11
CBS			
Insulation on interior of wall	R-value R-4.1	R-value R-7	R-value R-4.1
Doors	Solid wood or insulated	Solid wood or insulated	Solid wood or insulated
Ceilings			
Under attic/single assembly	R-value R-30	R-value R-30	R-value R-30
Floor			
Slab-on-grade	R-value R-0	SOG R-0	SOG R-0
Raised floors	Not allowed	Not allowed	Not allowed
Cooling system	SEER 13.0	SEER 13.65	SEER 15.0
Heating system			
Electric heat pump	HSPF 7.7	HSPF 8.1	HSPF 8.5
Gas furnace	Nat. gas AFUE 0.78	Nat. gas AFUE 0.78	Nat. gas AFUE 0.78
	LP gas 0.80	LP gas 0.80	LP gas 0.80
Water heater			
Electric water heater	EF 0.92	EF 0.92	EF 0.94
Gas water heater			
Natural gas	EF 0.59	EF 0.59	EF 0.59
LP gas	EF 0.59	EF 0.63	EF 0.63
Other (see below)			
Air distribution system			
Ducts in attic	R-value R-6	R-value R-6	R-value R-6
Air handler location	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space

[Add column at right as shown for North 1,2,3. "< TESTED" only goes on the North Florida form].

Form 600B-04R

SOUTH 7,8,9

Table 6B1 [Replace the current table and footnotes with the following]

COMPONENT	**PACKAGE A**	**PACKAGE B**	**PACKAGE C**
Glass	<18% glass to floor area	<18% glass to floor area	<18% glass to floor area
Overhang	2' overhang required	2' Overhang required	2' Overhang required
U-factor	U-factor 0.75	U-factor 0.75	U-factor 0.98
Solar Heat Gain Coefficient	SHGC 0.25	SHGC 0.45	SHGC 0.55
Walls (exterior or adjacent)			
Wood frame	R-value R-11	R-value R-13	R-value R-11
CBS			
Insulation on interior of wall	R-value R-4.1	R-value R-7	R-value R-4.1
Doors	Solid wood or insulated	Solid wood or insulated	Solid wood or insulated
Ceilings			
Under attic or single assembly	R-value R-30	R-value R-30	R-value R-30
Floors			
Slab-on-grade only	R-value R-0	R-value R-0	R-value R-0
Raised floors	Not allowed	Not allowed	Not allowed
Cooling system	SEER 13.0	SEER 13.65	SEER R-15
Heating system			
Electric	Electric resistance	Electric resistance	Electric resistance
Gas furnace	AFUE 0.78	AFUE 0.78	AFUE 0.78
Water heater			
Electric water heater	EF 0.92	EF 0.92	EF 0.94
Gas water heater	EF 0.59	EF 0.59	EF 0.59
Other (see below)			
Air distribution system			
Ducts in attic	R-value R-6	R-value R-6	R-value R-6
Air handler location	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space	AHU in the garage or inside conditioned space

[Add column at right as shown for North 1,2,3. "< TESTED" only goes on the North Florida form].

Form 600C-04R

Table 6C-1

Cooling

Central A/C	Split	SEER = 13.0* ~~10,0~~	
	Single Pkg.	SEER = 13.0* ~~9.7~~	

Space Heating

Heat pump	Split	HSPF = 7.7* ~~6.8~~
	Single Pkg.	HSPF = 7.7* ~~6.6~~

CHAPTER 14 EXTERIOR WALLS

Section 1403.2, Exception (1) Change the text to read as shown:

Exceptions:

1. A weather-resistant exterior wall envelope shall not be required over concrete ~~or masonry~~ or non-pourous masonry walls designed in accordance with Chapters 19 and 21, respectively.

Section 1404.9 Change text to read as shown:

1404.9 Vinyl siding. Vinyl Siding and sofitt shall conform to the requirements of ASTM D 3679, ASTM D 4477 and the manufacturer's installation instructions.

Section 1404.9.1 Add text to read as shown:

1404.9.1 Labeling ~~Vinyl siding~~. Vinyl siding shall ~~conform~~ be labeled as conforming to the requirements of ASTM D 3679.

Section 1405.13 Change text to read as shown:

1405.13 Vinyl siding. Vinyl siding conforming to the requirements of this section and complying with ASTM D 3679, and ASTM D 4477 in accordance with the manufacturer's installation instructions shall be permitted on exterior walls of buildings of Type V construction located in areas where the basic wind speed specified in Chapter 16 does not exceed 100 miles per hour (161 km/h) and the building height is less than or equal to 40 feet (12 192 mm) in Exposure C. Where construction is located in areas where the basic wind speed exceeds 100 miles per hour (161 km/h), or building heights are in excess of 40 feet (12 192 mm), tests or calculations indicating compliance with Chapter 16 shall be submitted. Vinyl siding shall be secured to the building so as to provide weather protection for the exterior walls of the building.

CHAPTER 15
ROOF ASSEMBLIES AND ROOFTOP STRUCTURES

Section 1503.3 Change text to read as shown:

1503.3 Coping. Parapet walls shall be properly coped or sealed with noncombustible, weatherproof materials of a width no less than the thickness of the parapet wall. Metal coping shall comply with ANSI/SPRI ES-1 or RAS 111.

Section 1503.4 Change text to read as shown:

1503.4 Roof drainage. Unless roofs are sloped to drain over roof edges, ~~D~~ design and installation of roof drainage systems shall comply with the *Florida Building Code, Plumbing* Chapter 11.
[Remaining text unchanged.]

Section 1503.4.3 Add title to read as shown:

1503.4.3 Overflow scuppers. When other means of drainage of overflow water is not provided, overflow scuppers shall be placed in walls or parapets not less than 2 inches (51 mm) nor more than 4 inches (102 mm) above the finished roof covering and shall be located as close as practical to required vertical leaders or downspouts or wall and parapet scuppers. An overflow scupper shall be sized in accordance with the *Florida Building Code, Plumbing.*

Section 1503.5 Change to read as shown:

1503.5 Roof ventilation. ~~Intake and exhaust~~ ~~vents~~ Attic ventilation shall be provided in accordance with Section 1203.2 and the manufacturer's installation instructions.

Section 1504.1.1 Change text to read as shown:

1504.1.1 Wind resistance of asphalt shingles. Asphalt shingles shall be designed for wind speeds in accordance with Section ~~1507.2.7.~~1507.2.10.

Section 1504.5 Change text to read as shown:

1504.5 Edge securement for low-slope roofs. Low-slope membrane roof systems metal edge securement, except gutters, installed in accordance with Section 1507, shall be designed in accordance with ANSI/SPRI ES-1 or RAS 111 except the basic wind speed shall be determined from Figure 1609.

Section 1505.7 Delete section to read as shown:

1505.7 Special purpose roofs. Reserved. ~~Special purpose wood shingle or wood shake roofing shall conform with the grading and application requirements of Section 1507.8 or 1507.9. In addition, an underlayment of 0.625-inch (15.9 mm) Type X water-resistant gypsum backing board or gypsum sheathing shall be placed under minimum nominal 0.5-inch-thick (12.7 mm) wood structural panel solid sheathing or 1-inch (25 mm) nominal spaced sheathing.~~

Section 1506.5 Add a new section to read as shown:

1506.5 Nails. Nails shall be corrosion resistant nails conforming to ASTM F 1667. The corrosion resistance shall meet ASTM A 641, Class 1 or an equal corrosion resistance by coating, electro galvanization, mechanical galvanization, hot dipped galvanization, stainless steel, nonferrous metal and alloys or other suitable corrosion resistant material.

Section 1506.6 Add a new section to read as shown:

1506.6 Screws. Screws shall be corrosion resistant screws conforming to ANSI/ASME B 18.6.1. The corrosion resistance shall meet ASTM A 641, Class 1 or an equal corrosion resistance by coating, electro galvanization, stainless steel, nonferrous metal or other suitable corrosion resistant material.

Section 1506.7 Add a new section to read as shown:

1506.7 Clips. Clips shall be corrosion resistant clips. The corrosion resistance shall be meet 1.50 oz per sq ft (0.458 kg/m²) according to ASTM A 153 or an equal corrosion resistance coating, electro galvanization, mechanical galvanization, hot dipped galvanization, stainless steel, nonferrous metals and alloys or other suitable corrosion resistant material. Stainless steel clips shall conform to ASTM A 167, Type 304.

Section 1507.2 Change to read as follows:

1507.2 Asphalt shingles. The installation of asphalt shingles shall comply with the provision of this section ~~and with Table 1507.2~~

Table 1507.2 Delete the entire table to read as shown:

Table 1507.2 Reserved.

~~TABLE 1507.2~~
~~ASPHALT SHINGLE APPLICATION~~

~~COMPONENT~~	~~INSTALLATION REQUIREMENT~~
~~1. Roof slope~~	~~Asphalt shingles shall only be used on roof slopes of two units vertical in 12 units horizontal (2:12) or greater. For roof slopes from two units vertical in 12 units horizontal (2:12) up to four units vertical in 12 units horizontal (4:12) double underlayment application is required in accordance with Section 1507.2.8.~~
~~2. Deck requirement~~	~~Asphalt shingles shall be fastened to solidly sheathed roofs.~~
~~3. Underlayment~~	~~Underlayment shall conform with ASTM D 226 Type 1 or ASTM D 4869 Type 1.~~
~~For roof slopes from two units vertical in 12 units horizontal (2:12) up to four units vertical in 12 units horizontal (4:12)~~	~~Underlayment shall be two layers applied in the following manner. Apply a minimum 19-inch strip or underlayment felt parallel to and starting at the eaves fastened sufficiently to hold in place. Starting at the eave apply 35-inch-wide sheets of underlayment overlapping successive sheets 19 inches and fastened sufficiently to hold in place.~~
~~For roof slopes from four units vertical in 12 units horizontal (4:12) or greater~~	~~Underlayment shall be one layer applied in the following manner. Underlayment shall be applied shingle fashion parallel to and starting from the eave and lapped 2 inches fastened only as necessary to hold in place.~~
~~In areas where the average daily temperature in January is 25°F or less or where there is a possibility of ice forming along the eaves causing a backup of water~~	~~A membrane that consists of at least two layers of underlayment cemented together or of a self-adhering polymer-modified bitumen sheet shall be used in lieu of normal underlayment and extend from the eave's edge to a point at least 24 inches inside the exterior wall line of the building.~~
~~4. Application~~	
~~Attachment~~	~~Asphalt shingles shall have the minimum number of fasteners required by the manufacturer and Section 1504.1. Asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 20 units vertical in 12 units horizontal (20:12) special methods of fastening are required.~~
~~Fasteners~~	~~Galvanized, stainless steel, aluminum or copper roofing nails minimum 12-gage (0.105 inch) shank with a minimum 3/8-inch diameter head. Fasteners shall be long enough to penetrate into the sheathing ¾ inch or through the thickness of the sheathing.~~

	~~______~~
~~Flashings~~	~~In accordance with Section 1507.2.9.~~

Section 1507.2.7 Change text to read as shown:

1507.2.7 Attachment. ~~Asphalt shingles shall have the minimum number of fasteners required by the manufacturer and Section 1504.1. Asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 20 units vertical in 12 units horizontal (166-percent slope), special methods of fastening are required. For roofs located where the basic wind speed in accordance with Figure 1609 is 110 mph or greater, special methods of fastening are required. Special fastening methods shall be tested in accordance with ASTM D 3161, modified to use a wind speed of 110 mph or TAS 107.~~
~~1507.2.7 Attachment.~~
Asphalt shingles shall have the minimum number of fasteners required by the manufacturer, but not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope, exceeds 21 units vertical in 12 units horizontal (21:12), shingles shall be installed as required by the manufacturer.

Section 1507.2.9.2 Change text to read as shown:

1507.2.9.2 Valleys. Valley linings shall be installed in accordance with the manufacturer's instructions before applying shingles. Valley linings of the following types shall be permitted:

1. For open valleys ~~(valley lining exposed)~~ lined with metal, the valley lining shall be at least 16 inches (406 mm) wide and of any of the corrosion-resistant metals in Table 1503.2.
2. For open valleys, valley lining of two plies of mineral-surfaced roll roofing complying with ASTM D 6380 Class M or ASTM D 3909 shall be permitted. The bottom layer shall be 18 inches (457 mm) and the top layer a minimum of 36 inches (914 mm) wide.
3. For closed valleys ~~(valleys covered with shingles)~~, valley lining of one ply of smooth roll roofing complying with ASTM D ~~224~~ 6380 Class S and at least 36 inches (914 mm) wide or types as described in Items 1 ~~and~~ or 2 above shall be permitted. Specialty underlayment ~~shall comply~~ complying with ASTM D 1970 may be used in lieu of the lining material.

Section 1507.2.9.3 Change text to read as shown:

1507.2.9.3 Drip edge. Provide drip edge at eaves and gables of shingle roofs. Overlap to be a minimum of 2 inches (51 mm). Eave drip edges shall extend ~~0.25~~ ½ inch (~~6.4~~ 13 mm) below sheathing and extend back on the roof a minimum of 2 inches (51 mm). ~~Drip edge shall be mechanically fastened a maximum of 12 inches (305 mm) o.c.~~ Drip edge at eaves shall be permitted to be installed either over or under the underlayment. If installed over the underlayment, there shall be a minimum ~~2~~ 4 inches (51 mm) width of roof cement installed over the drip edge flange. Drip edge shall be mechanically fastened a maximum of 12 inches (305 mm) on center. Where the basic wind speed per Figure 1609 is 110 mph (177 km/h) or greater or the mean roof height exceeds 33 feet (10 058 mm), drip edges shall be mechanically fastened a maximum of 4 inches (102 mm) on center.

Section 1507.2.10 Add a new section to read as shown:

1507.2.10 Wind Resistance of Asphalt Shingles. Asphalt Shingles shall be classified in accordance with ASTM D3161, TAS 107 or ASTM D7158 to resist the basic wind speed per Figure 1609. Shingles classified as ASTM D 3161 Class D or ASTM D 7158 Class G are acceptable for use in the 100-mph wind zone. Shingles classified as ASTM D3161 Class F, TAS107 or ASTM D 7158 Class H are acceptable for use in all wind zones. Asphalt shingle wrappers shall indicate compliance with one of the required classifications as shown in Table 1507.2.10

Table 1507.2.10 Add new table to read as shown:

Table 1507.2.10
Wind Resistance of Asphalt Shingles

Maximum Basic Wind Speed MPH (per Figure ~~R301.2 (4)~~ 1609)	Classification
100	ASTM D3161 Class D or ASTM D 7158 Class G or TAS 107
110	ASTM D3161 Class F or ASTM D 7158 Class G or TAS 107
120	ASTM D3161 Class F or ASTM D 7158 Class G or TAS 107
130	ASTM D3161 Class F or ASTM D 7158 Class H or TAS 107
140	ASTM D3161 Class F or ASTM D 7158 Class H or TAS 107
150	ASTM D3161 Class F or ASTM D 7158 Class H or TAS 107

Section 1507.3.3 Change text to read as shown:

1507.3.3 Underlayment. Unless otherwise noted, required underlayment shall conform to: ASTM D 226, Type II; ASTM D 2626; ASTM D 1970 or ASTM D 6380 mineral-surfaced roll roofing. Underlayment shall be applied according to the tile manufacturer's installation instructions or the recommendations of the FRSA/TRI 07320.
[Remaining text unchanged.]

Section 1507.3.3.1 Delete the section to read as shown:

1507.3.3.1 Low-slope roofs. Reserved. ~~For roof slopes from 2½ units vertical in 12 units horizontal (21-percent slope), up to four units vertical in 12 units horizontal (33-percent slope), underlayment shall be a minimum of two layers applied as follows:~~

1. ~~Starting at the eave, a 19-inch (483 mm) strip of underlayment shall be applied parallel with the eave and fastened sufficiently in place.~~
2. ~~Starting at the eave, 36-inch-wide (914 mm) strips of underlayment felt shall be applied overlapping successive sheets 19 inches (483 mm) and fastened sufficiently in place.~~

Section 1507.3.3.2 Delete the section to read as shown:

1507.3.3.2 High-slope roofs. Reserved. ~~For roof slopes of four units vertical in 12 units~~

~~horizontal (33-percent slope) or greater, underlayment shall be a minimum of one layer of underlayment felt applied shingle fashion, parallel to, and starting from the eaves and lapped 2 inches (51 mm), fastened only as necessary to hold in place.~~

Table 1507.4.3 Change table to read as shown (added a column):

TABLE 1507.4.3

METAL ROOF COVERINGS STANDARDS AND INSTALLATION

ROOF COVERING TYPE	STANDARD	APPLICATION RATE/THICKNESS
Aluminum	ASTM B 209	0.024 inch minimum thickness for roll-formed panels and 0.019 inch minimum thickness for press-formed shingles.
Aluminum-zinc coated steel	ASTM A 792	0.013 inch minimum thickness, AZ 50 (coated minimum application rate)
Copper	ASTM B 370	16 oz./sq. ft. for metal sheet roof covering systems; 12 oz./sq. ft. for preformed metal shingle systems;
Galvanized steel	ASTM A 653	G–90 zinc-coated, 0.013 inch thick minimum
Lead–coated copper	ASTM B 101	
Hard lead		2 lbs./sq. ft.
Soft lead		3 lbs./sq. ft.
Prepainted steel	ASTM A 755	
Terne (tin) and terne-coated stainless		Terne coating of 40 lbs. per double base box, field painted where applicable in accordance with manufacturer’s installation instructions.

For SI: 1 ounce per square foot = 0.0026 kg/m^2,
1 pound per square foot = 4.882 kg/m^2,
1 inch = 25.4 mm, 1 pound = 0.454 kg.

Section 1507.6.4 Change text to read as shown:

1507.6.4 Material standards. Mineral-surfaced roll roofing shall conform to ~~ASTM D 224, ASTM D 249, ASTM D 371~~ ASTM D 6380 Class M or Class WS or ASTM D 3909.

Section 1507.7.6 Change to read as shown:

1507.7.6 Flashing. Flashing and counter flashing shall be made with sheet metal. Valley flashing shall be a minimum of ~~15~~ 16 inches (381 mm) wide. Valley and flashing metal shall be a minimum thickness provided in Table 1503.2 nonferrous metal or stainless steel.

Table 1507.8 Change text to read as shown:

WOOD SHINGLE AND SHAKE INSTALLATION

ROOF ITEM	WOOD SHINGLES	WOOD SHAKES
1. Roof slope	Wood shingles shall be installed on slopes of three units vertical in 12 units horizontal (3:12) or greater.	Wood shakes shall be installed on slopes of four units vertical in 12 units horizontal (4:12) or greater.
2. Deck requirement		
Temperate climate	Shingles shall be applied to roofs with solid or spaced sheathing. Where spaced sheathing is used, sheathing boards shall not be 4 less than 1" × 4" nominal dimensions and shall be spaced on center equal to the weather exposure to coincide with the placement of fasteners.	Shakes shall be applied to roofs with solid or spaced sheathing. Where spaced sheathing is used, sheathing boards shall not be less than 1" × 4" nominal dimensions and shall be spaced on center equal to the weather exposure to coincide with the placement of fasteners. When 1" × 4" spaced sheathing is installed at 10 inches, boards must be installed between the sheathing boards.
~~In areas where the average daily temperature in January is 25°F or less or where there is a possibility of ice forming along the eaves causing a backup of water.~~	~~Solid sheathing required.~~	~~Solid sheathing is required.~~
3. Interlayment	No requirements.	Interlayment shall comply with ASTM D 226, Type 1.
4. Underlayment		
Temperate climate	Underlayment shall comply with ASTM D 226, Type 1.	Underlayment shall comply with ASTM D 226, Type 1.
~~In areas where the average daily temperature in January is 25°F or less or where there is a possibility of ice forming along the eaves causing a backup of water.~~	~~An ice shield that consists of at least two layers of underlayment cemented together or of a self-adhering polymer-modified bitumen sheet shall extend from the eave's edge to a point at least 24 inches inside the exterior wall line of the building.~~	~~An ice shield that consists of at least two layers of underlayment cemented together or of a self-adhering polymer-modified bitumen sheet shall extend from the eave's edge to a point at least 24 inches inside the exterior wall line of the building.~~
5. Application		
Attachment	Fasteners for wood shingles shall be corrosion resistant with a minimum penetration of 0.75 inch into the sheathing. For sheathing less than 0.5 inch thick, the fasteners shall extend through the sheathing.	Fasteners for wood shakes shall be corrosion resistant with a minimum penetration of 0.75 inch into the sheathing. For sheathing less than 0.5 inch thick, the fasteners shall extend through the sheathing.
No. of fasteners	Two per shingle.	Two per shake.
Exposure	Weather exposures shall not exceed those set forth in Table 1507.8.6	Weather exposures shall not exceed those set forth in Table 1507.9.7
Method	Shingles shall be laid with a side lap of not less than 1.5 inches between joints in courses, and no two joints in any three adjacent courses shall be in direct alignment. Spacing between shingles shall be 0.25 to 0.375 inch.	Shakes shall be laid with a side lap of not less than 1.5 inches between joints in adjacent courses. Spacing between shakes shall not be less than 0.375 inch or more than 0.625 inch for shakes and tapersawn shakes of naturally durable wood and shall be 0.25 to 0.375 inch for preservative taper sawn shakes.
Flashing	In accordance with Section 1507.8.7.	In accordance with Section 1507.9.8.

For SI: 1 inch = 25.4 mm, °C = [(°F) - 32]/1.8.

Section 1507.11.2 Change to read as shown:

1507.11.2 Material standards. Modified bitumen roof coverings shall comply with CGSB 37-GP-56M, ASTM D 6162, ASTM D 6163, ASTM D 6164, ASTM D 6222, ASTM D 6223 ~~and~~ or ASTM D 6298.

Section 1510.3 Change to read as shown:

1510.3 Recovering versus replacement. New roof coverings shall not be installed without first removing all existing layers of roof coverings where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.
4. When blisters exist in any roofing, unless blisters are cut or scraped open and remaining materials secured down before applying additional roofing.
5. Where the existing roof is to be used for attachment for a new roof system and compliance with the securement provisions of 1504.1 can not be met.

Exceptions:

1. Complete and separate roofing systems, such as standing-seam metal roof systems, that are designed to transmit the roof loads directly to the building's structural system and that do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.
2. ~~Metal panel, metal shingle, and concrete and clay tile roof coverings shall be permitted to be installed over existing wood shake roofs when applied in accordance with Section 1510.4.~~

.

Section 1519.16 Add text to read as shown:

1519.16 Waterproofing Waterproofing systems may be installed in lieu of an approved roof system over sloped or horizontal decks specifically designed for pedestrian and/or vehicular traffic, whether the deck is above occupied or unoccupied space. In new construction the minimum deck slope shall be ¼ : 12.

1519.16.1 The waterproofing system must possess a current and valid product approval.

1519.16.2 If an overburden or wearing surface is not to be installed, the waterproofing system must be approved by the manufacturer for use in vehicular and/or pedestrian traffic locations.

1519.16.3 The waterproofing assembly must possess a Class A, Class B, or Class C fire rating as required herein.

1519.16.4 If any portion of the waterproofing membrane is to remain exposed, the waterproofing system shall be ultra-violet resistant.

1519.16.5 Flashings must be installed according to the waterproofing manufacturer's published specifications and in compliance with the material and attachment standards of RAS 111.

1519.16.6 The waterproofing system shall be flood tested in accordance with ASTM D 5957.

1519.16.6.1 The flood test shall take place after installation of the waterproofing membrane and prior to the installation of any above membrane components, wearing surface or overburden.

1519.16.6.2 An approved testing lab shall provide written verification to the Building Official confirming that the flood test was performed along with the results, prior to final inspection.

Section 1521.11 Change to read as shown:

1521.11 If the recover roofing assembly is mechanically attached through either a base sheet or insulation layer, the attachment assembly shall be field tested for fastener withdrawal resistance, in compliance with TAS 105, and laboratory tested for pull-over resistance to insure compliance with wind uplift requirements set forth in Chapter 16 (High-Velocity Hurricane Zones) of this code. Test results shall be submitted with the uniform roofing permit application. Recover roofing assembly anchor sheet or base sheet shall not be mechanically fastened directly to existing gravel roof unless all gravel is completely removed.

CHAPTER 16
STRUCTURAL DESIGN

Section 1603.1.4 Change text to read as shown:

1603.1.4 Wind design data.
The following information related to wind loads shall be shown, regardless of whether wind loads govern the design of the lateral-force-resisting system of the building:

1. Basic wind speed (3-second gust), miles per hour (km/hr).
2. Wind importance factor, IW, and building classification from Table 1604.5 or Table 6-1, ASCE 7 and building classification in Table 1-1, ASCE 7.
3. Wind exposure, if more than one wind exposure is utilized, the wind exposure and applicable wind direction shall be indicated.
4. The applicable enclosure classifications and, if designing with ASCE 7, internal pressure coefficient.
5. Components and cladding. The design wind pressures in terms of psf (kN/m^2) to be used for the ~~design~~ selection of exterior components and cladding materials not specifically designed by the registered design professional.

Table 1604.3 Deflection Limits, change notes below table to read as shown:

j. Screen surfaces shall be permitted to include a maximum of 25% solid flexible finishes.

Section 1604.8.2 change to read as shown:

1604.8.2 Concrete and masonry walls. Concrete and masonry walls shall be anchored to floors, roofs and other structural elements that provide lateral support for the wall. Such anchorage shall provide a positive direct connection capable of resisting the horizontal forces specified in this chapter but not less than a minimum strength design horizontal force of 280 plf (4.10 kN/m) of wall, unless the lateral force has otherwise been calculated by the Engineer of Record. Walls shall be designed to resist bending between anchors where the anchor spacing exceeds 4 feet (1219 mm). Required anchors in masonry walls of hollow units or cavity walls shall be embedded in a reinforced grouted structural element of the wall. See Section~~s~~ 1609.6.5 for wind design requirements.

Figure 1609 Change to read as shown:

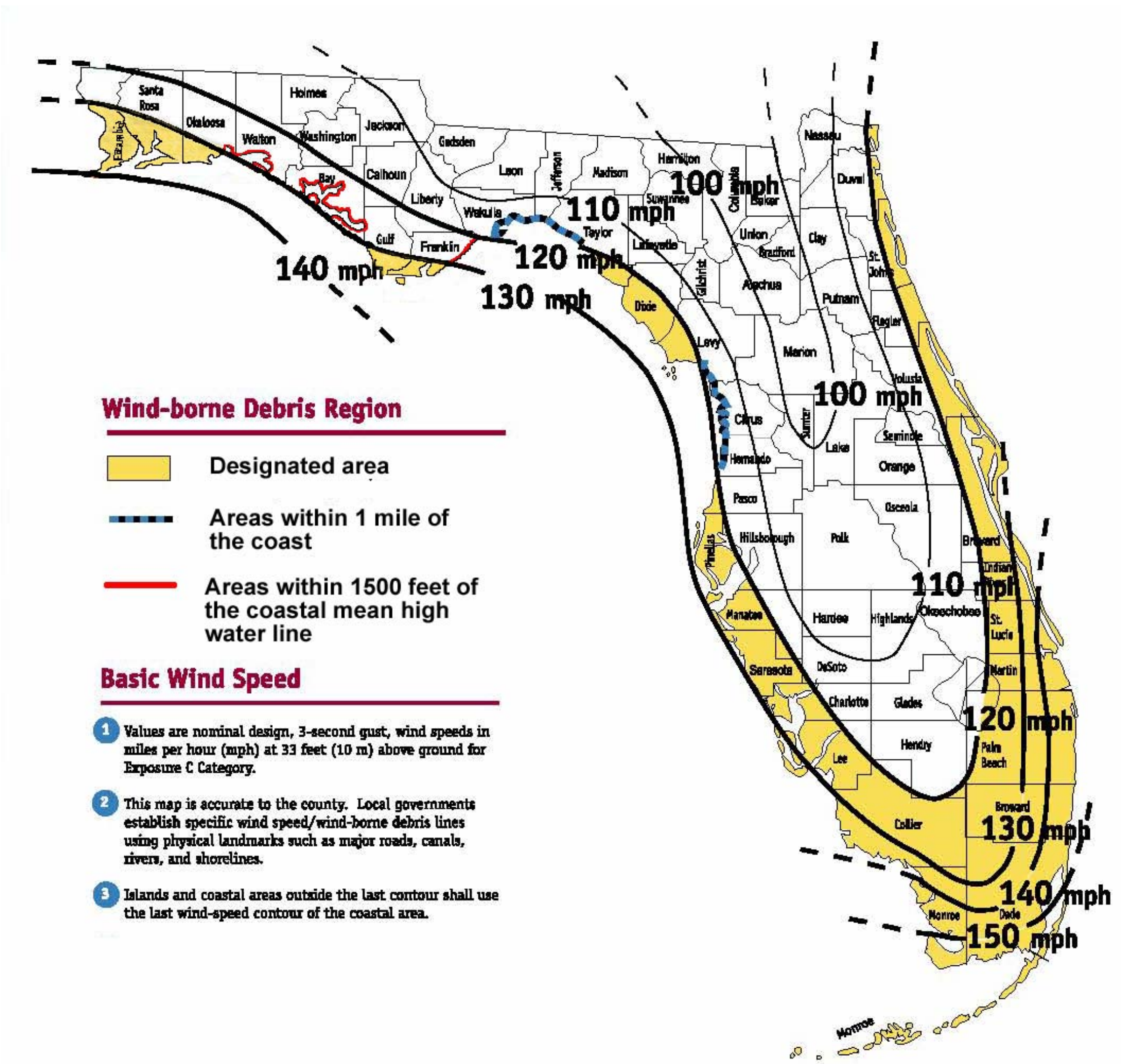


FIGURE 1609
STATE OF FLORIDA DEBRIS REGION & BASIC WIND SPEED

[Make the lines solid.]

Figure 1609 Delete notes 4 and 5 as shown:

~~4) Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.~~
~~5) Wind speeds are American Society of Civil Engineers Standard (ASCE 7-98) 50-100-year peak gusts.~~

Change the figure to reflect the new criteria for the wind borne debris region as defined in s. 202.

Section 1609.1.1 Change section to read as shown:

1609.1.1 Determination of wind loads. Wind loads on every building or structure shall be determined in accordance with Section 6 of ASCE 7. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Exceptions: (1 through 2 and 4 through 9 unchanged.)

3. Subject to the limitations of Sections 1609.1.1.1, 1609.1.4, and 1609.3, the provisions of ~~*SBCCI SSTD 10*~~ *IBHS Guideline for Hurricane Resistant Residential Construction ~~2005~~* shall be permitted for applicable Group R2 and R3 buildings for a basic wind speed of ~~130~~ 140 mph (~~58~~ 63 m/s) or less in Exposure B ~~and 110 mph (49 m/s) or less in Exposure C~~ in accordance with Figure 1609 and Section 1609.4. Provisions for design wind speeds of 140 mph (63 m/s) in the Guideline shall also be permitted for buildings for a basic wind speed of 120 mph (54 m/s) or less in Exposure C in accordance with Figure 1609 and Section 1609.4 and provisions for design wind speeds of 120 mph (54 m/s) in the Guideline shall be permitted for buildings for a basic wind speed of 100 mph (45 m/s) or less in Exposure C in accordance with Figure 1609 and Section 1609.4.

10. Wind loads for screened enclosures shall be determined in accordance with Section 2002.4.

Section 1609.1.1.1 Change to read as shown:

1609.1.1.1 Applicability. The provisions of ~~SSTD 10~~ IBHS Guideline for Hurricane Resistant Residential Construction, the AF&PA *Wood Frame Construction Manual for One- and Two-Family Dwellings, High Wind Areas*, [Remaining text unchanged].

Section 1609.1.4 Change to read as shown:

1609.1.4 Protection of openings. In wind-borne debris regions, exterior glazing that receives positive pressure in the lower 60 feet (18.3 m) in buildings shall be assumed to be openings and the balance of glazed openings in the rest of the building shall be assumed to be zero unless such glazing that receives positive pressure is impact resistant or protected with an impact resistant covering meeting the requirements of SSTD 12, ASTM E 1886 and ASTM E 1996, ANSI/DASMA 115 (for garage doors and rolling doors) or Miami-Dade TAS 201, 202 and 203 or AAMA 506 referenced therein as follows:

(Items 1 through 4 unchanged.)

Impact resistant coverings shall be tested at 1.5 times the design pressure (positive or negative) expressed in pounds per square feet as determined by the Florida Building Code, Building Section 1609 for which the specimen is to be tested.

Exception:

1. Wood structural panels with a minimum thickness of 7/16 inch (11.1 mm) and a maximum span of 8 feet (2438 mm) shall be permitted for opening protection in one- and two-story buildings. Panels shall be precut so that they shall be attached to the framing surrounding the opening containing the product with ~~to cover~~ the glazed opening~~s with attachment hardware provided~~. Panels shall be predrilled as required for the anchorage method and all required hardware shall be provided. Attachment shall be designed to resist the components and cladding loads determined in accordance with the provisions of Section 1609.6.1.2, with permanent corrosion resistant attachment hardware provided and anchors permanently installed on the building. Attachment in accordance with Table 1609.1.4, with permanent corrosion resistant attachment hardware provided and anchors permanently installed on the building is permitted for buildings with a mean roof height of ~~33~~ 45 feet (10,058 mm) or less where wind speeds do not exceed 140 ~~130~~ mph (57.2 m/s)

2. (No change.)

Table 1609.1.4 Change Table as shown:

TABLE 1609.1.4
WIND-BORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS

FASTENER TYPE	FASTENER SPACING (in.)[1,2]			
	Panel span ≤ 2 ft	2 foot < panel span ≤ 4 foot	4 foot < panel span ≤ 6 foot	6 foot < panel span ≤ 8 foot
~~2-1/2 #6 Wood Screws~~[3] #8 Wood Screw based anchor with 2-inch embedment length[3]	16	16	~~12~~ 10	~~9~~ 8
~~2-1/2 #8 Wood Screws~~[3] #10 Wood Screw based anchor with 2-inch embedment length[3]	16	16	~~16~~ 12	~~12~~ 9
~~Double-Headed Nails~~[4] ¼ Lag screw based anchor with 2-inch embedment length[3]	~~12~~ 16	~~6~~ 16	4 16	~~3~~ 16

SI: 1 inch = 25.4 mm, 1 foot = 305 mm.
1. This table is based on a maximum wind speed of 140 ~~130~~ mph (58 m/s) and mean roof height of 45 ~~33~~ feet (10 m) or less.
2. Fasteners shall be installed at opposing ends of the wood structural panel.
3. Where screws are attached to masonry or masonry/stucco, they shall be attached using vibration-resistant anchors having a minimum withdrawal capacity of ~~490~~ 1500 lb (2180 kN).

~~4. Nails shall be 10d common or 12d box double-headed nails.~~

1609.2 Definitions. Change the text of the following terms to read as shown:

~~**BUILDING, SIMPLE DIAPHRAGM**. A building which complies with all of the following conditions:~~
~~1. enclosed building,~~
~~2. mean roof height, *h*, less than or equal to 60 feet (18 m),~~
~~3. mean roof height, *h*, does not exceed least horizontal dimension,~~
~~4. building has an approximately symmetrical cross section,~~
~~5. building has no expansion joints or structural separations within the building,~~
~~6. wind loads are transmitted through floor and roof diaphragms to the vertical lateral-force-resisting systems, and~~
~~7. if the building has moment-resisting frames, roof slopes do not exceed 30 percent.~~

BUILDING, SIMPLE DIAPHRAGM. A building in which wind loads are transmitted through floor and roof diaphragms to the vertical lateral-force-resisting systems.

~~**EFFECTIVE WIND AREA.** The area used to determine *GCp*. For component and cladding elements, the effective wind area in Tables 1609.6B and 1609.6C is the span length multiplied by an effective width that need not be less than one-third the span length. For cladding fasteners, the effective wind area shall not be greater than the area that is tributary to an individual fastener.~~

EFFECTIVE WIND AREA. The area used to determine *GCp*. For component and cladding elements, the effective wind area in Tables 1609.6.2.1(2) and 1609.6.2.1(3) is the span length multiplied by an effective width that need not be less than one-third the span length. For cladding fasteners, the effective wind area shall not be greater than the area that is tributary to an individual fastener.
[Remaining text unchanged.]

WIND-BORNE DEBRIS REGION.
1. Areas within one mile (1.6 km) of the coastal mean high water line where the basic wind speed is 110 mph (49 m/s) or greater.
2. Areas where the basic wind speed is 120 mph (53 m/s) or greater except from the eastern border of Franklin County to the Florida-Alabama line where the region includes areas ~~only within 1 mile of the coast~~ where design to 130mph or higher wind speeds is required and areas within 1500 feet of the coastal mean high water line.

Section 1609.3 Change text to read as shown:

1609.3 Basic wind speed. The basic wind speed in miles per hour, for the development of windloads, shall be determined from Figure1609. ~~Basic wind speed for the special wind regions indicated, near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements.~~ The exact location of wind speed lines shall be established by local ordinance using recognized physical landmarks such as major roads, canals, rivers and lake shores whenever possible.

[Remaining text unchanged.]

Section 1609.4 Change text to read as shown:

1609.4 Exposure category. For each wind direction considered, an exposure category that adequately reflects the characteristics of ground surface irregularities shall be determined for the site at which the building or structure is to be constructed. For a site located in the transition zone between categories, the category resulting in the largest wind forces shall apply. Account shall be taken of variations in ground surface roughness that arise from natural topography and vegetation as well as from constructed features. For any given wind direction, the exposure in which a specific building or other structure is sited shall be assessed as being one of the following categories. When applying the simplified wind load method of Section 1609.6, a single exposure category shall be used based upon the most restrictive for any given wind direction.

1. ~~**Exposure A.** Large city centers with at least 50 percent of the buildings having a height in excess of 70 feet (21.3 m). Use of this exposure category shall be limited to those areas for which terrain representative of Exposure A prevails in the upwind direction for a distance of at least one-half mile (0.8 km) or 10 times the height of the building or other structure, whichever is greater. Possible channeling effects or increased velocity pressures caused by the building or structure being located in the wake of adjacent buildings shall be taken into account.~~

1. **Exposure A.** This exposure category is no longer used in ASCE 7.

2. Exposure B. Urban and suburban areas, wooded areas or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger. Exposure B shall be assumed unless the site meets the definition of another type of exposure.

3. Exposure C. ~~Means, except in the High-Velocity Hurricane Zone, that area which lies within 1,500 feet (457 m) of the costal construction line, or within 1,500 feet (457 m) of the mean high tide line, whichever is less. On barrier islands, Exposure C shall be applicable to the coastal building zone set forth in Section 161.55(4), *Florida Statutes*.~~ Open terrain with scattered obstructions, including surface undulations or other irregularities, having heights generally less than 30 feet (9144 mm) extending more than 1,500 feet (457.2 m) from the building site in any quadrant. This exposure shall also apply to any building located within Exposure B-type terrain where the building is directly adjacent to open areas of Exposure C-type terrain in any quadrant for a distance of more than 600 feet (182.9 m). Short term (less than two year) changes in the pre-existing terrain exposure, for the purposes of development, shall not be considered open fields. Where development build out will occur within 3 years and the resultant condition will meet the definition of Exposure B, Exposure B shall be regulating for the purpose of permitting. This category includes flat open country, grasslands and ocean or gulf shorelines. This category does not include inland bodies of water that present a fetch of 1 mile (1.61 km) or more or inland waterways or rivers with a width of 1 mile (1.61 km) or more. (See Exposure D.)

4. Exposure D. Flat, unobstructed areas exposed to wind flowing over open water (excluding shorelines in hurricane-prone regions) for a distance of at least 1 mile (1.61 km). Shorelines in Exposure D include inland waterways, the Great Lakes and coastal areas of California, Oregon, Washington and Alaska. This exposure shall apply only to those buildings and other structures exposed to the wind coming from over the water. Exposure D extends inland from the shoreline a distance of 1,500 feet (460 m) or 10 times the height of the building or structure, whichever is greater.

Section 1609.6 Change text to read as shown:

1609.6 Simplified wind load method ~~provisions for low-rise buildings~~.

~~**1609.6.1 Scope.** Procedures in Section 1609.6 shall be used for determining and applying wind pressures in the design of simple diaphragm buildings with flat, hipped and gable-shaped roofs having a mean roof height not exceeding the least horizontal dimension of the building or 60 feet (18.3 m), whichever is less.~~

~~The provisions of Section 1609.6 shall not be used if any of the following conditions exist:~~

1. ~~Buildings on which exterior glazing is considered to be openings in accordance with Section 1609.1.4.~~
2. ~~Buildings sited on the upper half of an isolated hill or escarpment meeting all the following conditions:~~

~~2.1 The hill or escarpment is 60 feet (18.3 m) or higher if located in exposure B or 30 feet (9.1 m) or higher if located in Exposure C.~~

~~2.2 The maximum average slope of the hill exceeds 10 percent.~~

~~2.3 The hill or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 1 mile (1.6 km), whichever is less.~~

1609.6.1 Scope. The procedures in Section 1609.6 shall be permitted to be used for determining and applying wind pressures in the design of enclosed buildings with flat, gabled and hipped roofs and having a mean roof height not exceeding the least horizontal dimension or 60 feet (18 288 mm), whichever is less, subject to the limitations of Sections 1609.6.1.1 and 1609.6.1.2. If a building qualifies only under Section 1609.6.1.2 for design of its components and cladding, then its main wind force-resisting system shall be designed in accordance with Section 1609.1.1.

> **Exception:** The provisions of Section 1609.6 shall not apply to buildings sited on the upper half of an isolated hill or escarpment meeting all of the following conditions:
>
> 1. The hill or escarpment is 60 feet (18 288 mm) or higher if located in Exposure B or 30 feet (9144 mm) or higher if located in Exposure C.
> 2. The maximum average slope of the hill exceeds 10 percent.
> 3. The hill or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 1 mile (1.61 km), whichever is less.

~~**1609.6.1.1 Reserved.**~~

1609.6.1.1 Main wind force-resisting systems. For the design of main wind force- resisting systems, the building must meet all of the following conditions:

1. The building is a simple diaphragm building as defined in Section 1609.2.

2. The building is not classified as a flexible building as defined in Section 1609.2.

3. The building does not have response characteristics making it subject to across wind loading, vortex shedding, instability due to galloping or flutter; and does not have a site location for which channeling effects or buffeting in the wake of upwind obstructions warrant special consideration.

4. The building structure has no expansion joints or separations.

5. The building is regular shaped and has an approximately symmetrical cross section in each direction with roof slopes not exceeding 45 degrees (0.78 rad.).

~~**1609.6.1.2 Reserved.**~~

1609.6.1.2 Components and cladding. For the design of components and cladding, the building must meet all of the following conditions:

1. The building does not have response characteristics making it subject to across wind loading, vortex shedding, instability due to galloping or flutter; and does not have a site location for which channeling effects or buffeting in the wake of upwind obstructions warrant special consideration.

2. The building is regular shaped with roof slopes not exceeding 45 degrees (0.78 rad.) for gable roofs, or 27 degrees (0.47 rad.) for hip roofs.

~~**1609.6.2 Wind pressures.**~~

1609.6.2 Design procedure.

1. The basic wind speed, V, shall be determined in accordance with Section 1609.3. The wind shall be assumed to come from any horizontal direction.
2. An importance factor I_w shall be determined in accordance with Section 1609.5.
3. An exposure category shall be determined in accordance with Section 1609.4.
4. A height and exposure adjustment coefficient, λ, shall be determined from Table 1609.6.2.1(4).

~~**1609.6.2.1** Structural members, cladding, fasteners and systems providing for the structural integrity of the building shall be designed for the loads from Table 1609.6A, Table 1609.6B and Table 1609.6C using Figure 1609, multiplied by the appropriate height and exposure coefficient from Table 1609.6D and the importance factor from Table 1604.5.~~

1609.6.2.1 Main wind force-resisting system. Simplified design wind pressures, p_s, for the main wind force-resisting systems represent the net pressures (sum of internal and external) to be applied to the horizontal and vertical projections of building surfaces as shown in Figure 1609.6.2.1. For the horizontal pressures (Zones A, B, C, D), p_s is the combination of the windward and leeward net pressures. p_s shall be determined from Equation 16-34).

$$p_s = \lambda I_w p_{s30} \qquad \textbf{(Equation 16-34)}$$

where:

λ = Adjustment factor for building height and exposure from Table 1609.6.2.1(4).

I_w = Importance factor as defined in Section 1609.5

p_{s30} = Simplified design wind pressure for Exposure B, at h = 30 feet (9144 mm), and for I_w = 1.0, from Table 1609.6.2.1(1).

1609.6.2.1.1 Minimum pressures. The load effects of the design wind pressures from Section 1609.6.2.1 shall not be less than assuming the pressures , p_s, for Zones A, B, C and D all equal to +10 psf (0.48 kN/m^2), while assuming Zones E, F, G, and H all equal to 0 psf.

~~**1609.6.2.2** Members that act as both part of the main wind-force-resisting system and as components and cladding shall be designed for each separate load case.~~

1609.6.2.2 Components and cladding. Net design wind pressures, p_{net}, for the components and cladding of buildings represent the net pressures (sum of internal and external) to be applied normal to each building surface as shown in Figure 1609.6.2.2. The net design wind pressure, p_{net}, shall be determined from Equation 16-35:

$$p_{net} = \lambda I_w p_{net30} \qquad \textbf{(Equation 16-35)}$$

where:

λ = Adjustment factor for building height and exposure from Table 1609.6.2.1(4).

I_w = Importance factor as defined in Section 1609.5.

p_{net30} = Net design wind pressure for Exposure B, at h = 30 feet (9144 mm), and for I_w = 1.0, from Tables 1609.6.2.1(2) and 1609.6.2.1(3).

1609.6.2.2.1 Minimum pressures. The positive design wind pressures, p_{net}, from Section 1609.6.2.2 shall not be less than +10 psf (0.48 kN/m^2), and the negative design wind pressures, p_{net}, from Section 1609.6.2.2 shall not be less than -10 psf (-0.48 kN/m^2).

1609.2.2.2 ~~**6.5.1**~~ **Garage doors and rolling doors.** Pressures from Table 1604.6.2.1(5) ~~Table 1609.E~~ for wind loading actions on garage doors and rolling doors for buildings designed as enclosed shall be permitted.

1609.6.2.3 Load case. Members that act as both part of the main wind force-resisting system and as components and cladding shall be designed for each separate load case.

~~**1609.6.3 Edge strips and end zones.** The width of the edge strips (a), as shown in Figure 1609.6C, shall be 10 percent of the least horizontal dimension or 40 percent of the eave height, whichever is less but not less than either 4 percent of the least horizontal dimension or 3 feet (914 mm). End zones as shown in Figure 1609.6B shall be twice the width of the~~ edge strip (a).

~~**1609.6.4 Main wind force resisting system (MWFRS).** All elements and connections of the MWFRS shall be designed for vertical and horizontal loads based on the combined leeward and windward wall pressures and roof pressures determined from Table 1609.6A. Pressures shall be applied in accordance with the loading diagrams shown in Figure 1609.6A to the end zone and interior zone as shown in Figure 1609.6B. The building shall be designed for all wind directions. For buildings having flat roofs, a ridge line normal to the wind direction shall be assumed at the midlength dimension of the roof for all directions considered. Each corner shall be considered in turn as the windward corner.~~

> ~~**1609.6.4.1 Overhang loads.** The pressures to be used for the effects of roof overhangs on MWFRS shall be taken from Table 1609.6A and include the effect of the wind on both the bottom and top surfaces.~~

~~**1609.6.5 Components and cladding.** Pressure for wind loading actions on components and cladding shall be determined from Table 1609.6B for enclosed portions of the building and Table 1609.6C for overhangs, based on the effective area for the element under consideration. The~~

~~pressures in Table 1609.6C include internal pressure. The pressure shall be applied in accordance with the loading diagrams in Figure 1609.6C.~~

Figure 1609.6A Delete figure to read as shown.

~~FIGURE 1609.6A APPLICATION OF MAIN WIND FORCE RESISTING SYSTEM LOADS FOR SIMPLE DIAPHRAGM BUILDS~~

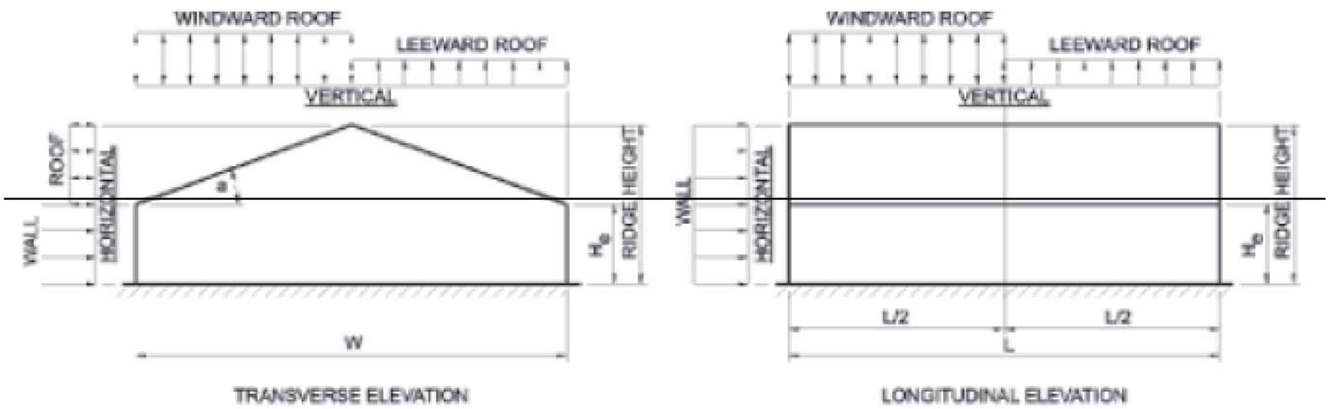


Figure 1609.6B Delete figure to read as shown:

~~FIGURE 1609.6B MAIN WIND FORCE LOADING DIAGRAM~~

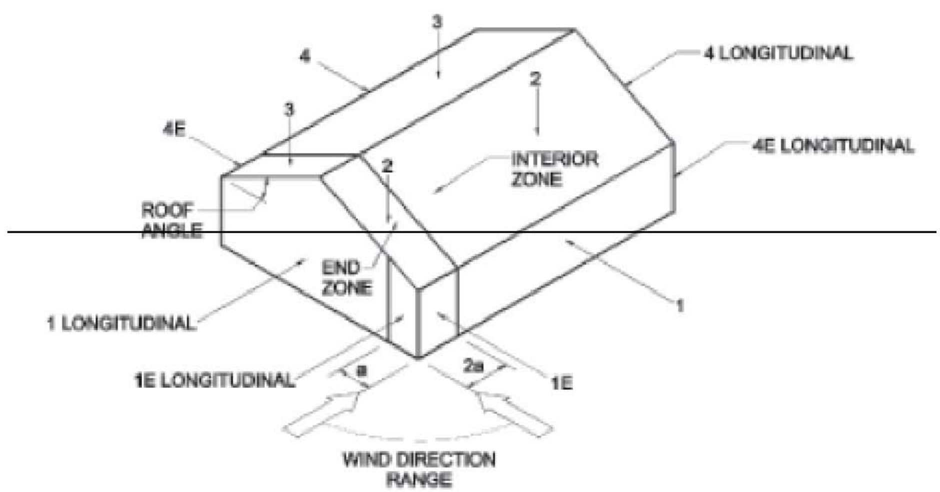
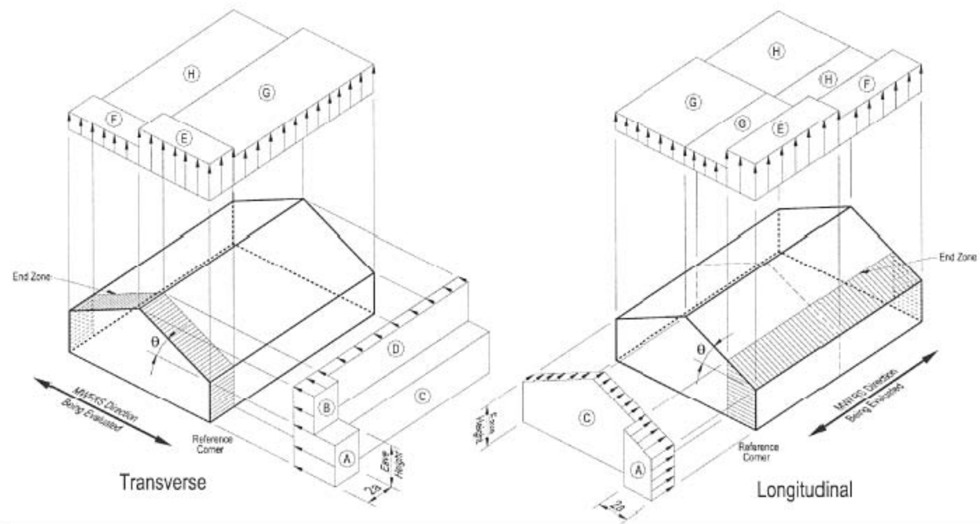


Figure 1609.6.2.1 Add figure to read as shown:

<u>FIGURE 1609.6.2.1</u>
<u>MAIN WIND FORCE LOADING DIAGRAM</u>



For SI: 1 foot = 304.8 mm, 1 degree = 0.0174 rad.

Notes:

1. Pressures are applied to the horizontal and vertical projections for Exposure B, at *h* = 30 feet, for *Iw* = 1.0. Adjust to other exposures and heights with adjustment factor λ.
2. The load patterns shown shall be applied to each corner of the building in turn as the reference corner.
3. For the design of the longitudinal MWFRS, use θ = 0°, and locate the Zone E/F, G/H boundary at the mid-length of the building.
4. Load Cases 1 and 2 must be checked for 25° < θ ≤ 45°. Load Case 2 at 25° is provided only for interpolation between 25° to 30°.
5. Plus and minus signs signify pressures acting toward and away from the projected surfaces, respectively.
6. For roof slopes other than those shown, linear interpolation is permitted.
7. The total horizontal load shall not be less than that determined by assuming $p_s = 0$ *in Zones B* and *D.*
8. The zone pressures represent the following:

Horizontal pressure zones — Sum of the windward and leeward net (sum of internal and external) pressures on vertical projection of:

A – End zone of wall	C – Interior zone of wall
B – End zone of roof	D – Interior zone of roof

Vertical pressure zones — Net (sum of internal and external) pressures on horizontal projection of:

E – End zone of windward roof	G – Interior zone of windward roof
F – End zone of leeward roof	H – Interior zone of leeward roof

9. Where Zone E or G falls on a roof overhang on the windward side of the building, use E_{OH} and G_{OH} for the pressure on the horizontal projection of the overhang. Overhangs on the leeward and side edges shall have the basic zone pressure applied.
10. Notation:

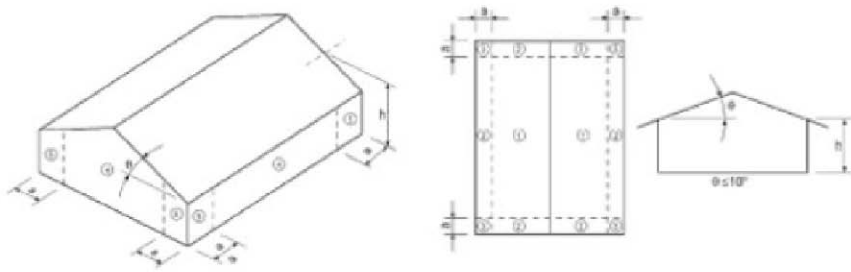
a: 10 percent of least horizontal dimension or 0.4h, whichever is smaller, but not less than either 4 percent of least horizontal dimension or 3 feet.

h: Mean roof height, in feet (meters), except that eave height shall be used for roof angles < 10°.

θ: Angle of plane of roof from horizontal, in degrees.

Figure 1609.6C Delete figure to read as shown:

~~FIGURE 1609.6C COMPONENT AND CLADDING LOADING DIAGRAMS~~



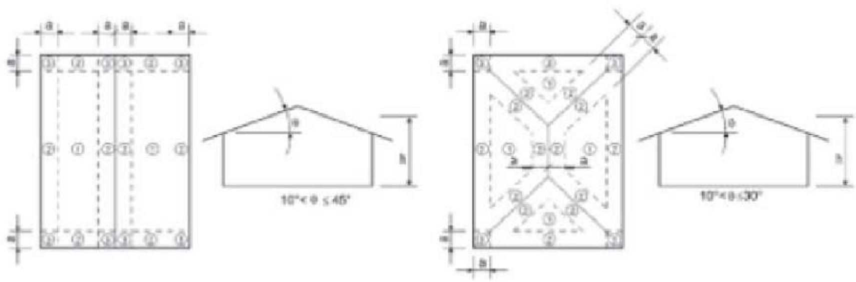
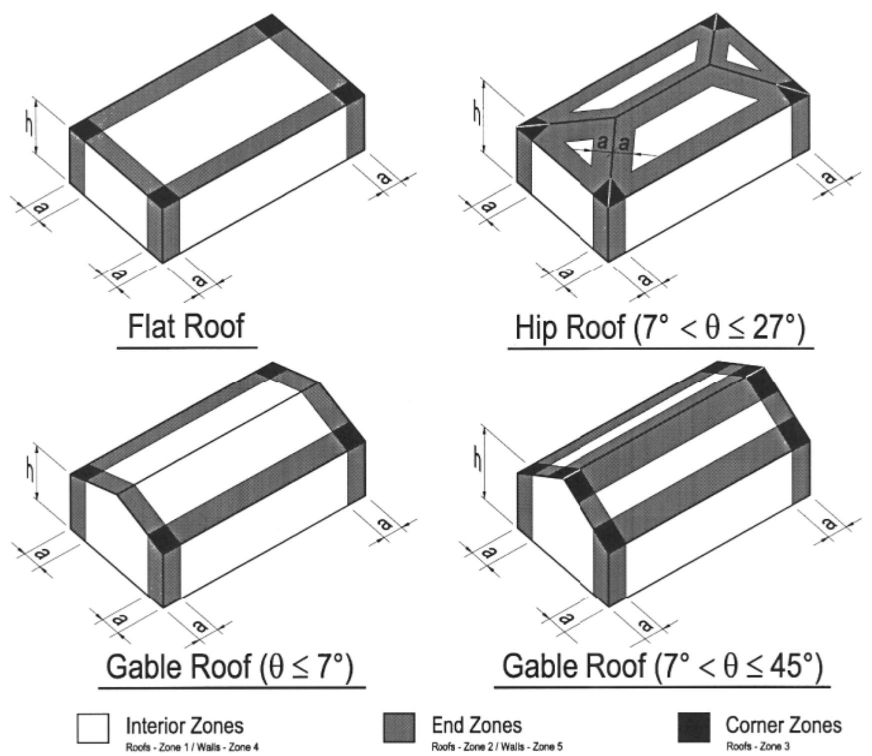


Figure 1609.6.2.2 Add the following figure to read as shown:

<u>**FIGURE 1609.6.2.2**</u>
<u>**COMPONENT AND CLADDING PRESSURE**</u>



<u>For SI: 1 foot = 304.8 mm, 1 degree = 0.0174 rad.</u>

<u>**Notes:**</u>

<u>1. Pressures are applied normal to the surface for Exposure B, at *h* = 30 feet, for I_w = 1.0. Adjust to other exposures and heights with adjustment factor λ.</u>

2. Plus and minus signs signify pressures acting toward and away from the surfaces, respectively.
3. For hip roofs with $\theta \leq 25°$, Zone 3 shall be treated as Zone 2.
4. For effective areas between those given, the value is permitted to be interpolated, otherwise use the value associated with the lower effective area.
5. Notation:
   - *a*: 10 percent of least horizontal dimension or 0.4h, whichever is smaller, but not less than either 4 percent of least horizontal dimension or 3 feet.
   - *h*: Mean roof height, in feet (meters), except that eave height shall be used for roof angles $<10°$.
   - θ: Angle of plane of roof from horizontal, in degrees.

Table 1609.6A Delete table to read as shown:

~~**TABLE 1609.6A**~~
~~**MAIN WIND FORCE RESISTING SYSTEM WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B Note 1**~~

~~WIND VELOCITY (mph)~~	~~LOAD DIRECTION~~	~~ROOF ANGLE~~	~~HORIZONTAL LOADS 2~~				~~VERTICAL LOADS~~			
			~~End zone~~		~~Interior zone~~		~~End zone~~		~~Interior zone~~	
			~~Wall~~	~~Roof 3~~	~~Wall~~	~~Roof 3~~	~~Windward roof~~	~~Leeward roof~~	~~Windward roof~~	~~Leeward roof~~
~~90~~	~~Transverse~~	~~0 to 5º~~	~~12.8~~	~~-6.7~~	~~8.5~~	~~-4.0~~	~~-15.4~~	~~-8.8~~	~~-10.7~~	~~-6.8~~
		~~20º~~	~~17.8~~	~~-4.7~~	~~11.9~~	~~-2.6~~	~~-15.4~~	~~-10.7~~	~~-10.7~~	~~-8.1~~
		~~30º < angle □45º~~	~~14.4~~	~~9.9~~	~~11.5~~	~~7.9~~	~~5.6~~	~~-8.8~~	~~4.8~~	~~-7.5~~
	~~Longitudinal~~	~~All angles~~	~~12.8~~	~~-6.7~~	~~8.5~~	~~-4.0~~	~~-15.4~~	~~-8.8~~	~~-10.7~~	~~-6.8~~
~~100~~	~~Transverse~~	~~0 to 5º~~	~~15.9~~	~~-8.2~~	~~10.5~~	~~-4.9~~	~~-19.1~~	~~-10.8~~	~~-13.3~~	~~-8.4~~
		~~20º~~	~~22.0~~	~~-5.8~~	~~14.6~~	~~-3.2~~	~~-19.1~~	~~-13.3~~	~~-13.3~~	~~-10.1~~
		~~30º < angle □45º~~	~~17.8~~	~~12.2~~	~~14.2~~	~~9.8~~	~~6.9~~	~~-10.8~~	~~5.9~~	~~-9.3~~
	~~Longitudinal~~	~~All angles~~	~~15.9~~	~~-8.2~~	~~10.5~~	~~-4.9~~	~~-19.1~~	~~-10.8~~	~~-13.3~~	~~-8.4~~
~~110~~	~~Transverse~~	~~0 to 5º~~	~~19.2~~	~~-10.0~~	~~12.7~~	~~-5.9~~	~~-23.1~~	~~-13.1~~	~~-16.0~~	~~-10.1~~
		~~20º~~	~~26.6~~	~~-7.0~~	~~17.7~~	~~-3.9~~	~~-23.1~~	~~16.0~~	~~-16.0~~	~~-12.2~~
		~~30º < angle □45º~~	~~21.6~~	~~14.8~~	~~17.2~~	~~11.8~~	~~8.3~~	~~-13.1~~	~~7.2~~	~~-11.3~~
	~~Longitudinal~~	~~All angles~~	~~19.2~~	~~-10.0~~	~~12.7~~	~~-5.9~~	~~-23.1~~	~~-13.1~~	~~-16.0~~	~~-10.1~~
~~120~~	~~Transverse~~	~~0 to 5º~~	~~22.8~~	~~-11.9~~	~~15.1~~	~~-7.0~~	~~-27.4~~	~~-15.6~~	~~-19.1~~	~~-12.1~~
		~~20º~~	~~31.6~~	~~-8.3~~	~~21.1~~	~~-4.6~~	~~-27.4~~	~~-19.1~~	~~-19.1~~	~~-14.5~~
		~~30º < angle □45º~~	~~25.7~~	~~17.6~~	~~20.4~~	~~14.0~~	~~9.9~~	~~-15.6~~	~~8.6~~	~~-13.4~~
	~~Longitudinal~~	~~All angles~~	~~22.8~~	~~-11.9~~	~~15.1~~	~~-7.0~~	~~-27.4~~	~~-15.6~~	~~-19.1~~	~~-12.1~~
~~130~~	~~Transverse~~	~~0 to 5º~~	~~26.8~~	~~-13.9~~	~~17.8~~	~~-8.2~~	~~-32.3~~	~~-18.3~~	~~-22.4~~	~~-14.2~~
		~~20º~~	~~37.1~~	~~-9.8~~	~~24.7~~	~~-5.4~~	~~-32.2~~	~~-22.4~~	~~-22.4~~	~~-17.0~~
		~~30º < angle □45º~~	~~30.1~~	~~20.6~~	~~24.0~~	~~16.5~~	~~11.6~~	~~-18.3~~	~~10.0~~	~~-15.7~~
	~~Longitudinal~~	~~All angles~~	~~26.8~~	~~-13.9~~	~~17.8~~	~~-8.2~~	~~-32.2~~	~~-18.3~~	~~-22.4~~	~~-14.2~~
~~140~~	~~Transverse~~	~~0 to 5º~~	~~31.1~~	~~-16.1~~	~~20.6~~	~~-9.6~~	~~-37.3~~	~~-21.2~~	~~-26.0~~	~~-16.4~~
		~~20º~~	~~43.0~~	~~-11.4~~	~~28.7~~	~~-6.3~~	~~-37.3~~	~~-26.0~~	~~-26.0~~	~~-19.7~~
		~~30º < angle □45º~~	~~35.0~~	~~23.9~~	~~27.8~~	~~19.1~~	~~13.4~~	~~-21.2~~	~~11.7~~	~~-18.2~~
	~~Longitudinal~~	~~All angles~~	~~31.1~~	~~-16.1~~	~~20.6~~	~~-9.6~~	~~-37.3~~	~~-21.2~~	~~-26.0~~	~~-16.4~~
~~150~~	~~Transverse~~	~~0 to 5º~~	~~35.7~~	~~-18.5~~	~~23.7~~	~~-11.0~~	~~-42.9~~	~~-24.4~~	~~-29.8~~	~~-18.9~~

		~~20º~~	~~49.4~~	~~-13.0~~	~~32.9~~	~~-7.2~~	~~-42.9~~	~~-29.8~~	~~-29.8~~	~~-22.6~~
		~~30º < angle ≤45º~~	~~40.1~~	~~27.4~~	~~31.9~~	~~22.0~~	~~15.4~~	~~-24.4~~	~~13.4~~	~~-20.9~~
	~~Longitudinal~~	~~All angles~~	~~35.7~~	~~-18.5~~	~~23.7~~	~~-11.0~~	~~-42.9~~	~~-24.4~~	~~-29.8~~	~~-18.9~~

~~(Continued)~~

~~WIND VELOCITY (mph)~~	~~LOAD DIRECTION~~	~~ROOF ANGLE~~	~~VERTICAL LOADS~~		~~MAXIMUM HORIZONTAL WALL LOADS 4~~			
			~~Windward overhang~~		~~Zone~~			
			~~End zone~~	~~Interior zone~~	~~1E~~	~~4E~~	~~1~~	4
~~90~~	~~Transverse~~	~~0 to 5º~~	~~-21.6~~	~~-16.9~~	~~10.0~~	~~-7.5~~	~~7.2~~	~~-5.8~~
		~~20º~~	~~-21.6~~	~~-16.9~~	~~12.0~~	~~-10.1~~	~~8.8~~	~~-7.5~~
		~~30º < angle ≤45º~~	~~-5.1~~	~~-5.8~~	~~11.0~~	~~-8.1~~	~~9.1~~	~~-6.8~~
	~~Longitudinal~~	~~All angles~~	~~-21.6~~	~~-16.9~~	~~10.0~~	~~-7.5~~	~~7.2~~	~~-5.8~~
~~100~~	~~Transverse~~	~~0 to 5º~~	~~-26.7~~	~~-20.9~~	~~12.0~~	~~-9.3~~	~~8.8~~	~~-7.2~~
		~~20º~~	~~-26.7~~	~~-20.9~~	~~15.0~~	~~-12.5~~	~~10.8~~	~~-9.3~~
		~~30º < angle ≤45º~~	~~-6.3~~	~~-7.2~~	~~13.0~~	~~-10.1~~	~~11.3~~	~~-8.4~~
	~~Longitudinal~~	~~All angles~~	~~-26.7~~	~~-20.9~~	~~12.0~~	~~-9.3~~	~~8.8~~	~~-7.2~~
~~110~~	~~Transverse~~	~~0 to 5º~~	~~-32.3~~	~~-25.3~~	~~15.0~~	~~-11.3~~	~~10.7~~	~~-8.7~~
		~~20º~~	~~-32.3~~	~~-25.3~~	~~18.0~~	~~-15.1~~	~~13.1~~	~~-11.3~~
		~~30º < angle ≤45º~~	~~-7.6~~	~~-8.7~~	~~16.0~~	~~-12.2~~	~~13.7~~	~~-10.1~~
	~~Longitudinal~~	~~All angles~~	~~-32.3~~	~~-25.3~~	~~15.0~~	~~-11.3~~	~~10.7~~	~~-8.7~~
~~120~~	~~Transverse~~	~~0 to 5º~~	~~-38.4~~	~~-30.1~~	~~17.0~~	~~-13.4~~	~~12.7~~	~~-10.3~~
		~~20º~~	~~-38.4~~	~~-30.1~~	~~22.0~~	~~-18.0~~	~~15.6~~	~~-13.4~~
		~~30º < angle ≤45º~~	~~-9.0~~	~~-10.3~~	~~19.0~~	~~-14.5~~	~~16.2~~	~~-12.1~~
	~~Longitudinal~~	~~All angles~~	~~-38.4~~	~~-30.1~~	~~17.0~~	~~-13.4~~	~~12.7~~	~~-10.3~~
~~130~~	~~Transverse~~	~~0 to 5º~~	~~-45.1~~	~~-35.3~~	~~20.0~~	~~-15.7~~	~~14.9~~	~~-12.1~~
		~~20º~~	~~-45.1~~	~~-35.3~~	~~25.0~~	~~-21.1~~	~~18.3~~	~~-15.7~~
		~~30º < angle ≤45º~~	~~-10.6~~	~~-12.1~~	~~22.0~~	~~-17.0~~	~~19.1~~	~~-14.2~~
	~~Longitudinal~~	~~All angles~~	~~-45.1~~	~~-35.3~~	~~20.0~~	~~-15.7~~	~~14.9~~	~~-12.1~~
~~140~~	~~Transverse~~	~~0 to 5º~~	~~-52.3~~	~~-40.9~~	~~24.0~~	~~-18.2~~	~~17.3~~	~~-14.0~~
		~~20º~~	~~-52.3~~	~~-40.9~~	~~29.0~~	~~-24.5~~	~~21.2~~	~~-18.2~~
		~~30º < angle ≤45º~~	~~12.3~~	~~-14.0~~	~~26.0~~	~~-19.7~~	~~22.1~~	~~-16.4~~
	~~Longitudinal~~	~~All angles~~	~~-52.3~~	~~-40.9~~	~~24.0~~	~~-18.2~~	~~17.3~~	~~-14.0~~
~~150~~	~~Transverse~~	~~0 to 5º~~	~~-60.0~~	~~-47.0~~	~~27.0~~	~~-20.9~~	~~19.9~~	~~-16.1~~
		~~20º~~	~~-60.0~~	~~-47.0~~	~~34.0~~	~~-28.1~~	~~24.4~~	~~-20.9~~
		~~30º < angle ≤45º~~	~~-14.1~~	~~-16.1~~	~~30.0~~	~~-22.6~~	~~25.4~~	~~-18.9~~
	~~Longitudinal~~	~~All angles~~	~~-60.0~~	~~-47.0~~	~~27.0~~	~~-20.9~~	~~19.9~~	~~-16.1~~

~~For SI: 1 square foot = 0.0929 m 2 , 1 mph = 0.447 m/s, 1 degree of angle = 0.01745 rad, 1 psf = 47.88 N/m 2 .~~

~~**NOTES:**~~

~~1. Pressures for roof angles between 5º and 20º and between 20º and 30º shall be interpolated from the table.~~
~~2. Pressures are the sum of the windward and leeward pressures and shall be applied to the windward elevation of the building in~~
~~accordance with Figure 1609.6A .~~
~~3. If pressure is less than 0, use 0.~~
~~4. Pressures shall be applied in accordance with Figure 1609.6B .~~

Table 1609.6.2.1(1) Add table to read as shown:

TABLE 1609.6.2.1(1)
SIMPLIFIED DESIGN WIND PRESSURE (MAIN WIND FORCE-RESISTING SYSTEM),
p_{s30} (Exposure B at h = 30 feet with I_w = 1.0) (psf)

BASIC WIND SPEED (mph)	ROOF ANGLE (degrees)	ROOF RISE IN 12"	LOAD CASE	ZONES									
				Horizontal Pressures				Vertical Pressures				Overhangs	
				A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
85	0 to 5°	Flat	1	11.5	-5.9	7.6	-3.5	-13.8	-7.8	-9.6	-6.1	-19.3	-15.1
	10°	2	1	12.9	-5.4	8.6	-3.1	-13.8	-8.4	-9.6	-6.5	-19.3	-15.1
	15°	3	1	14.4	-4.8	9.6	-2.7	-13.8	-9.0	-9.6	-6.9	-19.3	-15.1
	20°	4	1	15.9	-4.2	10.6	-2.3	-13.8	-9.6	-9.6	-7.3	-19.3	-15.1
	25°	6	1 2	14.4 —	2.3 —	10.4 —	2.4 —	-6.4 -2.4	-8.7 -4.7	-4.6 -0.7	-7.0 -3.0	-11.9 —	-10.1 —
	30° to 45°	7 to 12	1 2	12.9 12.9	8.8 8.8	10.2 10.2	7.0 7.0	1.0 5.0	-7.8 -3.9	0.3 4.3	-6.7 -2.8	-4.5 -4.5	-5.2 -5.2
90	0 to 5°	Flat	1	12.8	-6.7	8.5	-4.0	-15.4	-8.8	-10.7	-6.8	-21.6	-16.9
	10°	2	1	14.5	-6.0	9.6	-3.5	-15.4	-9.4	-10.7	-7.2	-21.6	-16.9
	15°	3	1	16.1	-5.4	10.7	-3.0	-15.4	-10.1	-10.7	-7.7	-21.6	-16.9
	20°	4	1	17.8	-4.7	11.9	-2.6	-15.4	-10.7	-10.7	-8.1	-21.6	-16.9
	25°	6	1 2	16.1 —	2.6 —	11.7 —	2.7 —	-7.2 -2.7	-9.8 -5.3	-5.2 -0.7	-7.8 -3.4	-13.3 —	-11.4 —
	30° to 45°	7 to 12	1 2	14.4 14.4	9.9 9.9	11.5 11.5	7.9 7.9	1.1 5.6	-8.8 -4.3	0.4 4.8	-7.5 -3.1	-5.1 -5.1	-5.8 -5.8
100	0 to 5°	Flat	1	15.9	-8.2	10.5	-4.9	-19.1	-10.8	-13.3	-8.4	-26.7	-20.9
	10°	2	1	17.9	-7.4	11.9	-4.3	-19.1	-11.6	-13.3	-8.9	-26.7	-20.9
	15°	3	1	19.9	-6.6	13.3	-3.8	-19.1	-12.4	-13.3	-9.5	-26.7	-20.9
	20°	4	1	22.0	-5.8	14.6	-3.2	-19.1	-13.3	-13.3	-10.1	-26.7	-20.9
	25°	6	1 2	19.9 —	3.2 —	14.4 —	3.3 —	-8.8 -3.4	-12.0 -6.6	-6.4 -0.9	-9.7 -4.2	-16.5 —	-14.0 —
	30° to 45°	7 to 12	1 2	17.8 17.8	12.2 12.2	14.2 14.2	9.8 9.8	1.4 6.9	-10.8 -5.3	0.5 5.9	-9.3 -3.8	-6.3 -6.3	-7.2 -7.2
110	0 to 5°	Flat	1	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3
	10°	2	1	21.6	-9.0	14.4	-5.2	-23.1	-14.1	-16.0	-10.8	-32.3	-25.3
	15°	3	1	24.1	-8.0	16.0	-4.6	-23.1	-15.1	-16.0	-11.5	-32.3	-25.3
	20°	4	1	26.6	-7.0	17.7	-3.9	-23.1	-16.0	-16.0	-12.2	-32.3	-25.3
	25°	6	1 2	24.1 —	3.9 —	17.4 —	4.0 —	-10.7 -4.1	-14.6 -7.9	-7.7 -1.1	-11.7 -5.1	-19.9 —	-17.0 —
	30° to 45°	7 to 12	1 2	21.6 21.6	14.8 14.8	17.2 17.2	11.8 11.8	1.7 8.3	-13.1 -6.5	0.6 7.2	-11.3 -4.6	-7.6 -7.6	-8.7 -8.7
120	0 to 5°	Flat	1	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1
	10°	2	1	25.8	-10.7	17.1	-6.2	-27.4	-16.8	-19.1	-12.9	-38.4	-30.1
	15°	3	1	28.7	-9.5	19.1	-5.4	-27.4	-17.9	-19.1	-13.7	-38.4	-30.1
	20°	4	1	31.6	-8.3	21.1	-4.6	-27.4	-19.1	-19.1	-14.5	-38.4	-30.1
	25°	6	1 2	28.6 —	4.6 —	20.7 —	4.7 —	-12.7 -4.8	-17.3 -9.4	-9.2 -1.3	-13.9 -6.0	-23.7 —	-20.2 —
	30° to 45°	7 to 12	1 2	25.7 25.7	17.6 17.6	20.4 20.4	14.0 14.0	2.0 9.9	-15.6 -7.7	0.7 8.6	-13.4 -5.5	-9.0 -9.0	-10.3 -10.3
130	0 to 5°	Flat	1	26.8	-13.9	17.8	-8.2	-32.2	-18.3	-22.4	-14.2	-45.1	-35.3
	10°	2	1	30.2	-12.5	20.1	-7.3	-32.2	-19.7	-22.4	-15.1	-45.1	-35.3
	15°	3	1	33.7	-11.2	22.4	-6.4	-32.2	-21.0	-22.4	-16.1	-45.1	-35.3
	20°	4	1	37.1	-9.8	24.7	-5.4	-32.2	-22.4	-22.4	-17.0	-45.1	-35.3
	25°	6	1 2	33.6 —	5.4 —	24.3 —	5.5 —	-14.9 -5.7	-20.4 -11.1	-10.8 -1.5	-16.4 -7.1	-27.8 —	-23.7 —
	30° to 45°	7 to 12	1 2	30.1 30.1	20.6 20.6	24.0 24.0	16.5 16.5	2.3 11.6	-18.3 -9.0	0.8 10.0	-15.7 -6.4	-10.6 -10.6	-12.1 -12.1

BASIC WIND SPEED (mph)	ROOF ANGLE (degrees)	ROOF RISE IN 12"	LOAD CASE	ZONES									
				Horizontal Pressures				Vertical Pressures				Overhangs	
				A	B	C	D	E	F	G	H	E_{OH}	G_{OH}
140	0 to 5°	Flat	1	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9
	10°	2	1	35.1	-14.5	23.3	-8.5	-37.3	-22.8	-26.0	-17.5	-52.3	-40.9
	15°	3	1	39.0	-12.9	26.0	-7.4	-37.3	-24.4	-26.0	-18.6	-52.3	-40.9
	20°	4	1	43.0	-11.4	28.7	-6.3	-37.3	-26.0	-26.0	-19.7	-52.3	-40.9
	25°	6	1	39.0	6.3	28.2	6.4	-17.3	-23.6	-12.5	-19.0	-32.3	-27.5
			2	—	—	—	—	-6.6	-12.8	-1.8	-8.2	—	—
	30° to 45°	7 to 12	1	35.0	23.9	27.8	19.1	2.7	-21.2	0.9	-18.2	-12.3	-14.0
			2	35.0	23.9	27.8	19.1	13.4	-10.5	11.7	-7.5	-12.3	-14.0
150	0 to 5°	Flat	1	35.7	-18.5	23.7	-11.0	-42.9	-24.4	-29.8	-18.9	-60.0	-47.0
	10°	2	1	40.2	-16.7	26.8	-9.7	-42.9	-26.2	-29.8	-20.1	-60.0	-47.0
	15°	3	1	44.8	-14.9	29.8	-8.5	-42.9	-28.0	-29.8	-21.4	-60.0	-47.0
	20°	4	1	49.4	-13.0	32.9	-7.2	-42.9	-29.8	-29.8	-22.6	-60.0	-47.0
	25°	6	1	44.8	7.2	32.4	7.4	-19.9	-27.1	-14.4	-21.8	-37.0	-31.6
			2	—	—	—	—	-7.5	-14.7	-2.1	-9.4	—	—
	30° to 45°	7 to 12	1	40.1	27.4	31.9	22.0	3.1	-24.4	1.0	-20.9	-14.1	-16.1
			2	40.1	27.4	31.9	22.0	15.4	-12.0	13.4	-8.6	-14.1	-16.1
170	0 to 5°	Flat	1	45.8	-23.8	30.4	-14.1	-55.1	-31.3	-38.3	-24.2	-77.1	-60.4
	10°	2	1	51.7	-21.4	34.4	-12.5	-55.1	-33.6	-38.3	-25.8	-77.1	-60.4
	15°	3	1	57.6	-19.1	38.3	-10.9	-55.1	-36.0	-38.3	-27.5	-77.1	-60.4
	20°	4	1	63.4	-16.7	42.3	-9.3	-55.1	-38.3	-38.3	-29.1	-77.1	-60.4
	25°	6	1	57.5	9.3	41.6	9.5	-25.6	-34.8	-18.5	-28.0	-47.6	-40.5
			2	—	—	—	—	-9.7	-18.9	-2.6	-12.1	—	—
	30° to 45°	7 to 12	1	51.5	35.2	41.0	28.2	4.0	-31.3	1.3	-26.9	-18.1	-20.7
			2	51.5	35.2	41.0	28.2	19.8	-15.4	17.2	-11.0	-18.1	-20.7

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0174 rad, 1 mile per hour = 0.44 m/s, 1 pound per square foot = 47.9 N/m^2.

Table 1609.6B Delete table to read as shown:

~~TABLE 1609.6B~~
~~COMPONENT AND CLADDING WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)~~

	~~ZONE 3~~	~~EFFECTIVE WIND AREA (ft 2)~~	~~BASIC WIND SPEED V (mph - 3-second gust)~~							
			~~85~~		~~90~~		~~100~~		~~110~~	
~~Roof > 0 to 10 Degrees~~	~~1~~	~~10~~	~~10.0~~	~~-13.0~~	~~10.0~~	~~-14.6~~	~~10.0~~	~~-18.0~~	~~10.0~~	~~-21.8~~
	~~1~~	~~20~~	~~10.0~~	~~-12.7~~	~~10.0~~	~~-14.2~~	~~10.0~~	~~-17.5~~	~~10.0~~	~~-21.2~~
	~~1~~	~~50~~	~~10.0~~	~~-12.2~~	~~10.0~~	~~-13.7~~	~~10.0~~	~~-16.9~~	~~10.0~~	~~-20.5~~
	~~1~~	~~100~~	~~10.0~~	~~-11.9~~	~~10.0~~	~~-13.3~~	~~10.0~~	~~-16.5~~	~~10.0~~	~~-19.9~~
	~~2~~	~~10~~	~~10.0~~	~~-21.8~~	~~10.0~~	~~-24.4~~	~~10.0~~	~~-30.2~~	~~10.0~~	~~-36.5~~
	~~2~~	~~20~~	~~10.0~~	~~-19.5~~	~~10.0~~	~~-21.8~~	~~10.0~~	~~-27.0~~	~~10.0~~	~~-32.6~~
	~~2~~	~~50~~	~~10.0~~	~~-16.4~~	~~10.0~~	~~-18.4~~	~~10.0~~	~~-22.7~~	~~10.0~~	~~-27.5~~
	~~2~~	~~100~~	~~10.0~~	~~-14.1~~	~~10.0~~	~~-15.8~~	~~10.0~~	~~-19.5~~	~~10.0~~	~~-23.6~~
	~~3~~	~~10~~	~~10.0~~	~~-32.8~~	~~10.0~~	~~-36.8~~	~~10.0~~	~~-45.4~~	~~10.0~~	~~-55.0~~
	~~3~~	~~20~~	~~10.0~~	~~-27.2~~	~~10.0~~	~~-30.5~~	~~10.0~~	~~-37.6~~	~~10.0~~	~~-45.5~~
	~~3~~	~~50~~	~~10.0~~	~~-19.7~~	~~10.0~~	~~-22.1~~	~~10.0~~	~~-27.3~~	~~10.0~~	~~-33.1~~
	~~3~~	~~100~~	~~10.0~~	~~-14.1~~	~~10.0~~	~~-15.8~~	~~10.0~~	~~-19.5~~	~~10.0~~	~~-23.6~~
~~Roof > 10 to 30 Degrees~~	~~1~~	~~10~~	~~10.0~~	~~-11.9~~	~~10.0~~	~~-13.3~~	~~10.4~~	~~-16.5~~	~~12.5~~	~~-19.9~~
	~~1~~	~~20~~	~~10.0~~	~~-11.6~~	~~10.0~~	~~-13.0~~	~~10.0~~	~~-16.0~~	~~11.4~~	~~-19.4~~
	~~1~~	~~50~~	~~10.0~~	~~-11.1~~	~~10.0~~	~~-12.5~~	~~10.0~~	~~-15.4~~	~~10.0~~	~~-18.6~~
	~~1~~	~~100~~	~~10.0~~	~~-10.8~~	~~10.0~~	~~-12.1~~	~~10.0~~	~~-14.9~~	~~10.0~~	~~-18.1~~
	~~2~~	~~10~~	~~10.0~~	~~-25.1~~	~~10.0~~	~~-28.2~~	~~10.4~~	~~-34.8~~	~~12.5~~	~~-42.1~~
	~~2~~	~~20~~	~~10.0~~	~~-22.8~~	~~10.0~~	~~-25.6~~	~~10.0~~	~~-31.5~~	~~11.4~~	~~-38.2~~
	~~2~~	~~50~~	~~10.0~~	~~-19.7~~	~~10.0~~	~~-22.1~~	~~10.0~~	~~-27.3~~	~~10.0~~	~~-33.0~~
	~~2~~	~~100~~	~~10.0~~	~~-17.4~~	~~10.0~~	~~-19.5~~	~~10.0~~	~~-24.1~~	~~10.0~~	~~-29.1~~
	~~3~~	~~10~~	~~10.0~~	~~-25.1~~	~~10.0~~	~~-28.2~~	~~10.4~~	~~-34.8~~	~~12.5~~	~~-42.1~~
	~~3~~	~~20~~	~~10.0~~	~~-22.8~~	~~10.0~~	~~-25.6~~	~~10.0~~	~~-31.5~~	~~11.4~~	~~-38.2~~

	~~3~~	~~50~~	~~10.0~~	~~-19.7~~	~~10.0~~	~~-22.1~~	~~10.0~~	~~-27.3~~	~~10.0~~	~~-33.0~~
	~~3~~	~~100~~	~~10.0~~	~~-17.4~~	~~10.0~~	~~-19.5~~	~~10.0~~	~~-24.1~~	~~10.0~~	~~-29.1~~
~~Roof > 30 to 45 Degrees~~	~~1~~	~~10~~	~~11.9~~	~~-13.0~~	~~13.3~~	~~-14.6~~	~~16.5~~	~~-18.0~~	~~19.9~~	~~-21.8~~
	~~1~~	~~20~~	~~11.6~~	~~-12.3~~	~~13.0~~	~~-13.8~~	~~16.0~~	~~-17.1~~	~~19.4~~	~~-20.7~~
	~~1~~	~~50~~	~~11.1~~	~~-11.5~~	~~12.5~~	~~-12.8~~	~~15.4~~	~~-15.9~~	~~18.6~~	~~-19.2~~
	~~1~~	~~100~~	~~10.8~~	~~-10.8~~	~~12.1~~	~~-12.1~~	~~14.9~~	~~-14.9~~	~~18.1~~	~~-18.1~~
	~~2~~	~~10~~	~~11.9~~	~~-15.2~~	~~13.3~~	~~-17.0~~	~~16.5~~	~~-21.0~~	~~19.9~~	~~-25.5~~
	~~2~~	~~20~~	~~11.6~~	~~-14.5~~	~~13.0~~	~~-16.3~~	~~16.0~~	~~-20.1~~	~~19.4~~	~~-24.3~~
	~~2~~	~~50~~	~~11.1~~	~~-13.7~~	~~12.5~~	~~-15.3~~	~~15.4~~	~~-18.9~~	~~18.6~~	~~-22.9~~
	~~2~~	~~100~~	~~10.8~~	~~-13.0~~	~~12.1~~	~~-14.6~~	~~14.9~~	~~-18.0~~	~~18.1~~	~~-21.8~~
	~~3~~	~~10~~	~~11.9~~	~~-15.2~~	~~13.3~~	~~-17.0~~	~~16.5~~	~~-21.0~~	~~19.9~~	~~-25.5~~
	~~3~~	~~20~~	~~11.6~~	~~-14.5~~	~~13.0~~	~~-16.3~~	~~16.0~~	~~-20.1~~	~~19.4~~	~~-24.3~~
	~~3~~	~~50~~	~~11.1~~	~~-13.7~~	~~12.5~~	~~-15.3~~	~~15.4~~	~~-18.9~~	~~18.6~~	~~-22.9~~
	~~3~~	~~100~~	~~10.8~~	~~-13.0~~	~~12.1~~	~~-14.6~~	~~14.9~~	~~-18.0~~	~~18.1~~	~~-21.8~~
~~Wall~~	4	~~10~~	~~13.0~~	~~-14.1~~	~~14.6~~	~~-15.8~~	~~18.0~~	~~-19.5~~	~~21.8~~	~~-23.6~~
	4	~~20~~	~~12.4~~	~~-13.5~~	~~13.9~~	~~-15.1~~	~~17.2~~	~~-18.7~~	~~20.8~~	~~-22.6~~
	4	~~50~~	~~11.6~~	~~-12.7~~	~~13.0~~	~~-14.3~~	~~16.1~~	~~-17.6~~	~~19.5~~	~~-21.3~~
	4	~~100~~	~~11.1~~	~~-12.2~~	~~12.4~~	~~-13.6~~	~~15.3~~	~~-16.8~~	~~18.5~~	~~-20.4~~
	~~5~~	~~10~~	~~13.0~~	~~-17.4~~	~~14.6~~	~~-19.5~~	~~18.0~~	~~-24.1~~	~~21.8~~	~~-29.1~~
	~~5~~	~~20~~	~~12.4~~	~~-16.2~~	~~13.9~~	~~-18.2~~	~~17.2~~	~~-22.5~~	~~20.8~~	~~-27.2~~
	~~5~~	~~50~~	~~11.6~~	~~-14.7~~	~~13.0~~	~~-16.5~~	~~16.1~~	~~-20.3~~	~~19.5~~	~~-24.6~~
	~~5~~	~~100~~	~~11.1~~	~~-13.5~~	~~12.4~~	~~-15.1~~	~~15.3~~	~~-18.7~~	~~18.5~~	~~-22.6~~

~~(continued)~~

	~~ZONE 3~~	~~EFFECTIVE WIND AREA (ft 2)~~	~~BASIC WIND SPEED V (mph - 3-second gust)~~							
			~~120~~		~~130~~		~~140~~		~~150~~	
~~Roof > 0 to 10 Degrees~~	~~1~~	~~10~~	~~10.5~~	~~-25.9~~	~~12.4~~	~~-30.4~~	~~14.3~~	~~-35.3~~	~~16.5~~	~~-40.5~~
	~~1~~	~~20~~	~~10.0~~	~~-25.2~~	~~11.6~~	~~-29.6~~	~~13.4~~	~~-34.4~~	~~15.4~~	~~-39.4~~
	~~1~~	~~50~~	~~10.0~~	~~-24.4~~	~~10.6~~	~~-28.6~~	~~12.3~~	~~-33.2~~	~~14.1~~	~~-38.1~~
	~~1~~	~~100~~	~~10.0~~	~~-23.7~~	~~10.0~~	~~-27.8~~	~~11.4~~	~~-32.3~~	~~13.0~~	~~-37.0~~

	2	10	10.5	-43.5	12.4	-51.0	14.3	-59.2	16.5	-67.9
	2	20	10.0	-38.8	11.6	-45.6	13.4	-52.9	15.4	-60.7
	2	50	10.0	-32.7	10.6	-38.4	12.3	-44.5	14.1	-51.1
	2	100	10.0	-28.1	10.0	-33.0	11.4	-38.2	13.0	-43.9
	3	10	10.5	-65.4	12.4	-76.8	14.3	-89.0	16.5	-102.2
	3	20	10.0	-54.2	11.6	-63.6	13.4	-73.8	15.4	-84.7
	3	50	10.0	-39.3	10.6	-46.2	12.3	-53.5	14.1	-61.5
	3	100	10.0	-28.1	10.0	-33.0	11.4	-38.2	13.0	-43.9
Roof > 10 to 30 Degrees	1	10	14.9	-23.7	17.5	-27.8	20.3	-32.3	23.3	-37.0
	1	20	13.6	-23.0	16.0	-27.0	18.5	-31.4	21.3	-36.0
	1	50	11.9	-22.2	13.9	-26.0	16.1	-30.2	18.5	-34.6
	1	100	10.5	-21.5	12.4	-25.2	14.3	-29.3	16.5	-33.6
	2	10	14.9	-50.1	17.5	-58.7	20.3	-68.1	23.3	-78.2
	2	20	13.6	-45.4	16.0	-53.3	18.5	-61.8	21.3	-71.0
	2	50	11.9	-39.3	13.9	-46.1	16.1	-53.5	18.5	-61.4
	2	100	10.5	-34.7	12.4	-40.7	14.3	-47.2	16.5	-54.2
	3	10	14.9	-50.1	17.5	-58.7	20.3	-68.1	23.3	-78.2
	3	20	13.6	-45.4	16.0	-53.5	18.5	-61.8	21.3	-71.0
	3	50	11.9	-39.3	13.9	-46.1	16.1	-53.5	18.5	-61.4
	3	100	10.5	-34.7	12.4	-40.7	14.3	-47.2	16.5	-54.2
Roof > 30 to 45 Degrees	1	10	23.7	-25.9	27.8	-30.4	32.3	-35.3	37.0	-40.5
	1	20	23.0	-24.6	27.0	-28.9	31.4	-33.5	36.0	-38.4
	1	50	22.2	-22.8	26.0	-26.8	30.2	-31.1	34.6	-35.7
	1	100	21.5	-21.5	25.2	-25.2	29.3	-29.3	33.6	-33.6
	2	10	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3
	2	20	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3
	2	50	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5
	2	100	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5
	3	10	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3
	3	20	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3
	3	50	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5
	3	100	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5
Wall	4	10	25.9	-28.1	30.4	-33.0	35.3	-38.2	40.5	-43.9
	4	20	24.7	-26.9	29.0	-31.6	33.7	-36.7	38.7	-42.1
	4	50	23.2	-25.4	27.2	-29.8	31.6	-34.6	36.2	-39.7
	4	100	22.0	-24.2	25.9	-28.4	30.0	-33.0	34.4	-37.8
	5	10	25.9	-34.7	30.4	-40.7	35.3	-47.2	40.5	-54.2
	5	20	24.7	-32.4	29.0	-38.0	33.7	44.0	38.7	-50.5
	5	50	23.2	-29.3	27.2	-34.3	31.6	-39.8	36.2	-45.7
	5	100	22.0	-26.9	25.9	-31.6	30.0	-36.7	34.4	-42.1

~~For SI: 1 square foot = 0.0929 m 2, 1 mph = 0.447 m/s, 1 psf = 47.88 N/m 2.~~

~~1. For effective areas or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower effective area.~~

~~2. Table values shall be adjusted for height and exposure by multiplying by adjustment coefficients in Table~~ 1609.6D ~~.~~

~~3. See Figure~~ 1609.6C ~~for location of zones.~~

~~4. Plus and minus signs signify pressures acting toward and away from the building surfaces~~

Table 1609.6.2.1(2) Add the table to read as shown:

TABLE 1609.6.2.1(2)
NET DESIGN WIND PRESSURE (COMPONENT AND CLADDING), p_{net30}
(Exposure B at h= 30 feet with I_w = 1.0) (psf)

	ZONE	EFFECTIVE WIND AREA	BASIC WIND SPEED V (mph—3-second gust)																	
			85		90		100		110		120		130		140		150		170	
Roof 0 to 7 degrees	1	10	5.3	-13.0	5.9	-14.6	7.3	-18.0	8.9	-21.8	10.5	-25.9	12.4	-30.4	14.3	-35.3	16.5	-40.5	21.1	-52.0
	1	20	5.0	-12.7	5.6	-14.2	6.9	-17.5	8.3	-21.2	9.9	-25.2	11.6	-29.6	13.4	-34.4	15.4	-39.4	19.8	-50.7
	1	50	4.5	-12.2	5.1	-13.7	6.3	-16.9	7.6	-20.5	9.0	-24.4	10.6	-28.6	12.3	-33.2	14.1	-38.1	18.1	-48.9
	1	100	4.2	-11.9	4.7	-13.3	5.8	-16.5	7.0	-19.9	8.3	-23.7	9.8	-27.8	11.4	-32.3	13.0	-37.0	16.7	-47.6
	2	10	5.3	-21.8	5.9	-24.4	7.3	-30.2	8.9	-36.5	10.5	-43.5	12.4	-51.0	14.3	-59.2	16.5	-67.9	21.1	-87.2
	2	20	5.0	-19.5	5.6	-21.8	6.9	-27.0	8.3	-32.6	9.9	-38.8	11.6	-45.6	13.4	-52.9	15.4	-60.7	19.8	-78.0
	2	50	4.5	-16.4	5.1	-18.4	6.3	-22.7	7.6	-27.5	9.0	-32.7	10.6	-38.4	12.3	-44.5	14.1	-51.1	18.1	-65.7
	2	100	4.2	14.1	4.7	15.8	5.8	19.5	7.0	23.6	8.3	28.1	9.8	33.0	11.4	38.2	13.0	43.9	16.7	56.4
	3	10	5.3	-32.8	5.9	-36.8	7.3	-45.4	8.9	-55.0	10.5	-65.4	12.4	-76.8	14.3	-89.0	16.5	-102.2	21.1	-131.3
	3	20	5.0	-27.2	5.6	-30.5	6.9	-37.6	8.3	-45.5	9.9	-54.2	11.6	-63.6	13.4	-73.8	15.4	-84.7	19.8	-108.7
	3	50	4.5	19.7	5.1	22.1	6.3	27.3	7.6	33.1	9.0	39.3	10.6	46.2	12.3	53.5	14.1	61.5	18.1	78.9
	3	100	4.2	14.1	4.7	15.8	5.8	19.5	7.0	23.6	8.3	28.1	9.8	33.0	11.4	38.2	13.0	43.9	16.7	56.4
Roof > 7 to 27 degrees	1	10	7.5	-11.9	8.4	-13.3	10.4	-16.5	12.5	-19.9	14.9	-23.7	17.5	-27.8	20.3	-32.3	23.3	-37.0	30.0	-47.6
	1	20	6.8	-11.6	7.7	-13.0	9.4	-16.0	11.4	-19.4	13.6	-23.0	16.0	-27.0	18.5	-31.4	21.3	-36.0	27.3	-46.3
	1	50	6.0	-11.1	6.7	-12.5	8.2	-15.4	10.0	-18.6	11.9	-22.2	13.9	-26.0	16.1	-30.2	18.5	-34.6	23.8	-44.5
	1	100	5.3	-10.8	5.9	-12.1	7.3	-14.9	8.9	-18.1	10.5	-21.5	12.4	-25.2	14.3	-29.3	16.5	-33.6	21.1	-43.2
	2	10	7.5	-20.7	8.4	-23.2	10.4	-28.7	12.5	-34.7	14.9	-41.3	17.5	-48.4	20.3	-56.2	23.3	-64.5	30.0	-82.8
	2	20	6.8	-19.0	7.7	-21.4	9.4	-26.4	11.4	-31.9	13.6	-38.0	16.0	-44.6	18.5	-51.7	21.3	-59.3	27.3	-76.2
	2	50	6.0	-16.9	6.7	-18.9	8.2	-23.3	10.0	-28.2	11.9	-33.6	13.9	-39.4	16.1	-45.7	18.5	-52.5	23.8	-67.4
	2	100	5.3	-15.2	5.9	-17.0	7.3	-21.0	8.9	-25.5	10.5	-30.3	12.4	-35.6	14.3	-41.2	16.5	-47.3	21.1	-60.8
	3	10	7.5	-30.6	8.4	-34.3	10.4	-42.4	12.5	-51.3	14.9	-61.0	17.5	-71.6	20.3	-83.1	23.3	-95.4	30.0	-122.5
	3	20	6.8	-28.6	7.7	-32.1	9.4	-39.6	11.4	-47.9	13.6	-57.1	16.0	-67.0	18.5	-77.7	21.3	-89.2	27.3	-114.5
	3	50	6.0	-26.0	6.7	-29.1	8.2	-36.0	10.0	-43.5	11.9	-51.8	13.9	-60.8	16.1	-70.5	18.5	-81.0	23.8	-104.0
	3	100	5.3	-24.0	5.9	-26.9	7.3	-33.2	8.9	-40.2	10.5	-47.9	12.4	-56.7	14.3	-65.1	16.5	-74.8	21.1	-96.0
Roof > 27 to 45 degrees	1	10	11.9	-13.0	13.3	-14.6	16.5	-18.0	19.9	-21.8	23.7	-25.9	27.8	-30.4	32.3	-35.3	37.0	-40.5	47.6	-52.0
	1	20	11.6	-12.3	13.0	-13.8	16.0	-17.1	19.4	-20.7	23.0	-24.6	27.0	-28.9	31.4	-33.5	36.0	-38.4	46.3	-49.3
	1	50	11.1	-11.8	12.5	-12.8	15.4	-15.9	18.6	-19.2	22.2	-22.8	26.0	-26.8	30.2	-31.1	34.6	-35.7	44.5	-45.8
	1	100	10.8	-10.8	12.1	-12.1	14.9	-14.9	18.1	-18.1	21.5	-21.5	25.2	-25.2	29.3	-29.3	33.6	-33.6	43.2	-43.2
	2	10	11.9	-15.2	13.3	-17.0	16.5	-21.0	19.9	-25.5	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3	47.6	-60.8
	2	20	11.6	-14.5	13.0	-16.3	16.0	-20.1	19.4	-24.3	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3	46.3	-58.1
	2	50	11.1	-13.7	12.5	-15.3	15.4	-18.9	18.6	-22.9	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5	44.5	-54.6
	2	100	10.8	-13.0	12.1	-14.6	14.9	-18.0	18.1	-21.8	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5	43.2	-52.0
	3	10	11.9	-15.2	13.3	-17.0	16.5	-21.0	19.9	-25.5	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3	47.6	-60.8
	3	20	11.6	-14.5	13.0	-16.3	16.0	-20.1	19.4	-24.3	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3	46.3	-58.1
	3	50	11.1	-13.7	12.5	-15.3	15.4	-18.9	18.6	-22.9	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5	44.5	-54.6
	3	100	10.8	-13.0	12.1	-14.6	14.9	-18.0	18.1	-21.8	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5	43.2	-52.0
Wall	4	10	13.0	-14.1	14.6	-15.8	18.0	-19.5	21.8	-23.6	25.9	-28.1	30.4	-33.0	35.3	-38.2	40.5	-43.9	52.0	-56.4
	4	20	12.4	-13.5	13.9	-15.1	17.2	-18.7	20.8	-22.6	24.7	-26.9	29.0	-31.6	33.7	-36.7	38.7	-42.1	49.6	-54.1
	4	50	11.6	-12.7	13.0	-14.3	16.1	-17.6	19.5	-21.3	23.2	-25.4	27.2	-29.8	31.6	-34.6	36.2	-39.7	46.6	-51.0
	4	100	11.1	-12.2	12.4	-13.6	15.3	-16.8	18.5	-20.4	22.0	-24.2	25.9	-28.4	30.0	-33.0	34.4	-37.8	44.2	-48.6
	4	500	9.7	-10.8	10.9	-12.1	13.4	-14.9	16.2	-18.1	19.3	-21.5	22.7	-25.2	26.3	-29.3	30.2	-33.6	38.8	-43.2
	5	10	13.0	-17.4	14.6	-19.5	18.0	-24.1	21.8	-29.1	25.9	-34.7	30.4	-40.7	35.3	-47.2	40.5	-54.2	52.0	-69.6
	5	20	12.4	-16.2	13.9	-18.2	17.2	-22.5	20.8	-27.2	24.7	-32.4	29.0	-38.0	33.7	-44.0	38.7	-50.5	49.6	-64.9
	5	50	11.6	-14.7	13.0	-16.5	16.1	-20.3	19.5	-24.6	23.2	-29.3	27.2	-34.3	31.6	-39.8	36.2	-45.7	46.6	-58.7
	5	100	11.1	-13.5	12.4	-15.1	15.3	-18.7	18.5	-22.6	22.0	-26.9	25.9	-31.6	30.0	-36.7	34.4	-42.1	44.2	-54.1
	5	500	9.7	-10.8	10.9	-12.1	13.4	-14.9	16.2	-18.1	19.3	-21.5	22.7	-25.2	26.3	-29.3	30.2	-33.6	38.8	-43.2

For SI: 1 foot = 304.8 mm, 1 degree = 0.0174 rad, 1 mile per hour = 0.44 m/s, 1 pound per square foot = 47.9 N/m^2.

Note: For effective areas between those given above, the load is permitted to be interpolated, otherwise use the load associated with the lower effective area.

Table 1609.6C Delete table to read as shown:

~~TABLE 1609.6C~~
~~ROOF OVERHANG COMPONENT AND CLADDING DESIGN WIND PRESSURES FOR A BUILDING WITH MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)~~

	~~ZONE~~	~~EFFECTIVE WIND AREA (ft 2)~~	~~BASIC WIND SPEED V (mph - 3-second gust)~~						
			~~90~~	~~100~~	~~110~~	~~120~~	~~130~~	~~140~~	~~150~~
~~Roof >0 to 10 Degrees~~	~~2~~	~~10~~	~~-21.0~~	~~-25.9~~	~~-31.4~~	~~-37.3~~	~~-43.8~~	~~-50.8~~	~~-58.3~~
	~~2~~	~~20~~	~~-20.6~~	~~-25.5~~	~~-30.8~~	~~-36.7~~	~~-43.0~~	~~-49.9~~	~~-57.3~~
	~~2~~	~~50~~	~~-20.1~~	~~-24.9~~	~~-30.1~~	~~-35.8~~	~~-42.0~~	~~-48.7~~	~~-55.9~~
	~~2~~	~~100~~	~~-19.8~~	~~-24.4~~	~~-29.5~~	~~-35.1~~	~~-41.2~~	~~-47.8~~	~~-54.9~~
	~~3~~	~~10~~	~~-34.6~~	~~-42.7~~	~~-51.6~~	~~-61.5~~	~~-72.1~~	~~-83.7~~	~~-96.0~~
	~~3~~	~~20~~	~~-27.1~~	~~-33.5~~	~~-40.5~~	~~-48.3~~	~~-56.6~~	~~-65.7~~	~~-75.4~~
	~~3~~	~~50~~	~~-17.3~~	~~-21.4~~	~~-25.9~~	~~-30.8~~	~~-36.1~~	~~-41.9~~	~~-48.1~~
	~~3~~	~~100~~	~~-10.0~~	~~-12.2~~	~~-14.8~~	~~-17.6~~	~~-20.6~~	~~-23.9~~	~~-27.4~~
~~Roof >10 to 30 Degrees~~	~~2~~	~~10~~	~~-27.2~~	~~-33.5~~	~~-40.6~~	~~-48.3~~	~~-56.7~~	~~-65.7~~	~~-75.5~~
	~~2~~	~~20~~	~~-27.2~~	~~-33.5~~	~~-40.6~~	~~-48.3~~	~~-56.7~~	~~-65.7~~	~~-75.5~~
	~~2~~	~~50~~	~~-27.2~~	~~-33.5~~	~~-40.6~~	~~-48.3~~	~~-56.7~~	~~-65.7~~	~~-75.5~~
	~~2~~	~~100~~	~~-27.2~~	~~-33.5~~	~~-40.6~~	~~-48.3~~	~~-56.7~~	~~-65.7~~	~~-75.5~~
	~~3~~	~~10~~	~~-45.7~~	~~-56.4~~	~~-68.3~~	~~-81.2~~	~~-95.3~~	~~-110.~~	~~-126.~~
	~~3~~	~~20~~	40.5	~~-50.0~~	~~-60.5~~	~~-72.0~~	~~-84.5~~	~~-98.0~~	~~-112.~~
	~~3~~	~~50~~	~~-33.6~~	~~-41.5~~	~~-50.2~~	~~-59.7~~	~~-70.1~~	~~-81.3~~	~~-93.3~~
	~~3~~	~~100~~	~~-28.4~~	~~-35.1~~	~~-42.4~~	~~-50.5~~	~~-59.3~~	~~-68.7~~	~~-78.9~~
~~Roof >30 to 45 Degrees~~	~~2~~	~~10~~	~~-24.7~~	~~-30.5~~	~~-36.9~~	~~-43.9~~	~~-51.5~~	~~-59.8~~	~~-68.6~~
	~~2~~	~~20~~	~~-24.0~~	~~-29.6~~	~~-35.8~~	~~-42.6~~	~~-50.0~~	~~-58.0~~	~~-66.5~~
	~~2~~	~~50~~	~~-23.0~~	~~-28.4~~	~~-34.3~~	~~-40.8~~	~~-47.9~~	~~-55.6~~	~~-63.8~~
	~~2~~	~~100~~	~~-22.2~~	~~-27.4~~	~~-33.2~~	~~-39.5~~	~~-46.4~~	~~-53.8~~	~~-61.7~~
	~~3~~	~~10~~	~~-24.7~~	~~-30.5~~	~~-36.9~~	~~-43.9~~	~~-51.5~~	~~-59.8~~	~~-68.6~~
	~~3~~	~~20~~	~~-24.0~~	~~-29.6~~	~~-35.8~~	~~-42.6~~	~~-50.0~~	~~-58.0~~	~~-66.5~~
	~~3~~	~~50~~	~~-23.0~~	~~-28.4~~	~~-34.3~~	~~-40.8~~	~~-47.9~~	~~-55.6~~	~~-63.8~~
	~~3~~	~~100~~	~~-22.2~~	~~-27.4~~	~~-33.2~~	~~-39.5~~	~~-46.4~~	~~-53.8~~	~~-61.7~~

~~For SI: 1 psf = 47.88 N/m 2 , 1 ft^2 = 0.0929 m 2 , 1 mph = 0.447 m/s.~~
~~**NOTE:** For effective areas between those given above the load may be interpolated, otherwise use the load associated with the lower effective area.~~

Table 1609.6.2.1(3) Add the table to read as shown:

TABLE 1609.6.2.1(3)
ROOF OVERHANG NET DESIGN WIND PRESSURE (COMPONENT AND CLADDING), p_{net30} (Exposure B at h= 30 feet with I_w = 1.0) (psf)

	ZONE	EFFECTIVE WIND AREA (sq. ft.)	BASIC WIND SPEED V (mph—3-second gust)							
			90	100	110	120	130	140	150	170
Roof 0 to 7 degrees	2	10	-21.0	-25.9	-31.4	-37.3	-43.8	-50.8	-58.3	-74.9
	2	20	-20.6	-25.5	-30.8	-36.7	-43.0	-49.9	-57.3	-73.6
	2	50	-20.1	-24.9	-30.1	-35.8	-42.0	-48.7	-55.9	-71.8
	2	100	-19.8	-24.4	-29.5	-35.1	-41.2	-47.8	-54.9	-70.5
	3	10	-34.6	-42.7	-51.6	-61.5	-72.1	-83.7	-96.0	-123.4
	3	20	-27.1	-33.5	-40.5	-48.3	-55.6	-65.7	-75.4	-96.8
	3	50	-17.3	-21.4	-25.9	-30.8	-35.1	-41.9	-48.1	-61.8
	3	100	-10.0	-12.2	-14.8	-17.6	-20.6	-23.9	-27.4	-35.2
Roof > 7 to 27 degrees	2	10	-27.2	-33.5	-40.6	-48.3	-55.7	-65.7	-75.5	-96.9
	2	20	-27.2	-33.5	-40.6	-48.3	-55.7	-65.7	-75.5	-96.9
	2	50	-27.2	-33.5	-40.6	-48.3	-55.7	-65.7	-75.5	-96.9
	2	100	-27.2	-33.5	-40.6	-48.3	-55.7	-65.7	-75.5	-96.9
	3	10	-45.7	-56.4	-68.3	-81.2	-95.3	-110.6	-126.9	-163.0
	3	20	-41.2	-50.9	-61.6	-73.3	-85.0	-99.8	-114.5	-147.1
	3	50	-35.3	-43.6	-52.8	-62.8	-73.7	-85.5	-98.1	-126.1
	3	100	-30.9	-38.1	-46.1	-54.9	-64.4	-74.7	-85.8	-110.1
Roof > 27 to 45 degrees	2	10	-24.7	-30.5	-36.9	-43.9	-51.5	-59.8	-68.6	-88.1
	2	20	-24.0	-29.6	-35.8	-42.6	-50.0	-58.0	-66.5	-85.5
	2	50	-23.0	-28.4	-34.3	-40.8	-47.9	-55.6	-63.8	-82.0
	2	100	-22.2	-27.4	-33.2	-39.5	-45.4	-53.8	-61.7	-79.3
	3	10	-24.7	-30.5	-36.9	-43.9	-51.5	-59.8	-68.6	-88.1
	3	20	-24.0	-29.6	-35.8	-42.6	-50.0	-58.0	-66.5	-85.5
	3	50	-23.0	-28.4	-34.3	-40.8	-47.9	-55.5	-63.8	-82.2
	3	100	-22.2	-27.4	-33.2	-39.5	-45.4	-53.8	-61.7	-79.3

For SI: 1 foot = 304.8 mm, 1 degree = 0.0174 rad, 1 mile per hour = 0.45 m/s, 1 pound per square foot = 47.9 N/m^2.

Note: For effective areas between those given above, the load is permitted to be interpolated, otherwise use the load associated with the lower effective area.

Table 1609.6D Delete table to read as shown:

~~**TABLE 1609.6D**~~
~~**ADJUSTMENT FACTOR FOR BUILDING HEIGHT AND EXPOSURE, (λ)**~~

~~MEAN ROOF HEIGHT (feet)~~	~~EXPOSURE~~		
	~~B~~	~~C~~	~~D~~
~~15~~	~~1.00~~	~~1.21~~	~~1.47~~
~~20~~	~~1.00~~	~~1.29~~	~~1.55~~
~~25~~	~~1.00~~	~~1.35~~	~~1.61~~
~~30~~	~~1.00~~	~~1.40~~	~~1.66~~
~~35~~	~~1.05~~	~~1.45~~	~~1.70~~
~~40~~	~~1.09~~	~~1.49~~	~~1.74~~
~~45~~	~~1.12~~	~~1.53~~	~~1.78~~
~~50~~	~~1.16~~	~~1.56~~	~~1.81~~
~~55~~	~~1.19~~	~~1.59~~	~~1.84~~
~~60~~	~~1.22~~	~~1.62~~	~~1.87~~

~~For SI: 1 foot = 304.8 mm.~~
~~a. All table values shall be adjusted for other exposures and heights by multiplying by the above coefficients.~~
~~**NOTE:** All tables values shall be adjusted for other exposures and heights by multiplying by the above coefficients.~~

Table 1609.6.2.1(4) Add table to read as shown:

TABLE 1609.6.2.1(4)
ADJUSTMENT FACTOR FOR BUILDING HEIGHT AND EXPOSURE, (λ)

MEAN ROOF HEIGHT (feet)	EXPOSURE		
	B	C	D
15	1.00	1.21	1.47
20	1.00	1.29	1.55
25	1.00	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	1.09	1.49	1.74
45	1.12	1.53	1.78
50	1.16	1.56	1.81
55	1.19	1.59	1.84
60	1.22	1.62	1.87

For SI: 1 foot = 304.8 mm.
a. All table values shall be adjusted for other exposures and heights by multiplying by the above coefficients.

Table 1609.6E Change title to read as shown:

Table ~~1609.6E~~ 1609.2.1(5)
GARAGE DOOR AND ROLLING DOOR WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)
[Remainder of table unchanged.]

Section 1618.9. Change text to read as shown:

1618.9 Load Combination. The safety of structures shall be checked using provisions of 2.3 and 2.4 of ASCE 7 with commentary.
Exception: Increases in allowable stress shall be permitted in accordance with ACI 530/ASCE 5/TMS 402 provided the load reduction factor of 0.75 of combinations 4 and 6 of ASCE 7 Section 2.4.~~3~~ 1 shall not be applied.

Section 1620.3 Change text to read as shown:

1620.3 All buildings and structures shall be considered to be in Exposure Category C as defined in Section 6.5.6.~~1~~3 of ASCE 7.

Section 1624.2 Delete text to read as shown:

1624.2 Wind effects. Reserved. ~~Where the pressure on the foundation from wind is less than 25 percent of that resulting from dead or other live loads, wind pressure may be neglected in the footing design.~~
1624.2.1 Reserved. ~~Where this percentage exceeds 25 percent, foundations shall be so designed that the pressure resulting from the combined dead, live and wind loads shall not exceed the allowable soil-bearing values or allowable loads per pile by more than 25 percent.~~

CHAPTER 17
STRUCTURAL TESTS AND SPECIAL INSPECTIONS

Section 1714.5.2.1 Change text to read as shown:

1714.5.2.1 Testing and Labeling. Exterior windows and glass doors shall be tested by an approved independent testing laboratory, and shall be labeled with an approved label identifying the manufacturer, performance characteristics and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade Product Approval to indicate compliance with the requirements of one of the following specifications:

> ANSI/AAMA/NWWDA 101/I.S. 2 or 101/I.S. 2/NAFS or AAMA/WDMA/CSA 101/I.S. 2/A440 or TAS 202 (HVHZ shall comply with TAS 202 utilizing ASTM E 1300-98 or ASTM E 1300-02 or Section 2404).

Exceptions:
1. Door assemblies installed in nonhabitable areas where the door assembly and area are designed to accept water infiltration need not be tested for water infiltration.
2. Door assemblies installed where the overhang (OH) ratio is equal to or more than 1 need not be tested for water infiltration. The overhang ratio shall be calculated by the following equation:
OH ratio = OH Length/OH Height
Where:
OH Length = The horizontal measure of how far an overhang over a door projects out from door's surface.
OH Height = The vertical measure of the distance from the door's sill to the bottom of the overhang over a door.
3. Pass-through windows for serving from a single-family kitchen, where protected by a roof overhang of 5 feet (1.5 m) or more shall be exempted from the requirements of the water infiltration test.

Glass Strength: Products tested and labeled as conforming to AAMA/NWWDA 101/I.S. 2 or 101/I.S. 2/NAFS or AAMA/WDMA/CSA 101/I.S. 2/A440 or TAS 202 shall not be subject to the requirements of Sections 2403.2 or 2403.3 or 2404.1. Determination of load resistance of glass for specific loads of products not tested and certified in accordance with s. 1714.5.2.1 shall be designed and labeled to comply with ASTM E 1300 in accordance with Section 2404. The label shall designate the type and thickness of glass or glazing material.

Section 1714.5.3.1 Change text to read as shown:

1714.5.3.1 Sectional garage doors and rolling doors shall be tested for determination of structural performance under uniform static air pressure difference in accordance with ANSI/DASMA 108, ASTM E 330 Procedure A, or TAS 202. For products tested in accordance with ASTM E 330, testing shall include a load of 1.5 times the required design pressure load sustained for 10 seconds, and acceptance criteria shall be in accordance with ANSI/DASMA 108. (HVHZ shall comply with TAS 202.)

Section 1714.5.3.3.1 Change text to read as shown:

1714.5.3.3.1 Glazed curtain wall, window wall and storefront systems shall be tested in accordance with the requirements of this section and the Laboratory Test requirements of the American Architectural ~~Aluminum~~ Manufacturers Association (AAMA) Standard 501, HVHZ shall comply with 2411.3.2.1.1.
[Remaining text unchanged.]

Section 1714.5.5.1 Change text to read as shown:

1714.5.5.1 Mullions.
Mullions, other than mullions which are an integral part of a window or glass door assembly tested and labeled in accordance with Section 1714.5.2.1 shall be tested by an approved testing laboratory in accordance with AAMA 450 or be engineered in accordance with accepted engineering practice. ~~Both methods shall use performance criteria cited in Sections 1714.5.5.2, 1714.5.5.3 and 1714.5.5.4~~.

1714.5.5.1.1 Engineered Mullions. Mullions qualified by accepted engineering practice shall comply with the performance criteria in Sections 1714.5.5.2, 1714.5.5.3 and 1714.5.5.4.

1714.5.5.1.2 Mullions tested as stand alone units. Mullions tested as stand alone units in accordance with AAMA 450 shall comply with the performance criteria in Sections 1714.5.5.2, 1714.5.5.3 and 1714.5.5.4.

1714.5.5.1.3 Mullions tested in an assembly. Mullions qualified by a test of an entire assembly in accordance with AAMA 450 shall comply with Sections 1714.5.5.2 and 1714.5.5.4

[Remaining text unchanged.]

CHAPTER 20
LIGHT METAL ALLOYS

Section 2002.2.1 Add new text to read as shown:

2002.2.1 Definitions
PRIMARY MEMBER. Structural framing members providing structural support to other members and/or surfaces of a structure including, but not limited to beams, posts, columns, joists, structural gutters, headers, purlins etc.
SECONDARY MEMBERS. Structural framing members which do not provide basic support for the entire structure, generally including, but not limited to, such members as kickplate rails, chair rails, roof or wall panels, etc.
STRUCTURAL MEMBERS. Members or sections that provide support of to an assembly and/or resist applied loads.

Section 2002.3.2 Change text to read as shown:

2002.3.2 Reserved. ~~Screen density shall be a maximum of 20 X 20 mesh.~~

Section 2002.4 Change text to read as shown.

2002.4 ~~**Design.** Structural members supporting screen enclosures shall be designed to support minimum wind loads given in Table 2002.4. Where any value is less than 10 psf (479 Pa) use 10 psf.~~ Loads. Structural members supporting screened enclosures shall be designed for wind in either of two orthogonal directions using the pressures given in Table 2002.4. Each primary member shall also be designed for a 300 lb (1.33 kN) load applied vertically downward along any 1 ft (0.3 m) of any member, not occurring simultaneously with wind load.

[Remaining text unchanged.]

Table 2002.4 Change to read as shown:

Table 2002.4 Design Wind Pressures for Aluminum Screened Enclosures ~~Framing with an Importance Factor of 0.77[1,2,3]~~

		Basic Wind Speed (mph)											
		100		110		120		130		140		150	
~~Load Case~~	~~Wall~~ Surface	Exposure Category (B or C) Design Pressure (psf)											
		~~C~~B	~~B~~C	~~C~~B	~~B~~C	~~C~~B	~~B~~C	~~C~~B	~~B~~C	~~C~~B	~~B~~C	~~C~~B	~~B~~C
~~A~~[4]	~~Windward and leeward walls (flow thru) and windward wall (non flow thru) L/W = 0-1~~ Horizontal Pressure on Windward Surfaces	12	~~8~~ 17	~~14~~ 13	~~10~~ 18	~~17~~ 15	~~12~~ 21	~~19~~ 18	~~14~~ 25	~~23~~ 21	~~16~~ 29	~~26~~ 24	~~18~~ 33
~~A~~[4]	~~Windward and leeward walls (flow thru) and windward wall (non flow thru) L/W = 2~~ Horizontal Pressure on Leeward Surfaces	~~13~~ 10	~~9~~ 13	~~16~~ 10	~~11~~ 14	~~19~~ 13	~~14~~ 17	~~22~~ 14	~~16~~ 19	~~26~~ 15	~~18~~ 23	~~30~~ 18	~~21~~ 27
~~B~~[5]	~~Windward: Nongable Roof~~	~~16~~	~~12~~	~~20~~	~~14~~	~~24~~	~~17~~	~~28~~	~~20~~	~~32~~	~~23~~	~~37~~	~~26~~
~~B~~[5]	~~Windward: Gable~~	~~22~~	~~16~~	~~27~~	~~19~~	~~32~~	~~23~~	~~28~~	~~27~~	~~44~~	~~31~~	~~50~~	~~36~~

	~~Roof~~												
~~All~~[6]	~~Roof screen~~ Vertical Pressure – Screen Surfaces	4 3	~~3~~ 5	~~5~~ 4	4 5	~~6~~ 4	4 6	~~7~~ 5	~~5~~ 7	~~8~~ 6	~~6~~ 8	~~9~~ 7	~~7~~ 9
~~All~~[6]	~~Roof Solid~~ Vertical Pressure – Solid Surfaces	~~12~~ 10	~~9~~ 14	~~15~~ 11	~~11~~ 15	~~18~~ 13	~~13~~ 18	~~21~~ 15	~~15~~ 21	~~24~~ 17	~~17~~ 24	~~28~~ 20	~~20~~ 28

NOTES:

1. ~~Values have been reduced for 0.77 Importance Factor in accordance with Table 1606.~~ Pressures include importance factors determined in accordance with Table 1604.5.

~~2. Minimum design pressure shall be 10 psf (479 Pa) in accordance with Section 1609.1.2.~~

~~3~~.2. ~~Loads are applicable to screen~~ Pressures apply to enclosures with a mean enclosure roof height of 30 feet (10 m) or less. For ~~screen enclosures of different~~ other heights, multiply the pressures in this table by the factors ~~the pressures given shall be adjusted by multiplying the table pressure by the adjustment factor given~~ in Table 2002.4A.

~~4. For Load Case A Flow-through condition the pressure given shall be applied simultaneously to both the upwind and downwind screen walls acting in the same direction. For the non-flow thru condition the screen enclosure wall shall be analyzed for the load applied acting toward the interior of the enclosure. .~~

~~5. For Load Case B the table pressure multiplied by the projected frontal area of the screen enclosure is the total drag force, including drag on screen surfaces parallel to the wind, which must be transmitted to the ground. Use Load Case A for members directly supporting the screen surface perpendicular to the wind. Load Case B loads shall be applied only to structural members which carry wind loads from more than one surface~~

~~6. The roof structure shall be analyzed for the pressure given occurring both upward and downward.~~

3. Apply horizontal pressures to the area of the enclosure projected on a vertical plane normal to the assumed wind direction, simultaneously inward on the windward side and outward on the leeward side.
4. Apply vertical pressures upward and downward to the area of the enclosure projected on a horizontal plane.
5. Apply horizontal pressures simultaneously with vertical pressures.
6. Table pressures are MWFRS Loads. The design of solid roof panels and their attachments shall be based on component and cladding loads for enclosed or partially enclosed structures as appropriate.
7. Table pressures apply for all screen densities up to 20X20X.013" mesh. For greater densities use pressures for enclosed buildings.
8. Table pressures may be interpolated using ASCE 7 methodology.

Section 2002.6 Add text to read as shown:

2002.6 Sunrooms. Sunrooms shall comply with AAMA/NPEA/NSA 2100 with the structural requirements and testing provisions of Chapter 5 modified to incorporate ASCE 7.

Section 2003.7.1 Delete text as shown:

2003.7.1 Reserved. ~~Increases in allowable unit stresses as set forth for wind loads in Section 1613 shall be applicable to aluminum structural members except that allowable unit stresses thus increased shall not exceed 75 percent of the minimum yield strength.~~
~~Exception: No increase in allowable stresses caused by wind loads shall be permitted for aluminum sheet decking, siding and cladding.~~

CHAPTER 21 MASONRY

Section 2107.2.3 Change text to read as shown:

2107.2.3 ACI 530/ASCE 5/TMS 402, Section 2.1.10.7.1.1, lap splices. The minimum length of lap splices for reinforcing bars in tension or compression, l_{ld}, shall be ~~calculated by Equation 21-2, but shall not be less than 15 inches (380 mm).~~

$l_{ld} = 0.002 d_b f_s$ (Equation 21-2)

For SI: $l_{ld} = 0.29 d_b f_s$

but not less than 12 inches (305 mm). In no case shall the length of the lapped splice be less than 40 bar diameters.

where:

d_b = Diameter of reinforcement, inches (mm).

f_s = Computed stress in reinforcement due to design loads, psi (MPa).

$$\cancel{l_{ld} = \frac{0.16 d_b^2 f_y \gamma}{K\sqrt{f'_m}}}$$

$$\cancel{\text{For SI: } l_{ld} = \frac{1.95 d_b^2 f_y \gamma}{K\sqrt{f'_m}}}$$

~~where:~~

~~d_b = Diameter of reinforcement, inches (mm).~~

~~f_y = Specified yield stress of the reinforcement or the anchor bolt, psi (MPa).~~

~~f'_m = Specified compressive strength of masonry at age of 28 days, psi (MPa).~~

~~l_{ld} = Minimum lap splice length, inches (mm).~~

~~K = The lesser of the masonry cover, clear spacing between adjacent reinforcement or five times d_b, inches~~

~~λ = (mm).~~

~~= 1.0 for No. 3 through No. 5 reinforcing bars. 1.4 for No. 6 and No. 7 reinforcing bars. 1.5 for No. 8 through No. 9 reinforcing bars.~~

In regions of moment where the design tensile stresses in the reinforcement are greater than 80 percent of the allowable steel tension stress F_s, the lap length of splices shall be increased not less than 50 percent of the minimum required length. Other equivalent means of stress transfer to accomplish the same 50 percent increase shall be permitted to be used.

Section 2108.3 renumber to 2108.3.1.

Section 2108.3 Add text to read as shown:

2108.3 ACI 530/ASCE 5/TMS 402, Section 3.3.3.3. Modify Section 3.3.3.3 as follows:
The required development length of reinforcement shall be determined by Eq. (3-15), but shall not be less than 12 in. (305 mm) and need not be greater than 72 d_b.

Section 2121.1.6 Change text to read as shown:

2121.1.6 Minimum No. 9 gauge horizontal joint reinforcing at every alternate course (16 inches spacing), ladder type for reinforced masonry and truss type for all others shall be provided. This reinforcement shall extend 4 inches (102 mm) into tie columns or be tied to structural columns with approved methods where structural columns replace the tie columns.

Section 2121.2.3.2(3) Change to read as shown:

3. Beam block shall be reinforced with one # 7 bar in the top and one # 7 bar in the ~~top~~ bottom of the pour.

CHAPTER 22
STEEL

Section 2211.2.1 Change to read as shown:

Design shear determination. Where allowable stress design (ASD) is used, the allowable shear value shall be determined by dividing the nominal shear value, shown in Tables 2211.2(1) and 2211.2(2)~~.~~ by a factor of safety (omega) which shall be taken as 2.50.
Where load and resistance factor design (LRFD) is used, the design shear value shall be determined by multiplying the nominal shear value, shown in Tables 2211.2(1) and 2211.2(2) ~~.~~ by a resistance factor (phi) which shall be taken as 0.55.

Section 2214.3 Change text to read as shown:

2214.3 The following standards, as set forth in Chapter 35 of the code, are hereby adopted.
1. American Institute of Steel Construction, AISC:
   a. Manual of Steel Construction, Allowable Stress Design ASD, AISC~~.~~, including Supplement No.1 to the Specification for Structural Steel Buildings, 2001

[Remaining text unchanged.]

CHAPTER 23
WOOD

Section 2303.2.2.2 Change text to read as shown:

2303.2.2.2 Lumber. For each species of wood treated, the effect of the treatment and the method of redrying after treatment and exposure to high temperatures and high humidities on the allowable design properties of fire-retardant-treated lumber shall be determined in accordance with ASTM D 5664. The test data developed by ASTM D 5664 shall be used to develop modification factors for use at or near room temperature and at elevated temperatures and humidity in accordance with ~~an approved method of investigation~~ ASTM D 6841. Each manufacturer shall publish the modification factors for service at temperatures of not less than 80°F (26.7°C) and for roof framing. The roof framing modification factors shall take into consideration the climatological location.

Table 2304.9.1 Change table to read as shown:

TABLE 2304.9.1—continued FASTENIING SCHEDULE

CONNECTION	FASTENING[a,m]		LOCATION
30. Ledger strip		3 - 16d common 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
31. Wood structural panels and particleboard:[b] Subfloor, roof[q] and wall sheathing (to framing):	1/2" and less	6d[c,l] 2 3/8" × 0.113" nail[n] 1 3/4" 16 gage[o]	6 inch o.c. edges and intermediate. 4 inch o.c. at component and cladding edge strip #3 [refer Figure ~~1609.6C~~ 1609.6.2.2]
	15/32 in to 19/32[q]	8d common (roofs in 110-140 mph (Exp. B)	
	19/32" to 3/4"	8d[d] or 6d[e] 2 3/8" × 0.113" nail[p] 2" 16 gage[p]	
	7/8" to 1"	8d[c]	
Single Floor (combination subfloor-underlayment to framing):	1 1/8" to 1 1/4"	10d[d] or 8d[e]	
	3/4" and less	6d[e]	
	7/8" to 1"	8d[e]	
	1 1/8" to 1 1/4"	10d[d] or 8d[e]	
32. Panel siding (to framing)	1/2" or less	6d[f]	
	5/8"	8d[f]	
33. Fiberboard sheathing:[g]	1/2"	No. 11 gage roofing nail[h] 6d common nail No. 16 gage staple[i]	
	25/32"	No. 11 gage roofing nail[h] 8d common nail No. 16 gage staple[i]	
34. Interior paneling	1/4"	4d[j]	
	3/8"	6d[k]	

For SI: 1 inch = 25.4 mm.

a. Common or box nails are permitted to be used except where otherwise stated.

b. Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.

c. Common or deformed shank.
d. Common.
e. Deformed shank.
f. Corrosion-resistant siding or casing nail.
g. Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports.
h. Corrosion-resistant roofing nails with $^{7}/_{16}$-inch-diameter head and $1^{1}/_{4}$-inch length for $^{1}/_{2}$-inch sheathing and $1\ ^{3}/_{4}$-inch length for $^{25}/_{32}$-inch sheathing.
i. Corrosion-resistant staples with nominal $^{7}/_{16}$-inch crown and $1\ ^{1}/_{8}$-inch length for $^{1}/_{2}$-inch sheathing and $1\ ^{1}/_{2}$-inch length for $^{25}/_{32}$-inch sheathing. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
j. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
k. Panel supports at 24 inches. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
l. For roof sheathing applications, 8d nails are the minimum required for wood structural panels.
m. Staples shall have a minimum crown width of $^{7}/_{16}$ inch.
n. For roof sheathing applications, fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.
o. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports for subfloor and wall sheathing and 3 inches on center at edges, 6 inches at intermediate supports for roof sheathing.
p. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.
~~q. For wind speed regions between 110-140 mph/Exposure B, minimum roof sheathing shall be as indicated.~~

Section 2308.2.1 Change to read as shown:

2308.2.1 Basic wind speed greater than 100 mph (3-second gust). Where the basic wind speed exceeds 100 mph (3-second gust), the provisions of either the AF&PA *Wood Frame Construction Manual for One- and Two-Family Dwellings* (WFCM) or the ~~SBCCI *Standard for Hurricane-Resistant Residential Construction* (SSTD-10)~~ <u>IBHS *Guideline for Hurricane Resistant Residential Construction*</u>, are permitted to be used.

Section 2314.4.9 Change text to read as shown:

Truss Plate Institute. ~~583 D'Onofio Drive, Madison, WI 53719 TPI~~ <u>218 N. Lee Street, Suite 312, Alexandria, VA 22314</u>

1. *National Design Standard for Metal Plate Connected Wood Truss Construction* (Excluding Chapter 2).
2. ~~*Commentary and Recommendations for Handling, Installing and Bracing Metal Plate Connected Wood Trusses.* (Excluding Chapter 13.2) HIB-91~~. <u>Building Component Safety Information (BCSI 1) *Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses* [A joint publication with the Wood Truss Council of America (WTCA)]</u>

Section 2319.17.2.4.1 Change text to read as shown:

2319.17.2.4.1 All trusses shall be erected in accordance with ~~Truss Plate Institute *Manual Commentary and Recommendations for Handling & Bracing Metal Plate Connected Wood*~~

~~*Trusses* (HIB-91)~~ TPI/WTCA BCSI 1 in addition to any requirements indicated on the approved permit document.

Section 2319.17.2.4.3 Change text to read as shown:

2319.17.2.4.3 Temporary bracing shall be required during the erection of roof trusses to keep the trusses in a true plumb position and to prevent toppling of the trusses during erection, until the roof sheathing is applied. The provisions for temporary bracing shown in ~~HIB-91~~ TPI/WTCA BCSI 1 shall be used for this bracing or a professional engineer or architect shall design the temporary bracing system. The ultimate responsibility to see this bracing is installed properly during the erection process lies with the permit holder. This bracing is extremely important for the protection of life and property during the erection process. Temporary truss bracing shall always be required.

CHAPTER 24
GLASS AND GLAZING

Section 2409 Delete text to read as shown:

SECTION 2409 Reserved.
~~GLASS IN FLOORS AND SIDEWALKS~~

2409.1 General. Reserved.

~~Glass installed in the walking surface of floors, landings, stairwells and similar locations shall comply with Sections 2409.2 through 2409.4.~~

2409.2 Design load. Reserved.

~~The design for glass used in floors, landings, stair treads and similar locations shall be determined as indicated in Section 2409.4 based on the load that produces the greater stresses from the following:~~

~~1. The uniformly distributed unit load (F_u) from Section 1605;~~

~~2. The concentrated load (F_c) from Table 1607.1; or~~

~~3. The actual load (F_a) produced by the intended use.~~

~~The dead load (D) for glass in psf (kN/m^2) shall be taken as the total thickness of the glass plies in inches by 13 (For SI: glass plies in mm by 0.0245). Load reductions allowed by Section 1607.9 are not permitted.~~

2409.3 Laminated glass. Reserved.

~~Laminated glass having a minimum of two plies shall be used. The glass shall be capable of supporting the total design load, as indicated in Section 2409.4, with any one ply broken.~~

2409.4 Design formula. Reserved.

~~Glass in floors and sidewalks shall be designed to resist the most critical of the following combinations of loads:~~

~~$F_g = 2 F_u + D$ (Equation 24-11)~~

~~$F_g = (8F_c / A) + D$ (Equation 24-12)~~

~~$F_g = F_a + D$ (Equation 24-13)~~

~~where:~~

~~A = Area of rectangular glass, ft^2 (m^2).~~

~~D = Glass dead load (psf) = 13 t_g (for SI: 0.0245 t_g, kN/m^2).~~

~~t_g = Total glass thickness, inches (mm).~~

~~F_a = Actual intended use load, psf (kN/m^2).~~

~~F_c = Concentrated load, pounds (kN).~~

~~F_g = Total load, psf (kN/m^2) on glass.~~
~~F_u = Uniformly distributed load, psf (kN/m^2).~~
~~The design of the glazing shall be based on~~
~~$F_g \leq F_{ga}$ (Equation 24-14)~~
~~where F_g is the maximum load on the glass determined from the load combinations above, and F_{ga} is the maximum allowable load on the glass, computed by the following formula:~~
~~$F_{ga} = 0.67\ c_2\ F_{ge}$ (Equation 24-15)~~
~~where:~~
~~F_{ge} = Maximum allowable equivalent load, psf (kN/m^2), determined from ASTM E 1300 for the applicable glass dimensions and thickness; and~~
~~c_2 = Factor determined from ASTM E 1300 based on glass type.~~
~~The factor, c_2, for laminated glass found in ASTM E 1300 shall apply to two-ply laminates only.~~
~~The value of F_a shall be doubled for dynamic applications.~~

Section 2411.3.2.1.1 Change text to read as shown:

2411.3.2.1.1 Glazed curtain wall, window wall and storefront systems shall be tested in accordance with the requirements of this Section and the Laboratory Test requirements of the American Architectural Manufacturers Association (AAMA) Standard 501, following test load sequence and test load duration in TAS 202.

CHAPTER 26
PLASTIC

Section 2612.2 Change text to read as shown:

2612.2 Definitions.
APPROVED FOAM PLASTIC. An approved foam plastic shall be any thermoplastic, thermosetting or reinforced thermosetting plastic material that has a minimum self-ignition temperature of 650ºF (343ºC) or greater when tested in accordance with ASTM D 1929. It shall have a smoke density rating not greater than 450 and a flame spread of 75 or less when tested in accordance with ASTM E 84.
APPROVED PLASTIC. An approved plastic shall be any thermoplastic, thermosetting or reinforced thermosetting plastic material which has a self-ignition temperature of 650ºF (343ºC), or greater when tested in accordance with ASTM D 1929, a smoke density rating no greater than 450 when tested in the way intended for use by ASTM E 84 or a smoke density rating no greater than 75 when tested in the thickness intended for use according to ASTM D 2843 and which meets one of the following combustibility classifications:
Class C-1. Plastic materials that have a burning extent of 1 inch per minute (25.4 mm) or less when tested in nominal 0.060 inch (1.5 mm) thickness or in the thickness intended for use by ASTM D 635.
Class C-2. Plastic materials that have a burning rate of 2 1/2 inches (64 mm) per minute or less when tested in nominal 0.060 inch (1.5 mm) thickness or in the thickness intended for use by ASTM D 635.
Approved plastics for outdoor exposure shall be evaluated for outdoor durability in accordance with the *Voluntary Standard Uniform Load Test Procedure for Thermoformed Plastic Domed Skylights*, Architectural Aluminum Manufacturers Association Publication AAMA 1600 as follows:

1. Outdoor exposure conditions: Specimen exposed in Florida at 45 degree south exposure for a period of five years.
    a. Impact testing, after exposure test as above, per ASTM D 256, and
    b. Tensile testing on controlled and weathered specimen per ASTM D 638. Yield strength difference between controlled and weathered specimen shall not exceed 10%.
2. Alternate:
    a. Exposure to xenon arc weatherometer using a 6500-watt lamp per ASTM G 155 and ASTM D 2565 for a period of 4,500 hours.
    b. Impact testing, after exposure test as above, per ASTM D 256, and
    c. Tensile testing on controlled and weathered specimen per ASTM D 638. Yield strength difference between controlled and weathered specimen shall not exceed 10%.

[Remaining text unchanged.]

CHAPTER 27
ELECTRICAL

Delete sub-sections 2702.1.1- 2702.3 to read as shown:
[deleted sections to be provided in accordance with NFPA 70, NFPA 110 and NFPA 111]

SECTION 2702 EMERGENCY STANDBY POWER SYSTEMS

2702.1.1 Stationary generators. Reserved.
~~Emergency and standby power generators shall be listed in accordance with UL 2200.~~
2702.2 Where required. Reserved.
~~Emergency and standby power systems shall be provided where required by Sections 2702.2.1 through 2702.2.19.~~
~~**2702.2.1 Group occupancies.**~~
~~Emergency power shall be provided for voice communication systems in Group A occupancies in accordance with Section 907.2.1.2.~~
~~**2702.2.2 Smoke control systems.**~~
~~Standby power shall be provided for smoke control systems in accordance with Section 909.11.~~
~~**2702.2.3 Exit signs.**~~
~~Emergency power shall be provided for exit signs in accordance with Section 1006.3.~~
~~**2702.2.4 Means of egress illumination.**~~
~~Emergency power shall be provided for means of egress illumination in accordance with Section 1006.~~
~~**2702.2.5 Accessible means of egress elevators.**~~
~~Standby power shall be provided for elevators that are part of an accessible means of egress in accordance with Section 1007.4.~~
~~**2702.2.6 Horizontal sliding doors.**~~
~~Standby power shall be provided for horizontal sliding doors in accordance with Section 1008.1.3.3.~~
~~**2702.2.7 Semiconductor fabrication facilities.**~~
~~Emergency power shall be provided for semiconductor fabrication facilities in accordance with Section 415.9.10.~~
~~**2702.2.8 Membrane structures.**~~

~~Standby power shall be provided for auxiliary inflation systems in accordance with Section 3102.8.2. Emergency power shall be provided for exit signs in temporary tents and membrane structures in accordance with the Florida Fire Prevention Code.~~

~~**2702.2.9 Hazardous materials.**~~

~~Emergency or standby power shall be provided in occupancies with hazardous materials in accordance with Section 414.5.4.~~

~~**2702.2.10 Highly toxic and toxic materials.**~~

~~Emergency power shall be provided for occupancies with highly toxic or toxic materials in accordance with the Florida Fire Prevention Code.~~

~~**2702.2.11 Organic peroxides.**~~

~~Standby power shall be provided for occupancies with silane gas in accordance with the Florida Fire Prevention Code.~~

~~**2702.2.12 Pyrophoric materials.**~~

~~Emergency power shall be provided for occupancies with silane gas in accordance with the Florida Fire Prevention Code.~~

~~**2702.2.13 Covered mall buildings.**~~

~~Standby power shall be provided for voice/alarm communication systems in covered mall buildings in accordance with Section 402.12.~~

~~**2702.2.14 High-rise buildings.**~~

~~Emergency and standby power shall be provided in high-rise buildings in accordance with Sections 403.10 and 403.11.~~

~~**2702.2.15 Underground buildings.**~~

~~Emergency and standby power shall be provided in underground buildings in accordance with Sections 405.9 and 405.10.~~

~~**2702.2.16 Group I-3 occupancies.**~~

~~Emergency power shall be provided for doors in Group I-3 occupancies in accordance with Section 408.4.2.~~

~~**2702.2.17 Airport traffic control towers.**~~

~~Standby power shall be provided in airport traffic control towers in accordance with Section 412.1.5.~~

~~**2702.2.18 Elevators.**~~

~~Standby power for elevators shall be provided as set forth in Section 3003.1.~~

~~**2702.2.19 Smokeproof enclosures.**~~

~~Standby power shall be provided for smokeproof enclosures as required by Section 909.20.~~

2702.3 Maintenance. Reserved.

~~Emergency and standby power systems shall be maintained and tested in accordance with the Florida Fire Prevention Code.~~

Section 2703 Add the following table to read as shown.

TABLE 2703

~~CROSS REFERENCE~~

CROSS REFERENCES DEFINING ELECTRICAL REQUIREMENTS
OF THE FLORIDA BUILDING CODE

Note: This table is provided only as a tool to assist the construction industry as a general guide. User should review all sections of the code in order to determine specific applicable electrical requirements.

Florida Building Code 2004

Electrical Systems
Cross Reference

Florida Building Code - Building

Section	
Chapter 1	Administration
101	General
102	Applicability
105	Permits
106	Construction Documents
107	Temporary Structures and Uses
108	Fees
109	Inspections
111	Service Utilities
Chapter 2	Definitions
202	Definitions
Chapter 3	Use and Occupancy Classification
302	Classification
306	Factory Group F
307	High -Hazard Group H
311	Storage Group S
Chapter 4	Special Detailed Requirement Based on Use and Occupancy
402	Covered Mall Buildings
403	High-Rise Buildings
404	Atriums
405	Underground Buildings
406	Motor-Vehicle-Related Occupancies
407	Group I-2
408	Group I-3
409	Motion Picture Projection Rooms
412	Aircraft-Related Occupancies
414	Hazardous Materials
415	Groups H-1, H-2, H-3, H-4 and H-5
419	Hospitals
420	Nursing Homes
421	Ambulatory Surgical Centers
423	State Requirements for Educational Facilities
424	Swimming Pools and Bathing Places (Public and Private)
425	Public Lodging Establishments
426	Public Food Service Establishments
427	Mental Health Programs
428	Manufactured Buildings
431	Transient Public lodging Establishments

Section	
Chapter 7	Fire-Resistance-Rated Construction
712	Penetrations
714	Fire-Resistance Rating of Structural Members
715	Opening Protective
716	Ducts and Air Transfer Openings
Chapter 9	Fire Protection Systems
901	General
902	Definitions
903	Automatic Sprinkler Systems
904	Alternative Automatic Fire-Extinguishing Systems
907	Fire Alarm and Detection Systems
908	Emergency Alarm Systems
909	Smoke Control Systems
910	Smoke and Heat Vents
911	Fire Command Center
Chapter 10	Means of Egress
1006	Means of Egress Illumination and Signs
1008	Doors, Gates and Turnstiles
1033	Day Care
Chapter 11	Florida Accessibility Code For Building Construction
	Part A
11-3	Miscellaneous Instructions and Definitions
11-4	Accessible Elements and Spaces: Scope and Technical Requirements
11-9	Accessible Transient Lodging
	Part B
5	Guidelines
Chapter 12	
1205	Lighting
Chapter 13	Energy Efficiency
13-101	Scope
Subchapter	
13-2	Definitions
13-3	Referenced Standards and Organizations
13-4	Commercial Building Compliance Methods
13-6	Residential Building Compliance Methods
Appendix 13-B	Supplemental Information for Subchapter 13-4

435	Control of Radiation Hazards	Chapter 26	Plastic
436	Day Care Occupancies	2606	Light-Transmitting Plastics

Florida Building Code 2004

Electrical Systems
Cross Reference
Florida Building Code - Building Continued

Section		Section	
Chapter 26 Continued	Plastic	3006	Machine Rooms
2611	Light-Transmitting Plastic Interior Signs	3011	Alterations to Electric and Hydraulic Elevators and Escalators
2612	High-Velocity Hurricane Zones-Plastics	Chapter 31	Special Construction
		3102	Membrane Structures
Chapter 27	Electrical	3108	Radio and Television Towers
2701	General	3112	Lighting, Mirrors, Landscaping
2702	Emergency and Standby Power Systems		
		Chapter 33	
Chapter 30	Elevators and Conveying Systems	3306	Protection of Pedestrians
3003	Emergency Operations	3310	Exits
3005	Conveying Systems		
		Chapter 35	Referenced Standards

Florida Building Code 2004
Electrical Systems
Cross Reference
Residential

Chapter 3	Building Planning	Chapter 24	Fuel Gas
R303	Light, Ventilation and Heating	G2403(202)	General Definitions
R313	Smoke Alarms	G2410(309)	Electrical
R317	Dwelling Unit Separation	G2411(310)	Electrical Bonding
		G2440(615)	Sauna Heaters
Chapter 8	Roof -Ceiling Construction		
R808	Insulation Clearance	Chapter 33	General Requirements Electrical
		E3301	General Requirements Electrical
Chapter 13	General Mechanical System Requirements		
		Chapter 43	Referenced Standards
M1303	Labeling of Equipment		
M1305	Appliance Access		

Florida Building Code 2004
Electrical Systems
Cross Reference

Florida Building Code - Existing Building

Chapter 3		Chapter 11	Relocated or Moved Buildings
305	Alteration-Level 3	1102	Requirements
Chapter 4	Repairs	Chapter 12	Compliance Alternatives
401	General	1201	General
408	Electrical		
		Chapter 14	Referenced Standards

Chapter 5	Alterations Level 1
508	Electrical
Chapter 6	Alterations Level 2
608	Electrical
Chapter 8	Change of Occupancy
808	Electrical
811	Other Requirements
Chapter 9	Additions
901	General
904	Smoke Alarms in Occupancy Groups R-3 and R-4
Appendix B	Standard for Rehabilitation

Florida Building Code 2004
Electrical Systems
Cross Reference

Florida Building Code - Mechanical

Section	
Chapter 3	General Regulations
301	General
306	Access and Service Space
Chapter 5	Exhaust Systems
502	Required Systems
503	Motors and Fans
504	Clothes Dryer Exhaust
509	Fire Suppression Systems
513	Smoke Control Systems
Chapter 6	Duct Systems
601	General
602	Plenums
606	Smoke Detection System Control
607	Ducts and Air Transfer Openings
Chapter 8	Chimneys and Vents
801	General
804	Direct-Vent, Integral Vent and Mechanical Draft System

Section	
912	Infrared Radiant Heaters
917	Cooking Appliances
918	Forced-Air Warm-Air Furnaces
924	Stationary Fuel Cell Power Plants
927	Residential Electric Duct Heaters
928	Vented Residential Floor Furnaces
Chapter 10	Boilers, Water Heaters and Pressure Vessels
1001	General
1004	Boilers
1006	Safety and Pressure Relief Valves And Controls
Chapter 11	
1104	System Application Requirements
1105	Machinery Room, General Requirements
1106	Machinery Room, Special Requirements
Chapter 15	Referenced Standards

Florida Building Code 2004
Electrical Systems
Cross Reference

Florida Building Code - Plumbing

Chapter 6	Water Supply and Distribution
601	General
612	Well Pumps and Tanks used for Private Potable Water Systems
Chapter 11	Storm Drainage
1113	Sumps and Pumping Systems

Part II	Design Criteria
I.	Control Valves
Part IV	Materials
H.	Low Voltage Wiring
I.	Irrigation Controllers
J.	Pumps and Wells

Chapter 13	Referenced Standards	Part V.	Installation
		E.	Low Voltage Wire Installation
Appendix F	Proposed Construction Building Codes For Turf and Landscape Irrigation Systems	F.	Hydraulic Control Tubing

Florida Building Code 2004
Electrical Systems
Cross Reference

Florida Building Code - Fuel Gas

Chapter 2	Definitions	Chapter 6	Specific Appliances
		627	Air Conditioning Equipment
Chapter 3	General Regulations	630	Infrared Radiant Heaters
306	Access and Service Space		
309	Electrical	Chapter 7	Gaseous Hydrogen Systems
310	Electrical Bonding	703	General Requirements
		706	Location of Gaseous Hydrogen Systems
Chapter 4	Gas Piping Installations		
413	Compressed natural Gas Motor Vehicle Fuel- Dispensing Stations	Chapter 8	Referenced Standards

Section 2704 Add new section to read as shown:

2704 Bonding Metal Framing Members: Metal framing members. Metal framing members shall be bonded to the equipment grounding conductor for the circuit that may energize the framing and be sized in accordance with the National Electric Code Table 250.122. For the purpose of this section, a grounded metal outlet box attached to the framing shall be permitted.

CHAPTER 30
ELEVATORS AND CONVEYING SYSTEMS

Section 3001.2 Change to read as follows:

3001.2 Referenced standards. Except as otherwise provided for in this code, the design, construction, installation, alteration, repair and maintenance of elevators and conveying systems and their components shall conform to ASME A17.1, ASME A17.1S, ASME A90.1, ASME B20.1, ALI ALCTV, ASME A17.3 and ASME A18.1.

The Division of Hotels and Restaurants may grant exceptions, variances and waivers to the *Elevator Safety Code* as authorized by the *Elevator Safety Code* . (ASME A 17.1, Section 1.2) and Florida Statutes (Chapter 120.)

Section 3002.8 Change to read as follows:

3002.8 Each enclosed elevator lobby and each elevator machine room shall be provided with an approved smoke detector or other automatic fire alarm initiating device where allowed by NFPA 72 located in the lobby ceiling in accordance with NFPA 72. Smoke detectors ~~may be installed in any hoistway, and~~ shall be installed in hoistways which are sprinklered, and shall not be installed in unsprinklered elevator hoistways unless they are installed to activate the hoistway smoke relief equipment. When the smoke detector is activated, all affected elevators shall operate in conformance with NFPA 72, Section ~~3-9.3~~ 6.15.3.

Fire alarm initiating devices are not required for elevator recall at unenclosed lobbies.

Section 3008.1 Change to read as follows:

3008.1 Serial Numbers
[Preceding text unchanged.]
3. The following rules of ASME A17.1, are hereby amended as follows:

a. ~~Reserved.~~ Rule 2.29.1 is to have the following sentence added at the end of this rule: Each car in a multi-car group shall be sequentially identified from left to right, as viewed from the elevator lobby.
[Rremaining text unchanged.]

CHAPTER 35 REFERENCE STANDARDS

Section 3502 Change text to read as shown:

AA

Standard reference number	Title	Referenced in code section number
ADM 1-~~00~~ 05	Aluminum Design Manual: Part 1-A Aluminum Structures, Allowable Stress Design; and Part 1-B—Aluminum Structures, Load and Resistance Factor Design of Buildings and Similar Type Structures AA 94	1604.3.5, 2002.2, 2003.2

AAMA

Standard reference number	Title	Referenced in code section number

Change to read as follows:

501-~~94~~ 05 Method for Test for Exterior Wall 1714.5.2.1, 1714.5.2.1.1, 2405.5, 2612.2

Add to read as follows:

AAMA/WDMA/CSA 101/I.S. 2/A440-05 Specifications for Windows, Doors and Unit Skylights 1714.5.2.1

AAMA 450-06 Voluntary Performance Rating Method for Mulled Fenestration 1714.5.5.1, Assemblies 1714.5.5.1.2, 1714.5.5.1.3

Add to read as follows:

AAMA 506-06 Voluntary Specifications for Hurricane Impact and Cycle Testing of Fenestration Products. 1609.1.4

Add to read as follows:

AAMA/NPEA/NSA 2100-02 Voluntary Specifications for Sunrooms 2002.6

Change to read as follows:

ACI

Standard reference number	Title	Referenced in code section number
530-~~02~~ 05	Building Code Requirements for Masonry Structures	2108.3
530.1-~~02~~ 05	Specifications for Masonry Structures & Commentaries	

AIA

Standard reference number	Title	Referenced in code section number
HHCF 0~~1~~ 6	Guideline for the Design and Construction of ~~Hospitals and~~ Health Care Facilities	420.2.2

AISC

Standard reference number	Title	Referenced in code section number
335-89s1	[No change.]	2214.3

ASCE

Standard reference number	Title	Referenced in code section number
5-02	[No change.]	2108.3
7-02	[No change.]	1609.4, 2002.6

ASME

Standard reference number	Title	Referenced in code section number
A17.1-04~~A 17.1-00~~	Safety Code for Elevators and Escalators including A17.1a 2005 Addenda	~~1007.4~~,
A 17.1S-05	Supplement to Safety Code for Elevators and Escalators	3001.2
A 17.3-96	Safety Code for Existing Elevators and Escalators	3001.1, 3001.2
A 18.1-2003~~99~~	Safety Standard for Platform Lifts and Stairway Chairlifts ~~with A18.1a-2001 Addenda~~	~~1007.5,~~ 3001.1, 3001.2

Add to read as follows:

B 18.6.1-97	Wood Screws (Inch Series)	1506.6

ASTM

Standard reference number	Title	Referenced in code section number

Change to read as follows:

A 153-01a	[No change.]	1506.7
A 167-99	[No change.]	1506.7

A 641/A 641M—98 Specification for Zinc-Coated (Galvanized) Carbon Steel Wire 1506.5, 1606.6, 2103.11.7.3

Add to read as follows:

B 370-03	Specification for Copper Sheet and Strip for Building Construction	T1507.4.3

Add to read as follows:

D 638-03	Test Method for Tensile Properties of Plastics	2612.2

Change to read as follows:

D 3161-99a	[No change.]	1507.2.8~~7~~, 1507.2.10, T1507.2.10
D 3909-97b	[No change.]	1507.2.9.2
D3679-~~01e~~05	Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding	1404.9, 1404.9.1, 1405.13
D3737~~—01b~~05	Practice for Establishing Allowable Properties for Structural Glued Laminated Timber (Glulam)	2303.1.3

Add to read as follows:

ASTM D 4477-04a	Standard Specification for Rigid (Unplasticized) Poly (Vinyl Chloride) (PVC) Soffit1	1404.9, 1405.13

Change to read as follows:

D5055~~—00~~04	Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-joists	2303.1.2
D5456~~—01ae01~~05	Specification for Evaluation of Structural Composite Lumber Products	2303.1.9

Add to read as follows:

ASTM D 5957 –98 Standard Guide for Flood Testing Horizontal Waterproofing Installations 1519.16.6

Change to read as follows:

D6380-03 Standard Specification for Asphalt Roll Roofing (Organic Felt) 1507.2.9.2, 1507.6.4

Add to read as follows:

D 6841-03 Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-Retardant-Treated Lumber 2303.2.2.2

Add to read as follows:

D7158-05 Standard Test Method for Wind Resistance of Sealed Asphalt Shingles(Uplift Force/Uplift Resistance Method) T1507.2.10 1507.2.10,

Change to read as follows:

E 1886-02 or 05 [No change.]
E 1996-02 or 05 [No change.]

F 1667-01a [No change.] 1506.5

DASMA

Standard reference number	Title	Referenced in code section number

Add to read as follows:

ANSI/DASMA 115-05, Standard Method for Testing Garage Doors and Rolling Doors: Determination of Structural Performance Under Missile Impact and Cyclic Wind Pressure 1609.1.4

Change to read as follows:

Florida Codes
RAS 111 1503.3, 1504.5, 1514.2, 1514.2.1, 1514.2.2, 1514.2.3, 1514.2.4, 1514.2.5.2, 1514.3, 1514.4.1.1, 1515.2.3.2, 1517.6.1, 1517.6.2.1, 1517.6.2.3, 1517.6.2.5, 1518.5.3, 1518.6.2, 1518.7.3.4, 1518.9.5, 1519.8, 1519.10, 1519.13, 1519.16.5, 1523.6.5.2.14

TAS 107 1507.2.10, T107.2.10, 1523.6.5.1

ICC
~~SBCCI SSTD 10 – 99~~ IBHS Guideline ~~Standard~~ for Hurricane Resistant Residential Construction 2005 with errata for the first printing. 1609.1.1, 1609.1.1.1, 2308.2.1

FRSA
RTI 07320/8—05 Concrete and Clay Roof Tile Installation Manual, Fourth Edition

1507.3.3, 1507.3.7, 1507.3.8, 1507.3.9

NFPA

Standard reference number	Title	Referenced in code section number
NFPA 70-~~02~~ 05	National Electrical Code~~d~~ (Excluding Article 80)	2701.1

SPRI

ES-1—98 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems 1503.3, 1504.5

TIA

Standard reference number	Title	Referenced in code section number
ANSI/TIA/~~EIA~~ 222- ~~F~~G-05 ~~96~~	Structural Standards for Steel Antenna Towers and Antenna Supporting Structures	1609.1.1, 3108.4

TMS

Standard reference number	Title	Referenced in code section number
402-02	[No change.]	2108.3

TPI

Change text to read as shown:

Truss Plate Institute
~~583 D'Onofrio Drive, Suite 200~~ 218 N. Lee Street, Suite 312
~~Madison, WI 53719~~ Alexandria, VA 22314

Standard reference number	Title	Referenced in code section number
~~HIB-91~~	~~Handling, Installing and Bracing Metal Plate Connected Wood Trusses~~	
TPI/WTCABCSI 1-03	Building Component Safety Information *Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses* [A joint publication with the Wood Truss Council of America (WTCA)	2314.4.9 , 2319.17.2.4.1 2319.17.2.4.3
TPI 1—02	National Design Standard for Metal-plate-connected Wood Truss Construction	2304.4, 2306.1, 2314.4.9, 2319.17.2.1.1, 2319.17.2.2.8

Florida Building Code, Test Protocols for High Velocity Hurricane Zones

RAS 117

Section RAS 117.10.4.2 Change text to read as shown:

[Preceding text remains unchanged.]

Side Lap Row:

(1 fastener/~~24~~ 12 in) x (12 in/ft) x (~~3.75~~ 37.5 ft/row) x (1 row/square) = 37.5 fasteners/square

Center Rows:

(1 fastener/24 in) x (12 in/ft) x (~~3.75~~ 37.5 ft/row) x (1 row/square) = 37.5 fasteners/square

Combining these values leads to a total of 75 fasteners per square, which equates to 1.33 square feet per fastener, as noted below.

(100 ft^2/square) / (~~3.75~~ 37.5 fasteners/square) ~~x~~ + (~~3.75~~ 37.5 fasteners /square) = 1.33 ft^2 per fastener

[Remaining text unchanged.]

RAS 118

Section 118-3.08(A)(5) Change text to read as shown:

5. Storm Clips. Storm clips ~~may~~ shall be required at the first course of tile ~~based on fastening requirements~~. ~~Refer to tile Product Approval.~~

RAS 119

Section 119-3.09(B) Change text to read as shown:

119-3.09B. Fasten and secure maximum 24 in. on center with screws or fasteners of sufficient length to penetrate the sheathing a minimum of 3/4 in. or to penetrate into a 1 in., or greater, thickness of lumber not less than 1 in.

Section 119-3.10(B) Change text to read as shown:

B. Storm Clips. Storm clips ~~may~~ shall be required at the first course of tile ~~based on fastening requirements~~. ~~Refer to tile Product Approval.~~

RAS 120

Section 120-3.10 Change text to read as shown:

3.10 Hip and Ridge Installation - ~~CHOOSE ONE of the following~~:

~~A. Set hip and ridge tile in a continuous bed of mortar, lapping tile a minimum 2 in. Ensure bed of mortar does not protrude in center of hip or ridge junction. Approximately 1 in. of field tile shall extend beyond bed of mortar.~~

~~OR~~

~~B~~ A. Mechanically fasten hip and ridge tiles to nailer board ~~shall be optional on roof slopes of 2:12 to 7:12, and shall be required on roof slope greater than 7:12~~.

[Remaining text unchanged.]

TAS 106

Section 106-4.1 Change text to read as shown:

4.1 Examine the entire area of the roof for loose tile by lifting any tile by hand or with a hand held griping device. Physically examine not less than one (1) tile in ten (10) of all components in the field area and one (1) tile in five (5) of all tile in perimeter and ~~comer~~ corner areas including hip and ridge tile.

[Remaining text unchanged.]

Section 106-6.1.2 Change text to read as shown:

6.1.2 For roof areas five (5) squares or more a minimum of one (1) test per every two (2) squares in the field, one (1) test per square in the perimeter area and (1) in the ~~comer~~ corner areas including one (1) test per every twenty (20) hip and ridge tiles.

TAS 139

Section 139-6 Change text to read as shown:

6. Performance Requirements:

6.1 Physical Properties - The water-based elastomeric white roof patch product shall conform to physical property requirements as follows:

Physical Property	Reference Section	Requirement
Viscosity (CPS)	See Section 7.2	min. 30,000
Elongation (%)	See Section 7.3	min. 150
Tensile Strength (psi)	See Section 7.4	min. 150
Reflectance	See Section 7.5	min. 75
Accelerated Weathering	See Section 7.6	~~24~~ 1000 hours no visible sign of cracks
Firm Set	See Section 7.7	24 hours
Resistance to Water	See Section 7.8	24 hours

Section 139-7 Change text to read as shown:

7. Test Methods:
[Preceding text unchanged.]
7.5 Reflectance - Test Method D 2824, Section 8.6
7.6 Accelerated Weathering - Test Method **~~G 26~~** **G155**
7.7 Firm Set - Test Method D 2939, Sections 13 & 14
7.8 Resistance to Water - Test Method D 2939, Section 17, ALT: A

TAS 201

Section 201-5.2 Change text to read as shown:

~~5.2 Manufacturers of any specimen with width of more than 20 ft and/or a height of more than 8 ft must submit for approval a proposed comparative test criteria to the Authority Having Jurisdiction prior to testing.~~

Section 201-8.3 Change text to read as shown:

~~8.3 Fee for testing facilities shall be determined per protocol TAS 301-94.~~

Section 201-9 Change text to read as shown:

9. Format of Test: The manufacturer shall notify the Authority Having Jurisdiction seven (7) working days prior to the performing of the test. The Authority Having Jurisdiction reserves the right to observe the test. The Authority Having Jurisdiction must be notified of the place and time the test will take place. The test must be recorded on video ~~(VHS)~~ and retained by the laboratory per TAS 301 ~~submitted along with test report~~.

TAS 202

Section 202-5.5 Delete text:

~~5.5 Manufacturers of any specimen with width of more than 20 ft and/or a height of more than 8 ft must submit for approval a proposed comparative test criteria to the Authority Having Jurisdiction prior to testing.~~

Section 202-8.3 Change text to read as shown:

~~8.3 Fee for testing facilities shall be determined per TAS 301-94.~~

Section 202-9 Change text to read as shown:

9. Format of Test:
The manufacturer shall notify the Authority Having Jurisdiction seven (7) working days prior to the performing of the test. The Authority Having Jurisdiction reserves the right to observe the test. The Authority Having Jurisdiction must be notified of the place and time the test will take place. The test must be recorded on video ~~(VHS)~~ and retained by the laboratory per TAS 301 ~~submitted along with test report~~.

Section 202-12.1 Change text to read as shown:

12. Additional Testing:

12.1 After successfully completing all parts of the test described in this protocol, the specimen shall be subjected to ~~the~~ forced entry test per ASTM F 588, or ASTM F 842, or AAMA 1304 as applicable. ~~as required by Section 1707.4.2 of the Florida Building Code, Building. Minimum gauge of materials shall be determined prior to testing per Section 1707.4.2 of the Florida Building Code, Building.~~

TAS 203

Section 203-5.5 Change text to read as shown:

~~5.5 Manufacturers of any specimen with width of more than 20 ft and/or a height of more than 8 ft must submit for approval a proposed comparative test criteria to the Authority Having Jurisdiction prior to testing.~~

Section 203-9.3 Change text to read as shown:

~~9.3 Fee for testing facilities shall be determined per TAS 301-94.~~

Section 203-10 Change text to read as shown:

10. Format of Test: The manufacturer shall notify the Authority Having Jurisdiction seven (7) working days prior to the performing of the test. The Authority Having Jurisdiction reserves the right to observe the test. The Authority Having Jurisdiction must be notified of the place and time the test will take place. The test must be recorded on video ~~(VHS)~~ and retained by the laboratory per TAS 301 ~~submitted along with test report~~.

TAS 301

Section 301-6.13 Change text to read as shown:

6.13 ~~Proper fees~~ Independence statement.

Section 301-7 Change text to read as shown:

7. Independence ~~Fees~~:

- 7.1 The statement of independence shall be submitted on testing laboratory's stationary and signed by an official of the testing laboratory. The statement shall include the following:
  - 7.1.1 A statement indicating that the laboratory or agency, its associates, entities, or legal persons employed or under contract do not have any financial interest in any product manufacturing company other than providing professional testing services.
  - 7.1.2 A statement indicating that the laboratory or agency is not owned, operated, or controlled by any company manufacturing or distributing any portion of the product inspected or tested.

~~7.1 A fee of $500.00 shall be submitted with the letter of request for certification and registration for facilities located within the limits of the High-Velocity Hurricane Zone. This fee covers up to ten (10) types of tests submitted with original letter of request.~~
~~7.2 A fee of $100.00 shall be submitted for each additional ten (10) types of tests submitted under same request.~~
~~7.3 For facilities located outside the boundary limits of the High-Velocity Hurricane Zone, $150.00 shall be added to the fees set in 7.1 of this protocol for every 50 miles or any part thereto that the facility is located away from the High-Velocity Hurricane Zone limits. This extra fee shall not exceed $5000.00.~~

Section 301-10.1 Change text to read as shown:

10.1 ~~Approval of testing facilities shall be valid for a period of four (4) years. The fee for renewal shall be 50% of the original fee.~~ In case of any changes to the test procedures or protocols, the Authority Having Jurisdiction reserves the right to request additional information or to revoke approval of a non-compliance facility.

Florida Building Code, Residential

CHAPTER 1, ADMINISTRATION

Section R101.2 Change text to read as follows:

R101.2 Scope.
The provisions of the Florida Building Code, Residential shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures. ~~Construction standards or practices which are not covered by this code shall be in accordance with the provisions of Florida Building Code, Building.~~
Exception: Existing buildings undergoing repair, alteration or additions, and change of occupancy shall comply with the Florida Existing Building Code.
[Remaining text unchanged.]

CHAPTER 2, DEFINITIONS

Section R202 Revise the following definitions to read as follows:

BASIC WIND SPEED. Three-second gust speed at 33 feet (10 058 mm) above the ground ~~in Exposure C (see Section R301.2.1)~~ as given in Figure R301.2(4).

BRACED WALL LINE. A series of braced wall panels in a single story constructed in accordance with Section <u>R602.2.10</u> ~~R602.10~~ for wood framing or Section R603.7 for cold-formed steel framing to resist racking from wind forces.

BRACED WALL PANEL. A section of a braced wall line constructed in accordance with Section <u>R602.2.10</u> ~~R602.10~~ for wood framing or Section R603.7 or R301.1.1 for cold-formed steel framing, which extend the full height of the wall.

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

NATURALLY DURABLE WOOD. The heartwood of the following species with the exception that an occasional piece with corner sapwood is permitted if 90 percent or more of the width of each side on which it occurs is heartwood:
1. Decay resistant - Redwood, cedar, black locust and black walnut.
2, Termite resistant - Redwood and Eastern red cedar.

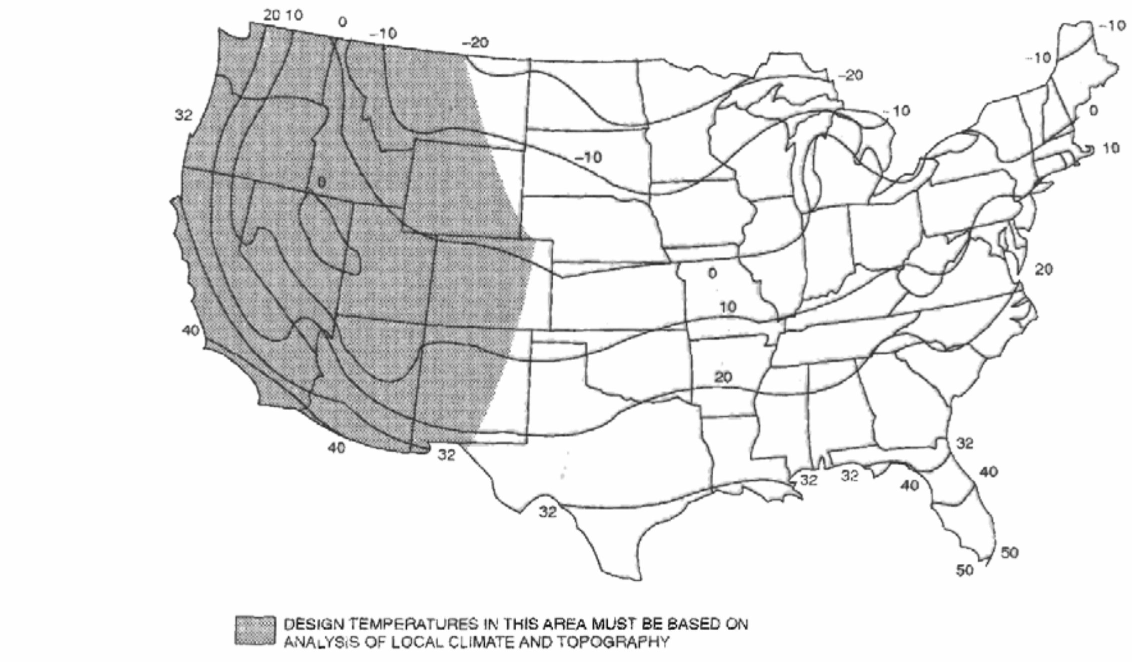
SUNROOM 1. A room with roof panels that include sloped glazing that is a ~~A~~ one-story structure added to an existing dwelling with an open or glazed area in excess of 40 percent of the gross area of the sunroom structure's exterior walls and roof. 2. A one-story structure added to a dwelling with structural roof panels without sloped glazing. The sunroom walls may have any configuration, provided the open area of the longer wall and one additional wall is equal to at least 65 percent of the area below 6 foot 8 inches of each wall, measured from the floor. For the purposes of this code the term sunroom as used herein shall include conservatories, sunspaces, solariums, and porch or patio covers or enclosures.

SUNROOM ADDITION. **Reserved.** ~~A one-story structure added to an existing dwelling with a glazing area in excess of 40 percent of the gross area of the structure's exterior walls and roof.~~

WIND-BORNE DEBRIS REGION.
1. Areas within one mile (1.6 km) of the coastal mean high water line where the basic wind speed is 110 mph (49 m/s) or greater.
2. Areas where the basic wind speed is 120 mph (53 m/s) or greater except from the eastern border of Franklin County to the Florida-Alabama line where the region includes areas ~~only within 1 mile of the coast~~ where design to 130mph or higher wind speeds is required and areas within 1500 feet of the coastal mean high water line.

CHAPTER 3 BUILDING AND PLANNING

Figure R301.2(1) Change title to read as shown:



For SI: °C =[(°F) - 32]/1.8.

FIGURE R301.2(1)
ISOLINES OF THE 971/2 PERCENT WINTER (DECEMBER, JANUARY, AND FEBRUARY) DESIGN TEMPERATURES (˚F)

Figure R301.2(4) Change text to read as shown:

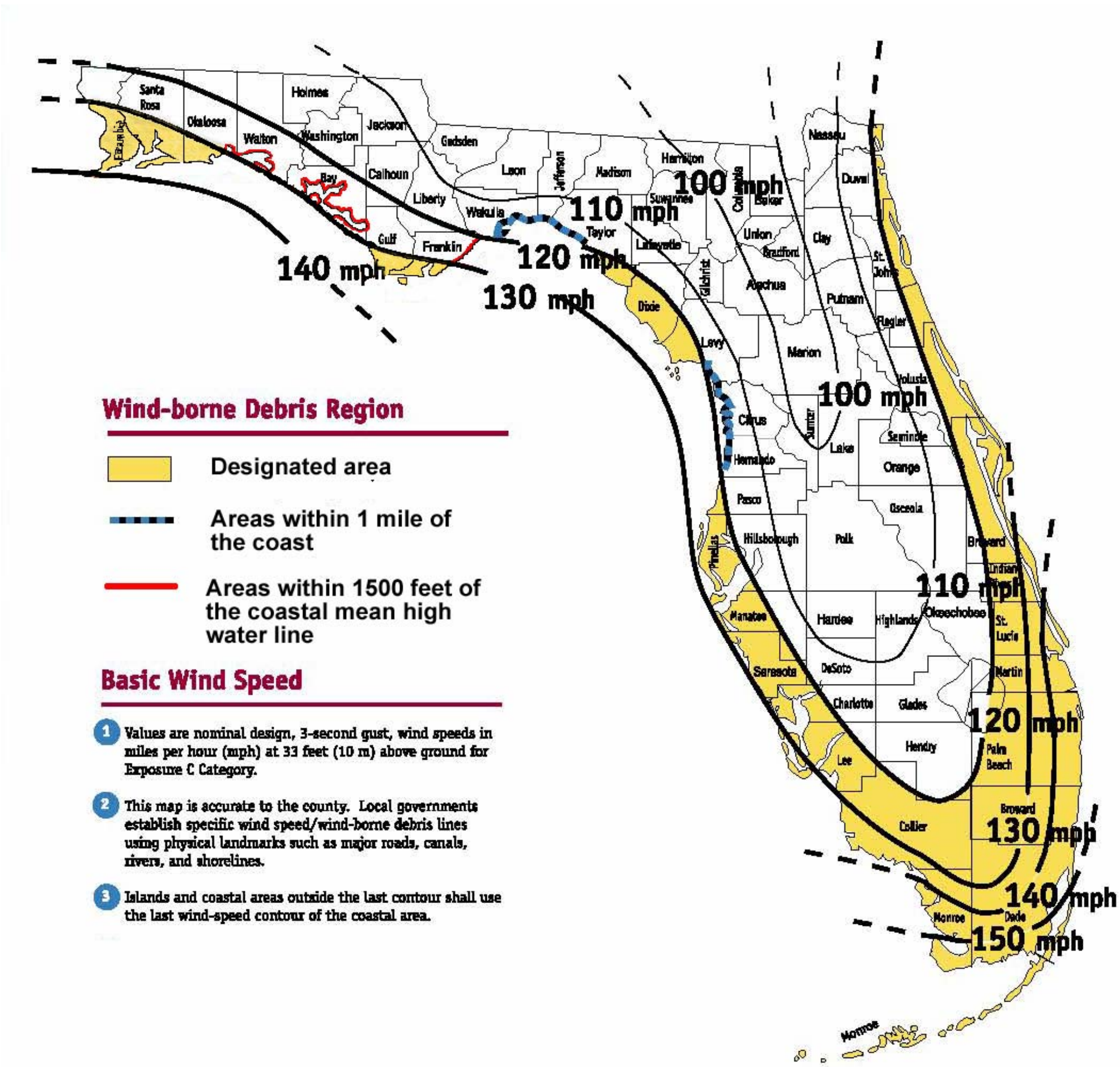


FIGURE R301.2(4)
BASIC WIND <u>DESIGN</u> SPEEDS ~~FOR 50-YEAR MEAN RECURRENCE INTERVAL~~

[Make the lines solid.]

Figure R301.2(4) Change the title as shown above and delete text as shown below:

~~Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.~~

~~Wind speeds are American Society of Civil Engineering Standard ASCE-7 50-100 peak gust.~~

Change the figure to reflect the new criteria for the wind borne debris region as defined in s. R202.

Table R301.2(4) Add new table to read as shown:

TABLE R301.2 (4)
GARAGE DOOR LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B

Basic Wind Speed (mph - 3 second gust)

Roof Angle > 10 degrees Effective Area: Width (ft) Height (ft)	90	100	110	120	130	140	150
9 7	12.8 -14.5	15.8 -17.9	19.1 -21.6	22.8 -25.8	26.7 -30.2	31.0 -35.1	35.6 -40.2
16 7	12.3 -13.7	15.2 -16.9	18.3 -20.4	21.8 -24.3	25.6 -28.5	29.7 -33.1	34.1 -38.0

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 sq m, 1 mile per hour = 1.609 km/h

1. For effective areas or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower effective area.
2. Table values shall be adjusted for height and exposure by multiplying by the adjustment coefficient in Table R301.2 (3).
3. Plus and minus signs signify pressures acting toward and away from the building surfaces.
4. Negative pressures assume door has 2 feet of width in building's end zone.

Section R301.2.1 Change text to read as shown:

R301.2.1 Wind limitations. Buildings and portions thereof shall be limited by wind speed, as defined in Table R301.2(1), and construction methods in accordance with this code. Basic wind speeds shall be determined from Figure 301.2(4). Where different construction methods and structural materials are used for various portions of a building, the applicable requirements of this section for each portion shall apply. Where loads for windows, skylights and exterior doors (other than garage doors) are not otherwise specified, the loads listed in Table R301.2(2) adjusted for height and exposure per Table R301.2(3), shall be used to determine design load performance requirements ~~for windows and doors~~. Where loads for garage doors are not otherwise specified, the loads listed in Table R301.2(4) adjusted for height and exposure per Table R301.2(3), shall be used to determine design load performance requirements.

R301.2.1.1. Design criteria.
Construction in regions where the basic wind speeds from Figure R301.2(4) equal or exceed 100 miles per hour (160.9 km/h) ~~(177.1 km/h)~~ shall be permitted to be designed in accordance with one of the following:

1. American Forest and Paper Association (AF&PA) *Wood Frame Construction Manual for One- and Two-Family Dwellings* (WFCM);

2. *Minimum Design Loads for Buildings and Other Structures* (ASCE-7);

3. American Iron and Steel Institute (AISI), *Standard for Cold-Formed Steel Framing—Prescriptive Method for One- and Two-family Dwellings* (COFS/PM).

4. Concrete and concrete masonry construction shall be designed in accordance with the provisions of this code or in accordance with the applicable documents adopted in Section R301.2.1.1.

5. ~~*SBCCI SSTD 10*~~ *IBHS Guideline for Hurricane Resistant Residential Construction* shall be permitted for buildings for a basic wind speed of ~~130~~ 140 mph (~~58~~ 63 m/s) or less in Exposure B ~~and 110 mph (49 m/s) or less in Exposure C~~ in accordance with Figure R301.2(4). Provisions

for design wind speeds of 140 mph (63 m/s) in the Guideline shall also be permitted for buildings for a basic wind speed of 120 mph (53 m/s) or less in Exposure C in accordance with Figure R301.2(4) and provisions for design wind speeds of 120 mph (54 m/s) in the Guideline shall be permitted for buildings for a basic wind speed of 100 mph (45 m/s) or less in Exposure C in accordance with Figure R301.2(4).

6. *The FC&PA Guide to Concrete Masonry Residential Construction in High Wind Areas* shall be permitted for applicable concrete masonry buildings for a basic wind speed of 130 mph (58 m/s) or less in Exposure B and 110 mph (49 m/s) or less in Exposure C in accordance with Figure R301.2(4); or

7. *The WPPC Guide to Wood Construction in High Wind Areas* shall be permitted for applicable wood-frame buildings for a basic wind speed of 130 mph (58 m/s) or less in Exposure B and 110 mph (49 m/s) or less in Exposure C in accordance with Figure R301.2(4).

8. The Florida Building Code, Building.

R301.2.1.1.1 Design. [No change.]

R301.2.1.1.2 Sunrooms. Sunrooms shall comply with AAMA/NPEA/NSA 2100 with the structural requirements and testing provisions of Chapter 5 modified to incorporate ASCE 7.

Section R301.2.1.2 Change text to read as shown:

R301.2.1.2 Internal pressure. Windows in buildings located in wind-borne debris regions shall have glazed openings protected from wind-borne debris or the building shall be designed as a partially enclosed building in accordance with the *Florida Building Code, Building.* Glazed opening protection for wind-borne debris shall meet the requirements of the Large Missile Test of ASTM E 1996 and of ASTM E 1886, SSTD 12, ANSI/DASMA 115 (for garage doors) or TAS 201, 202 and 203 or AAMA 506 referenced therein.

Items (1) and (2) unchanged.

Impact resistant coverings shall be tested at 1.5 times the design pressure (positive or negative) expressed in pounds per square feet as determined by the Florida Building Code, Residential Section R301 for which the specimen is to be tested.

Exception: Wood structural panels with a minimum thickness of 7/16 inch (11.1 mm) and a maximum span of 8 feet (2438 mm) shall be permitted for opening protection in one- and two-story buildings. Panels shall be precut so that they shall be attached to the framing surrounding the opening containing the product with ~~to cover~~ the glazed openings ~~with attachment hardware provided~~. Panels shall be predrilled as required for the anchorage method and all required hardware shall be provided. Permanent corrosion resistant attachment hard ware with anchors permanently installed on the building shall be provided ~~Attachments shall be provided in accordance with Table R301.2.1.2 or shall be~~ and designed to resist the components and cladding loads determined in accordance with the provisions of the *Florida Building Code, Building.* Attachment in accordance with Table R301.2.1.2 with permanent corrosion resistant attachment hardware provided and anchors permanently installed on the building is permitted for buildings with a mean roof height of 45 feet (10 058 mm) or less where wind speeds do not exceed 140 miles per hour (58 m/s).

Table R301.2.1.2 Change text to read as shown:

TABLE R301.2.1.2
WIND-BORNE DEBRIS PROTECTION FASTENING SCHEDULE
FOR WOOD STRUCTURAL PANELS

FASTENER TYPE	FASTENER SPACING (in.)[1,2]			
	Panel span ≤ 2 ft	2 foot < panel span ≤ 4 foot	4 foot < panel span ≤ 6 foot	6 foot < panel span ≤ 8 foot
~~2-1/2 #6 Wood Screws~~[3] <u>#8 Wood Screw based anchor with 2-inch embedment length</u>[3]	16	16	~~12~~ <u>10</u>	~~9~~ <u>8</u>
~~2-1/2 #8 Wood Screws~~[3] <u>#10 Wood Screw based anchor with 2-inch embedment length</u>[3]	16	16	~~16~~ <u>12</u>	~~12~~ <u>9</u>
~~Double-Headed Nails~~[4] <u>¼ Lag screw based anchor with 2-inch embedment length</u>[3]	~~12~~ <u>16</u>	~~6~~ <u>16</u>	4 <u>16</u>	~~3~~ <u>16</u>

SI: 1 inch = 25.4 mm, 1 foot = 305 mm.
1. This table is based on a maximum wind speed of <u>140</u> ~~130~~ mph (58 m/s) and mean roof height of <u>45</u> ~~33~~ feet (10 m) or less.
2. Fasteners shall be installed at opposing ends of the wood structural panel.
3. Where screws are attached to masonry or masonry/stucco, they shall be attached using vibration-resistant anchors having a minimum withdrawal capacity of ~~490~~ <u>1500</u> lb (2180 kN).
~~4. Nails shall be 10d common or 12d box double-headed nails.~~

Section R301.2.1.4 Change text to read as shown:

R301.2.1.4 Exposure category. For each wind direction considered, an exposure category that adequately reflects the characteristics of ground surface irregularities shall be determined for the site at which the building or structure is to be constructed. For a site located in the transition zone between categories, the category resulting in the largest wind forces shall apply. Account shall be taken of variations in ground surface roughness that arise from natural topography and vegetation as well as from constructed features. For any given wind direction, the exposure in which a specific building or other structure is sited shall be assessed as being one of the following categories:

1. Exposure A. ~~Large city centers with at least 50 percent of the buildings having a height in excess of 70 feet (21 336 mm). Use of this exposure category shall be limited to those~~

~~areas for which terrain representative of Exposure A prevails in the upwind direction for a distance of at least 0.5 mile (0.8 km) or 10 times the height of the building or other structure, whichever is greater. Possible channeling effects or increased velocity pressures due to the building or structure being located in the wake of adjacent buildings shall be taken into account.~~ This exposure category no longer used in ASCE-7.

2. Exposure B. Urban and suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger. Exposure B shall be assumed unless the site meets the definition of another type exposure.

3. Exposure C. ~~Means, except in the High-Velocity Hurricane Zone, that area which lies within 1,500 feet (457 m) of the costal construction line, or within 1,500 feet (457 m) of the mean high tide line, whichever is less. On barrier islands, Exposure C shall be applicable to the coastal building zone set forth in Section 161.55(4), *Florida Statutes*.~~ Open terrain with scattered obstructions, including surface undulations or other irregularities, having heights generally less than 30 feet (9144 mm) extending more than 1,500 feet (457.2 m) from the building site in any quadrant. This exposure shall also apply to any building located within Exposure B-type terrain where the building is directly adjacent to open areas of Exposure C-type terrain in any quadrant for a distance of more than 600 feet (182.9 m). Short term (less than two year) changes in the pre-existing terrain exposure, for the purposes of development, shall not be considered open fields. Where development build out will occur within 3 years and the resultant condition will meet the definition of Exposure B, Exposure B shall be regulating for the purpose of permitting. This category includes flat open country, grasslands and ocean or gulf shorelines. This category does not include inland bodies of water that present a fetch of 1 mile (1.61 km) or more or inland waterways or rivers with a width of 1 mile (1.61 km) or more. (See Exposure D.)

4. Exposure D. Flat, unobstructed areas exposed to wind flowing over open water (excluding shorelines in hurricane prone regions) for a distance of at least 1 mile (1.61 km). Shorelines in Exposure D include inland waterways, the Great Lakes and coastal areas of California, Oregon, Washington and Alaska. This exposure shall apply only to those buildings and other structures exposed to the wind coming from over the water. Exposure D extends inland from the shoreline a distance of 1,500 feet (457 m) or 10 times the height of the building or structure, whichever is greater.

Section R301.2.1.5 Change text to read as shown:

R301.2.1.5 Basic wind speed. The basic wind speed in miles per hour, for the development of windloads, shall be determined from Figure R301.2(4). ~~Basic wind speed for the special wind regions indicated, near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements.~~ The exact location of wind speed lines shall be established by local ordinance using recognized physical landmarks such as major roads, canals, rivers and lake shores whenever possible.

Section R301.3 Change text to read as shown:

R301.3 Story height. Buildings constructed in accordance with these provisions shall be limited to story heights of not more than the following:

1. For conventional light-frame wood construction ~~wall framing~~, the laterally unsupported bearing wall stud height permitted by Table R602.2(5) ~~R602.3(5)~~ plus a height of floor framing

not to exceed sixteen inches. For purposes of determining uplift, gravity loads, and lateral bracing requirements, an attic shall be considered an additional story when the roof slope is 6 in 12 or greater. (See Figure R301.3)

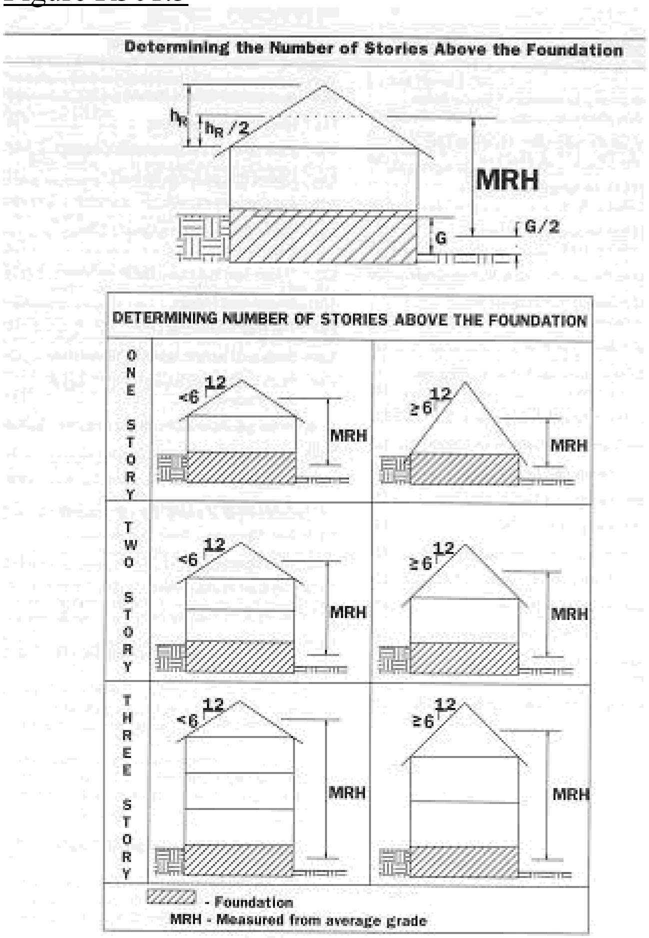
Exception: For wood framed wall buildings with bracing in accordance with Table R602.2.10.1 ~~R602.10.1~~, the wall stud clear height used to determine the maximum permitted story height may be increased to 12 feet without requiring an engineered design for the building wind and seismic force resisting systems provided that the length of bracing required by Table R602.2.10.1 ~~R602.10.1~~ is increased by multiplying by a factor of 1.20. Wall studs are still subject to the requirements of this section.

2. For steel wall framing, a stud height of 10 feet (3048 mm), plus a height of floor framing not to exceed 16 inches (406 mm).
3. For masonry walls, a maximum bearing wall clear height of 12 feet (3658 mm) plus a height of floor framing not to exceed 16 inches (406 mm).
   Exception: An additional 8 feet is permitted for gable end walls.
4. For insulating concrete form walls, the maximum bearing wall height per story as permitted by Section 611 tables plus a height of floor framing not to exceed 16 inches (406 mm).

Individual walls or walls studs shall be permitted to exceed these limits as permitted by Chapter 6 provisions for buildings where the wind speed is less than 100 mph (160.9 km/h), provided story heights are not exceeded. An engineered design shall be provided for the wall or wall framing members when they exceed the limits of Chapter 6. Where the story height limits are exceeded, an engineered design shall be provided in accordance with the Florida Building Code, Building the overall wind force resisting systems.

Figure R301.3 Add new figure to read as shown:

Figure R301.3



Section R308.1 Change text to read as shown:

R308.1 Identification. Each pane shall bear the manufacturer's label designating the type and thickness of glass or glazing material. Except as indicated in Section R308.1.1, each pane of glazing installed in hazardous locations as defined in Section R308.4 shall be provided with a manufacturer's or installer's label, designating the type and thickness of glass and the safety glazing standard with which it complies, which is visible in the final installation. The safety glazing label shall be acid etched, sandblasted, ceramic-fired, embossed mark, or shall be of a type which once applied cannot be removed without being destroyed.

Exceptions:

1. For other than tempered glass, labels may be omitted provided the building official approves the use of a certificate, affidavit or other evidence furnished by the glazing contractor certifying that each light is glazed in accordance with approved construction documents that comply with the provisions of this chapter confirming compliance with this code.
2. Tempered spandrel glass may be identified by the manufacturer with a removable paper label.

[Remaining text unchanged.]

Section R309.1.1 Change to read as shown:

R309.1.1 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel, 1 inch minimum rigid nonmetallic Class 0 or Class1 duct board, or other approved material and shall have no openings into the garage.

Section R310.4 Change text to read as follows:

R310.4 Bars, grills, covers and screens.
Bars, grills, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided the minimum net clear opening size complies with Sections R310.1.1 to R310.1.3, and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the escape and rescue opening. The temporary installation or closure of storm shutters, panels, and other approved hurricane protection devices shall be permitted on emergency escape and rescue openings during the threat of a storm. Such devices shall not be required to comply with the operational constraints of Section R310.1.4. While such protection is provided, at least one means of escape from the dwelling or dwelling unit shall be provided. The means of escape shall be within the first floor of the dwelling or dwelling unit and shall not be located within a garage without a side hinged door leading directly to the exterior. Occupants in any part of the dwelling or dwelling unit shall be able to access the means of escape without passing through a lockable door not under their control.

Sections R311.5.6.1 and R311.5.6.2 Change text to read as follows:

R311.5.6.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

Exception: When fittings are used to provide transition between flights, transition from handrail to guardrail, or used at the start of a stair, the handrail height at the fitting, shall be permitted to exceed the maximum height.

R311.5.6.2 Continuity. Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top ~~riser~~ nosing edge of the flight to a point directly above the lowest ~~riser~~ nosing edge of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of no less than 1-1/2 inch (38 mm) between the wall and the handrails.

Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at the turn and at the top of the flight..
2. The use of a volute, turnout, starting easing or ~~starting~~ newel shall be allowed over the lowest tread.

Section R314 Change to read as shown:

FOAM PLASTIC

~~**R314.1 General.**~~
~~The provisions of this section shall govern the requirements and uses of foam plastic insulation.~~
~~**R314.1.1 Surface burning characteristics.**~~

~~Except where otherwise noted in Section R314.2, all foam plastic or foam plastic cores in manufactured assemblies used in building construction shall have a flame-spread rating of not more than 75 and shall have a smoke-developed rating of not more than 450 when tested in the maximum thickness intended for use in accordance with ASTM E 84.~~

~~R314.1.2 Thermal barrier.~~

~~Foam plastic, except where otherwise noted, shall be separated from the interior of a building by minimum ½-inch (12.7 mm) gypsum board or an approved finish material equivalent to a thermal barrier to limit the average temperature rise of the unexposed surface to no more than 250°F (121°C) after 15 minutes of fire exposure to the ASTM E 119 standard time temperature curve. The gypsum board shall be installed using a mechanical fastening system in accordance with Section R702.3.5. Reliance on adhesives to ensure that the gypsum board will remain in place when exposed to fire shall be prohibited.~~

~~R314.2 Specific requirements.~~

~~The following requirements shall apply to all uses of foam plastic unless specifically approved in accordance with Section R314.3 or by other sections of the code.~~

~~R314.2.1 Masonry or concrete construction.~~

~~Foam plastics may be used without the thermal barrier described in Section R314.1 when the foam plastic is protected by a minimum 1-inch (25.4 mm) thickness of masonry or concrete.~~

~~R314.2.2 Roofing.~~

~~Foam plastic may be used in a roof-covering assembly without the thermal barrier when the foam is separated from the interior of the building by wood structural panel sheathing in accordance with Section R803, not less than 15/32 inch (11.9 mm) in thickness bonded with exterior glue and identified as Exposure 1, with edge supported by blocking or tongue-and-groove joints. The smoke-developed rating shall not be limited.~~

~~R314.2.3 Attics and crawlspaces.~~

~~Within attics and crawlspaces where entry is made only for service of utilities, foam plastics shall be protected against ignition by 1½-inch-thick (38 mm) mineral fiber insulation, ¼-inch-thick (6.4 mm) wood structural panels, 3/8-inch (9.5 mm) particleboard, ¼-inch (6.4 mm) hardboard, 3/8-inch (9.5 mm) gypsum board, or corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm).~~

~~R314.2.4 Foam-filled doors.~~

~~Foam-filled doors are exempt from the requirements of Section R314.1.~~

~~R314.2.5 Siding backer board.~~

~~Foam plastic board of not more than ½-inch (12.7 mm) thickness may be used as siding backer board when separated from interior spaces by not less than 2 inches (51 mm) of mineral fiber insulation or ½-inch (12.7 mm) gypsum wallboard or installed over existing exterior wall finish in conjunction with re-siding, providing the plastic board does not have a potential heat of more than 2,000 Btu per square foot (22 720 kJ/m2) when tested in accordance with NFPA 259.~~

~~R314.2.6 Interior trim.~~

~~Foam plastic trim defined as picture molds, chair rails, baseboards, handrails, ceiling beams, door trim and window trim may be installed, provided:~~

~~1. The minimum density is 20 pounds per cubic foot (3.14 kg/m3).~~
~~2. The maximum thickness of the trim is 0.5 inch (12.7 mm) and the maximum width is 4 inches (102 mm).~~
~~3. The trim constitutes no more than 10 percent of the area of any wall or ceiling.~~
~~4. The flame-spread rating does not exceed 75 when tested per ASTM E 84. The smoke-developed rating is not limited.~~

~~R314.2.7 Sill plates and headers.~~

~~Foam plastic shall be permitted to be spray applied to a sill plate and header without thermal barrier subject to all of the following:~~

~~1. The maximum thickness of the foam plastic shall be 3¼ inches (82.6 mm).~~
~~2. The density of the foam plastic shall be in the range of 1.5 to 2.0 pcf (24 to 32 kg/m3).~~
~~3. The foam plastic shall have a flame spread index of 25 or less and an accompanying smoke developed index of 450 or less when tested in accordance with ASTM E84.~~

~~**R314.3 Specific approval.**~~
~~Plastic foam not meeting the requirements of Sections R314.1 and R314.2 may be specifically approved on the basis of one of the following approved tests: ASTM E 84, FM 4880, UL 1040, NFPA 286, ASTM E 152, or UL 1715, or fire tests related to actual end-use configurations. The specific approval may be based on the end use, quantity, location and similar considerations where such tests would not be applicable or practical.~~

~~**R314.4 Interior finish.**~~
~~Foam plastics that are used as interior finish shall also meet the flame-spread requirements for interior finish.~~

R314.1 General. The provisions of this section shall govern the materials, design, application, construction and installation of foam plastic materials.

R314.1.1 Definition. Foam Plastic Insulation. A plastic that is intentionally expanded by the use of a foaming agent to produce a reduced-density plastic containing voids consisting of open or closed cells distributed throughout the plastic for thermal insulating or acoustic purposes and that has a density less than 20 pounds per cubic foot (320 kg/m^3) unless it is used as interior trim.

R314.1.2 Definition. Foam Plastic Interior Trim. Foam plastic used as picture molds, chair rails, baseboards, handrails, ceiling beams, door trim and window trim and meeting the requirements of Section R314.6.

R314.2 Labeling and identification. Packages and containers of foam plastic insulation and foam plastic insulation components delivered to the job site shall bear the label of an approved agency showing the manufacturer's name, the product listing, product identification and information sufficient to determine that the end use will comply with the code requirements.

R314.3 Surface burning characteristics. Unless otherwise noted in Section R314.5, all foam plastic or foam plastic cores in manufactured assemblies used in building construction shall have a flame-spread index of not more than 75 and shall have a smoke-developed index of not more than 450 when tested in the maximum thickness intended for use in accordance with ASTM E 84. Loose-fill type foam plastic insulation shall be tested as board stock for the flame spread index and smoke-developed index.

Exception:

1. Foam plastic insulation greater than 4 inches in thickness shall have a maximum flame spread index of 75 and a smoke-developed index of 450 where tested at a minimum thickness of 4 inches, provided the end use is approved in accordance with Section R314.8 using the thickness and density intended for use.

R314.4 Thermal barrier. Unless otherwise noted in section 314.5, foam plastic shall be separated from the interior of a building by an approved thermal barrier of minimum 0.5 inch (12.7 mm) gypsum wallboard or an approved finish material equivalent to a thermal barrier material that will limit the average temperature rise of the unexposed surface to no more than 250°F(121°C) after 15 minutes of fire exposure complying with the ASTM E 119 standard time temperature curve. The thermal barrier shall be installed in such a manner that it will remain in place for 15 minutes based on NFPA 286 with the acceptance criteria of Section R315.4, FM 4880, UL 1040, or UL 1715.

R314.5 Specific requirements. The following requirements shall apply to all uses of foam plastic unless specifically approved in accordance with Section R314.6 or by other sections of the code.

R314.5.1 Masonry or concrete construction. The thermal barrier specified in Section R314.4 is not required in a masonry or concrete wall, floor or roof when the foam plastic insulation is protected on each face by a minimum 1-inch (25.4 mm) thickness of masonry or concrete.

R314.5.2 Roofing. The thermal barrier specified in Section R314.4 is not required when the foam plastic in a roof assembly or under a roof covering is installed in accordance with the code and the manufacturer's installation instructions and is separated from the interior of the building by tongue and groove wood planks or WOOD STRUCTURAL panel sheathing in accordance with Section R803, not less than 15/32 inch (11.9 mm) in thickness bonded with exterior glue and identified as Exposure 1, with edge supported by blocking or tongue-and-groove joints or an equivalent material. The smoke developed index for roof applications shall not be limited.

R314.5.3 Attics. Where attic access is required by Section R807.1 and where entry is made only for service of utilities, foam plastics shall be protected against ignition by 1.5-inch-thick (38 mm) mineral fiber insulation, 1/4-inch-thick (6.4 mm) wood structural panels, 3/8-inch (9.5 mm) particleboard, 1/4-inch (6.4 mm) hardboard, 3/8-inch (9.5 mm) gypsum board, or corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm) and the thermal barrier specified in Section R314.4 is not required. The ignition barrier is not required where the foam plastic insulation has been tested in accordance with Section R314.6.

R314.5.4 Crawl spaces. Where crawlspace access is required by Section R408.3 and where entry is made only for service of utilities, foam plastics shall be protected against ignition by 1.5-inch-thick (38 mm) mineral fiber insulation, 1/4-inch-thick (6.4 mm) wood structural panels, 3/8-inch (9.5 mm) particleboard, 1/4-inch (6.4 mm) hardboard, 3/8-inch (9.5 mm) gypsum board, or corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm) and the thermal barrier specified in Section 314.4 is not required. The ignition barrier is not required where the foam plastic insulation has been tested in accordance with Section R314.6.

R314.5.5 Foam-filled exterior doors. Foam-filled exterior doors are exempt from the requirements of Section R314.3 and R314.4.

R314.5.6 Foam-filled garage doors. Foam-filled garage doors are exempt from the requirements of Section R314.3 and R314.4.

R314.5.7 Siding backer board. Foam plastic insulation with a maximum thickness of 0.5 inch (12.7 mm) and a potential heat of not more than 2000 BTU per square foot (22 720 kJ/m2) when tested in accordance with NFPA 259 shall be permitted as siding backer board without the thermal barrier specified in Section R314.4 provided the foam plastic insulation is separated from interior spaces by not less than 2 inches (51 mm) of mineral fiber insulation or 1/2-inch (12.7 mm) gypsum wallboard or installed over existing exterior wall finish in conjunction with re-siding.

R314.5.8 Interior trim. Exposed foam plastic trim defined as picture molds, chair rails, baseboards, handrails, ceiling beams, door trim and window trim shall be permitted, provided:
1. The minimum density is 20 pounds per cubic foot (3.14 kg/m3).
2. The maximum thickness of the trim is 0.5 inch (12.7 mm) and the maximum width is 4 inches (102 mm).
3. The trim constitutes no more than 10 percent of the area of any wall or ceiling.
4. The flame-spread index does not exceed 75 when tested per ASTM E 84. The smoke-developed index is not limited.

R314.5.9 Interior finish. Foam plastics shall be permitted as interior finish where approved in accordance with R314.6. Foam plastics that are used as interior finish shall also meet the flame spread and smoke developed requirements of Section R315.

R314.5.10 Sill plates and headers. Foam plastic shall be permitted to be spray applied to a sill plate and header without thermal barrier specified in Section R314.4 subject to all of the following:
1. The maximum thickness of the foam plastic shall be 3 1/4 inches (82.6 mm).
2. The density of the foam plastic shall be in the range of 1.5 to 2.0 pcf (24 to 32 kg/m3).
3. The foam plastic shall have a flame spread index of 25 or less and an accompanying smoke developed index of 450 or less when tested in accordance with ASTM E84.

R314.5.11 Sheathing. Foam plastic insulation used as sheathing, as referenced in Table R703.4, shall comply with Sections R314.3 and Section R314.4. Where the foam plastic sheathing is used at a gable and is exposed to the attic space, the provisions of Section R314.5.3 shall apply.

R314.6 Specific approval. Plastic foam not meeting the requirements of Sections R314.3 through R314.5 shall be specifically approved on the basis of one of the following approved tests: FM4880, UL 1040, NFPA 286, or UL 1715, or fire tests related to actual end-use configurations. The specific approval shall be based on the actual end use configuration and shall be performed on the finished foam plastic assembly in the maximum thickness intended for use. Assemblies tested shall included seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use.

Section R316.4 Change text to read as follows:

R316.4 Exposed attic insulation. All exposed insulation materials installed on attic floors shall have a critical radiant flux not less than 0.12 watt per square centimeter. Exposed foam plastic insulation materials exposed on the underside of the roof deck or on the attic walls shall comply with R314.

Section R317.3.2, Exception 1(1.3) Change to read as follows:

1.3. By solid fire blocking in accordance with Section R602.1.2.1 ~~R602.8.1~~;

Section R317.3.2, Exception 2(2.2) Change to read as follows:

2.2. By solid fire-blocking in accordance with Section R602.1.2 ~~R602.8~~;

Section R324.1 Change text to read as follows:

R324.1 Sprinkler system requirements for buildings three stories or more in height. NFPA 101 as adopted by the Florida Fire Prevention Code, as regarding the requirements for fire protection sprinklers, is applicable to all multiple-family residential buildings, whether designated as townhouses, condominiums, apartment houses, tenements, garden apartments or by any other name. The attorney general has determined that for the purpose of the fire protection sprinkler requirements in Section 553.895(2), Florida Statutes, townhouses that are three or more stories tall and consist of three or more units together are multiple-family dwellings. Therefore, these types of townhouses are not exempt from being considered for the requirements to provide fire protection sprinklers (even if there are any other definitions that define townhouse as single-family residences). When determining whether townhouses require fire protection sprinkler systems, the building official must consider in parallel: (a) the attorney general's opinion defining the statutory language for townhouses; (b) the building code requirements, including all life-safety chapters, that provide additional determining criteria, such as construction types, fire-resistance, fire protection systems and egress; and (c) the NFPA 101 as adopted by the Florida Fire Prevention Code, egress and protection determining criteria. The more restrictive criteria are then applied.

CHAPTER 4
FOUNDATIONS

Section R401.1 Change text to read as shown:

R401.1 Application. The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for all buildings. Wood foundations shall be designed and installed in accordance with AF&PA Report No. 7 (see Section R301.2.1.1).

Exceptions:

1. The provisions of this chapter shall be permitted to be used for wood foundations ~~only in the following situations~~ subject to the following :

1.1. ~~In b~~ Buildings ~~that~~ shall have no more than two floors and a roof.

1.2. ~~When i~~Interior basement and foundation walls ~~are~~ shall be provided at intervals not exceeding 50 feet.

1.3 When the foundation uplift loads determined from Table R401.1 exceed 0 or when such uplift loads cannot be determined from Table R401.1, an engineered design shall be required.

2. In addition to the provisions of this chapter, the design and construction of foundations in areas prone to flooding shall meet the provisions of Section R323.

3. Buildings and structures located within the High-Velocity Hurricane Zone shall comply with the provisions of Chapter 44.

R401.2 Requirements. Foundations shall be capable of resisting all loads from roof uplift and building overturn. Foundation uplift for light-frame wood or steel buildings shall be calculated or determined from Table R401.1. Masonry buildings within the dimensional scope of Table R401.1 shall be assumed to be of adequate weight so as not to require uplift resistance greater than that provided by the structure and any normal foundation.

Foundation construction shall also be capable of accommodating all gravity loads according to Section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice. Gravel fill used as footings for wood and precast concrete foundations shall comply with Section R403.

Table R401.1 Change text to read as shown:

TABLE R401.1

FOUNDATION UPLIFT LIGHT STEEL & WOOD FRAME BUILDINGS IN EXPOSURE B (plf)[5, 6]

Roof Angle	-	Bldg Width	Minimum Building Length	100 / 15	110 / 18	120 / 22	130 / 26	140 / 30	150 / 34
				WIND VELOCITY / VELOCITY PRESSURE					
45	3 Stories[3]	20	12	173	276	389	512	644	787
		25	14	73	165	265	374	492	618
		30	19	0	81	174	275	384	502
		35	25	17	48	104	200	305	417
		40	35	33	69	109	152	240	349
	2 Stories[2]	20	12	64	126	195	270	350	437
		25	15	17	66	129	198	272	352
		30	22	38	62	90	146	217	294
		35	35	56	86	118	154	192	252
		40	40	74	108	146	186	230	277
	1 Story[1]	20	12	33	46	61	94	132	173
		25	22	57	75	96	118	142	167
		30	18	79	103	129	157	187	219
		35	16	100	128	159	192	229	267
		40	16	120	152	188	226	268	312
30	3 Stories[3]	20	12	92	177	271	373	483	601
		25	17	0	63	143	230	324	425
		30	25	0	23	52	125	209	300
		35	35	13	44	78	115	154	206
		40	40	28	64	102	145	190	239
	2 Stories[2]	20	13	1	50	103	162	224	292
		25	23	16	35	57	84	139	199
		30	30	36	60	87	116	148	181
		35	35	54	83	115	150	187	227
		40	36	71	104	141	181	224	270
	1 Story[1]	20	20	32	46	60	76	93	112
		25	15	56	74	95	117	140	166
		30	13	78	102	127	155	185	217
		35	14	99	127	157	190	226	264
		40	16	118	150	185	223	264	308

TABLE R401.1 (continued)

FOUNDATION UPLIFT LIGHT STEEL & WOOD FRAME BUILDINGS IN EXPOSURE B (plf)[5, 6]

Roof Angle	-	Bldg Width	Minimum Building Length[4]	WIND VELOCITY / VELOCITY PRESSURE 100 / 15	110 / 18	120 / 22	130 / 26	140 / 30	150 / 34
20	3 Stories[3]	20	12	113	203	301	408	523	647
		25	14	45	130	222	322	431	547
		30	17	4	85	177	277	385	501
		35	19	20	58	154	257	369	489
		40	21	35	72	141	249	367	493
	2 Stories[2]	20	12	43	100	163	231	304	384
		25	13	22	79	143	214	289	371
		30	15	42	72	141	217	298	386
		35	15	61	92	150	232	321	417
		40	16	78	114	164	254	352	457
	1 Story[1]	20	12	38	57	94	135	179	226
		25	12	62	82	122	171	223	280
		30	12	85	110	154	212	275	342
		35	14	107	136	190	257	330	409
		40	16	126	160	227	304	388	478

TABLE R401.1(continued)

FOUNDATION UPLIFT LIGHT STEEL & WOOD FRAME BUILDINGS IN EXPOSURE C (plf)[5, 6]

Rf Angle	-	Bldg Width	Minimum Building Length[4]	WIND VELOCITY / VELOCITY PRESSURE 100 21	110 26	120 31	130 36	140 42	150 48
45	3 Stories[3]	20	12	370	515	673	845	1031	1231
		25	13	249	377	518	670	836	1013
		30	17	159	278	408	550	703	867
		35	21	89	203	328	463	610	767
		40	26	102	153	262	394	537	691
	2 Stories[2]	20	12	184	271	368	472	585	706
		25	13	119	200	288	385	489	601
		30	18	85	147	233	326	426	533
		35	24	113	155	200	284	383	489
		40	36	139	187	240	297	358	457
	1 Story[1]	20	12	58	95	140	189	243	300
		25	16	92	118	147	178	224	281
		30	19	124	157	193	233	275	321
		35	17	154	193	236	283	334	388
		40	16	182	227	277	331	389	452
30	3 Stories[3]	20	12	256	376	507	650	804	970
		25	15	130	232	344	466	598	740
		30	21	47	127	228	337	455	582
		35	31	72	116	163	241	351	469
		40	40	96	146	200	259	323	392
	2 Stories[2]	20	12	95	163	238	320	408	502
		25	18	53	85	151	223	301	385
		30	30	83	117	154	195	239	304
		35	35	110	150	195	244	296	353
		40	37	135	182	233	289	350	415
	1 Story[1]	20	20	58	76	97	119	143	169
		25	16	91	117	145	176	210	245
		30	13	123	156	191	230	272	317
		35	14	152	191	234	280	330	384
		40	16	179	224	273	327	384	446

TABLE R401.1(continued)

FOUNDATION UPLIFT LIGHT STEEL & WOOD FRAME BUILDINGS IN EXPOSURE C (plf)

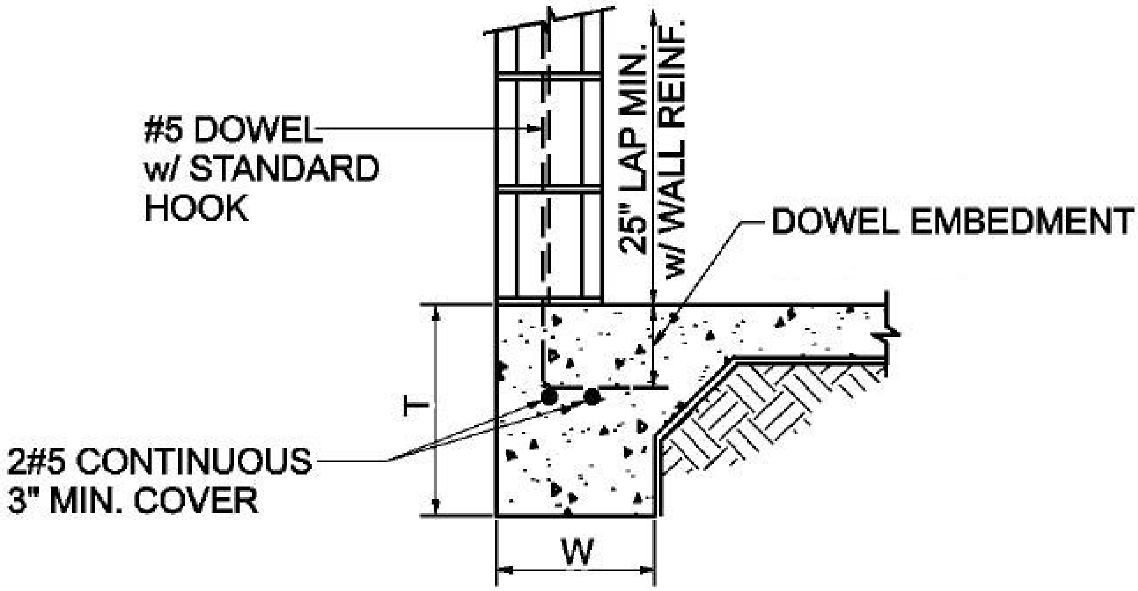
Rf Angle	-	Bldg Width	Minimum Building Length[4]	WIND VELOCITY / VELOCITY PRESSURE 100 / 21	110 / 26	120 / 31	130 / 36	140 / 42	150 / 48
20	3 Stories[3]	20	12	285	411	549	698	860	1034
		25	13	207	325	455	595	748	911
		30	15	162	280	409	549	701	863
		35	17	138	260	393	538	695	863
		40	18	124	252	392	545	709	886
	2 Stories[2]	20	12	152	233	320	416	519	630
		25	12	133	215	306	404	511	625
		30	13	130	219	316	422	536	658
		35	14	138	235	341	456	581	715
		40	16	150	257	373	500	636	783
	1 Story[1]	20	12	88	136	188	245	307	373
		25	12	114	172	235	303	377	457
		30	12	146	214	288	370	457	552
		35	14	180	259	346	441	543	653
		40	16	215	306	406	515	632	758

Notes:

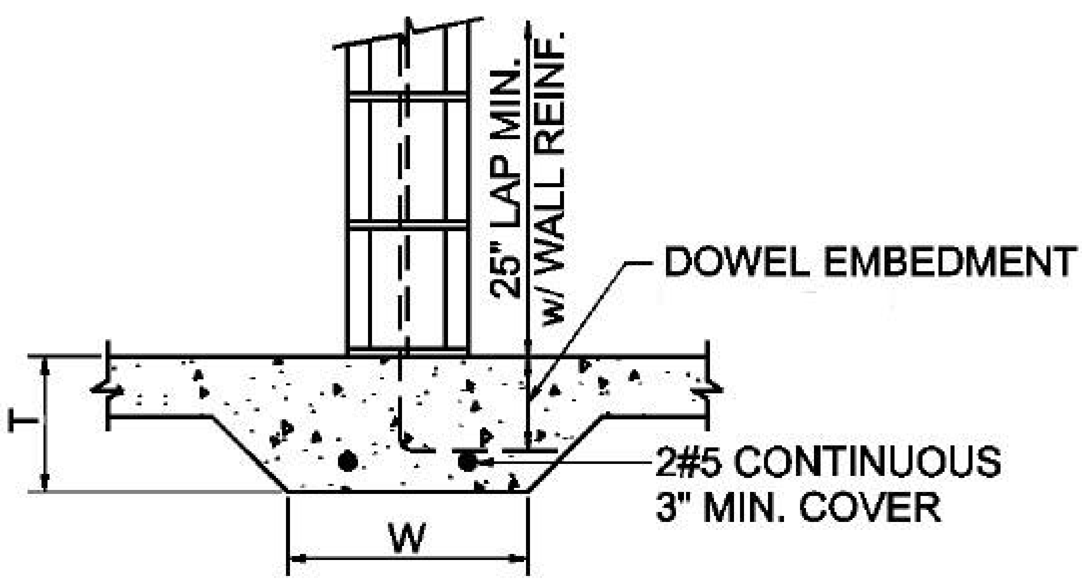
1. Based on 1st floor height = 10 ft. or 11 ft. floor to floor in multi-story.
2. Based on 2nd floor height = 8 ft. or 9 ft. floor to floor in multi-story.
3. Based on 3rd floot height = 8 ft.
4. Building length shall be equal to or greater than that shown in tables.
5. Roof and floor framing shall span in the same direction.
6. Includes provision for 2 foot roof overhang

Figure R403.1(1) Change figure to read as shown:

FIGURE R 403.1(1)
CONCRETE AND MASONRY FOUNDATION DETAILS

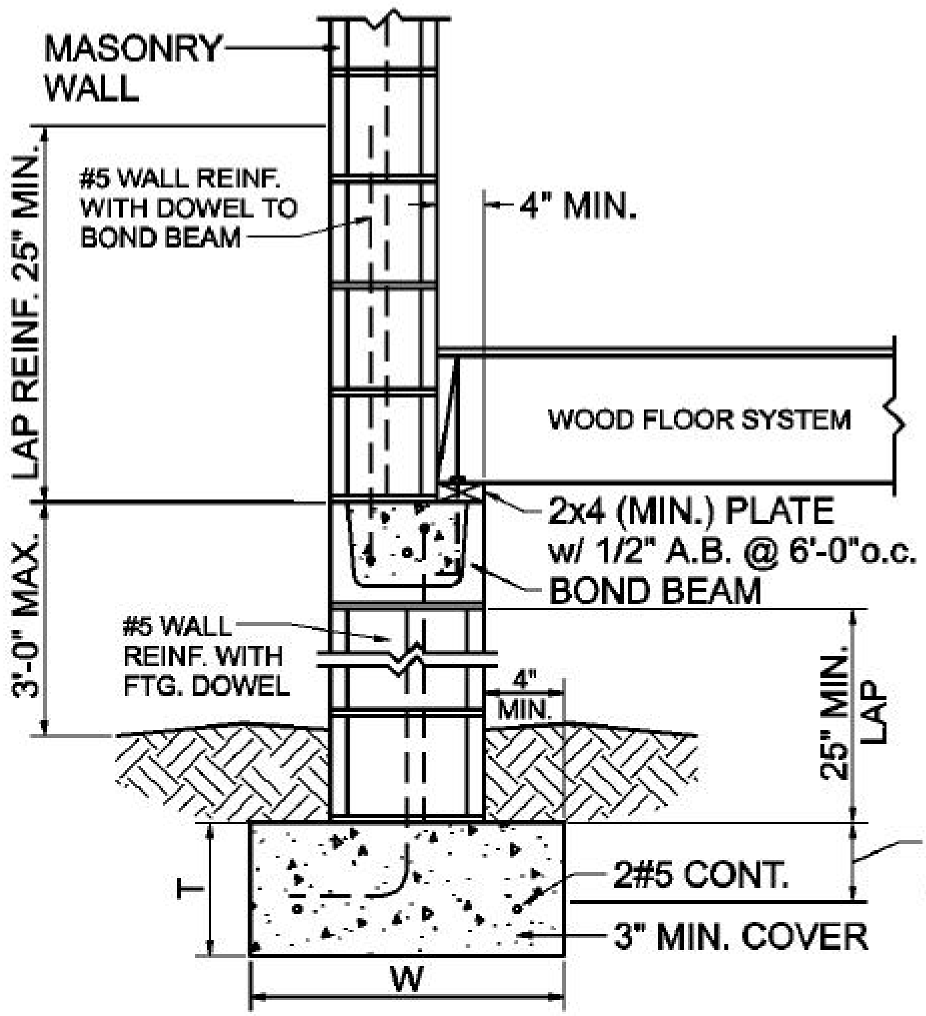


FOOTING A
MONOLITHIC SLAB ON GRADE EXTERIOR WALL



FOOTING B

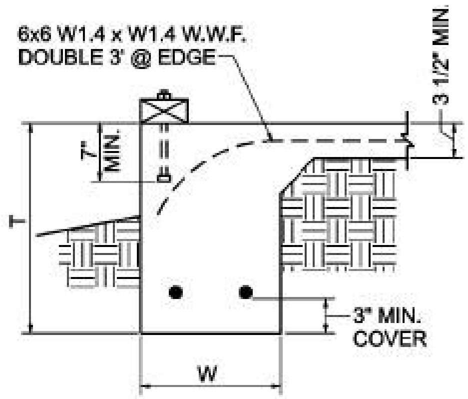
MONOLITHIC SLAB ON GRADE INTERIOR WALL



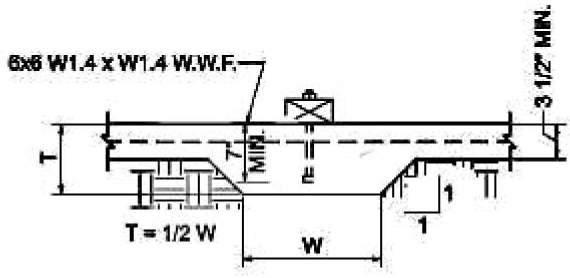
Dowel Embedment

FOOTING C

STEM WALL WOOD JOIST FLOOR

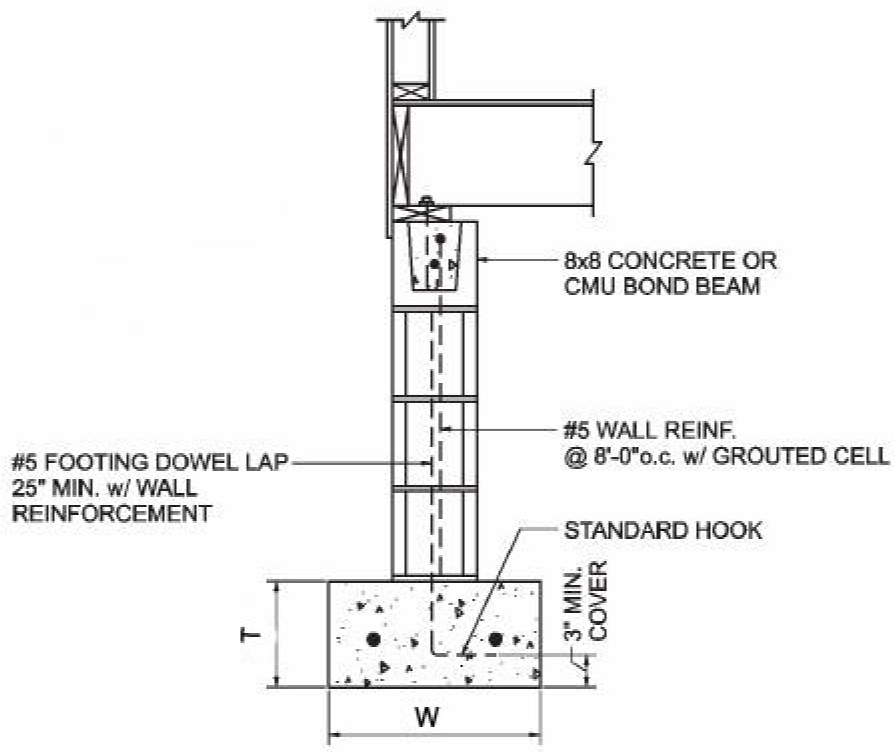


FOOTING D
MONOLITHIC EXTERIOR FOOTING



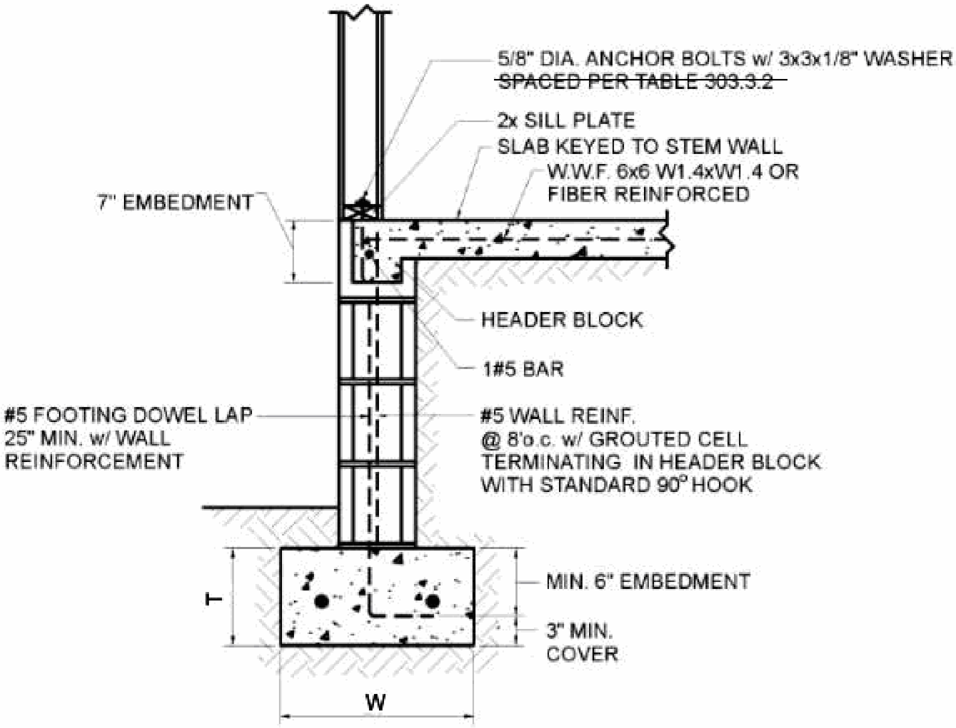
FOOTING E

MONOLITHIC INTERIOR FOOTING



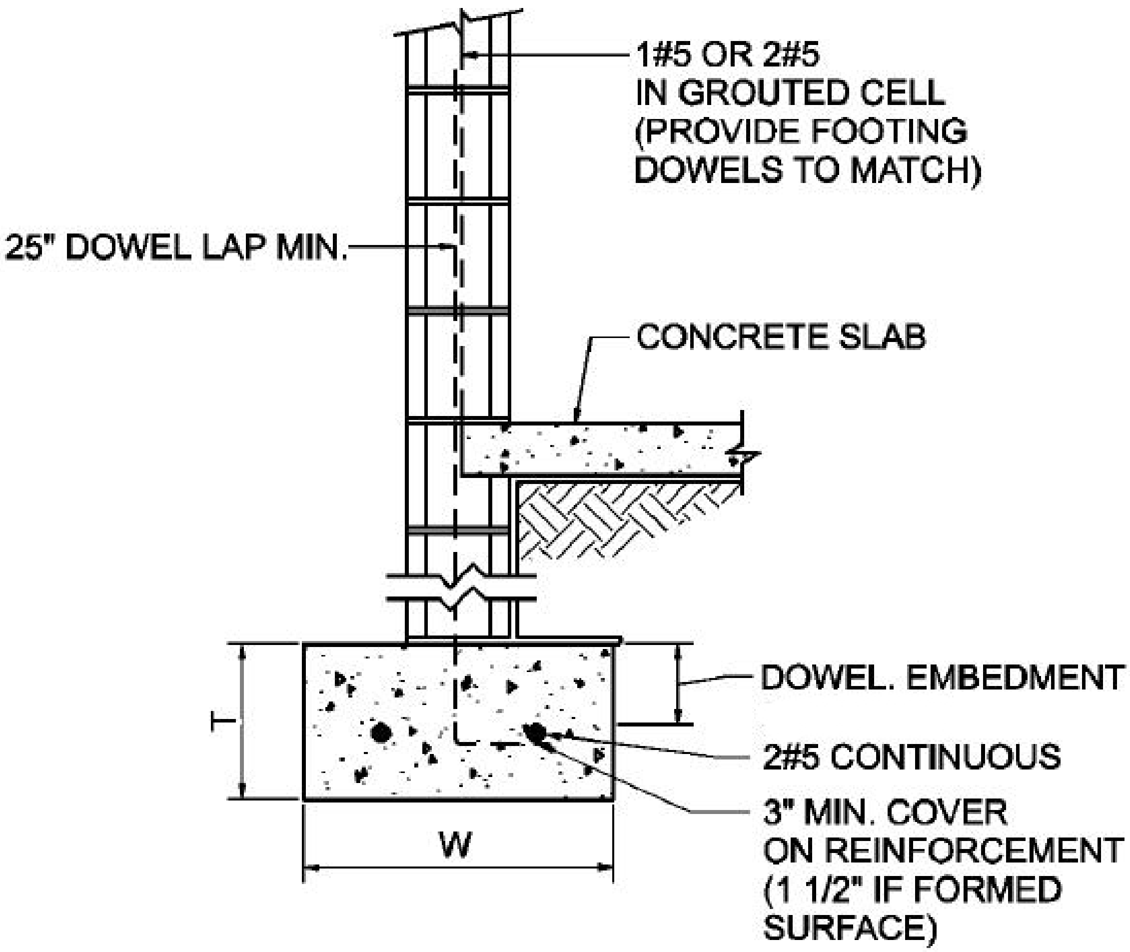
FOOTING F

WOOD FLOOR TO CONCRETE OR MASONRY STEMWALL



FOOTING G

STEMWALL FOUNDATION WITH SLAB-ON-GRADE



FOOTING H

Section R403.1.1 Change text to read as shown:

R403.1.1 Minimum size. Minimum sizes for concrete and masonry footings shall be as set forth in Table R403.1 and Figure R403.1(1). Minimum sizes for concrete and masonry footings shall also be as required to provide adequate resistance to uplift and overturn of the building as determined from Table R401.1 or as calculated using engineered design in accordance with the Florida Building Code, Building. The footing width, W, shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Spread footings shall be at least ~~6~~ 8 inches (152 mm) in thickness. Footing projections, P, shall be at least 2 inches (51 mm) and shall not exceed the thickness of the footing. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3).

R403.1.2 ~~Reserved.~~**Resistance to uplift.** Uplift resistance of common foundations are given in Table R403.1.1. Uplift resistance of these foundations may be increased by increasing the size of the concrete footing. When determining the modified uplift resistance the added weight shall be reduced by multiplying by a factor of 0.6. Other foundation systems shall be engineered in accordance with the Florida Building Code, Building.

R403.1.6 Foundation anchorage. **Reserved.** ~~When braced wall panels are supported directly on continuous foundations, the wall wood sill plate or cold-formed steel bottom track shall be anchored to the foundation in accordance with this section.~~

~~The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet (1829 mm) on center. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches (305 mm) or less than seven bolt diameters from each end of the plate section. Bolts shall be at least ½ inch (12.7 mm) in diameter and shall extend a minimum of 7 inches (178 mm) into masonry or concrete. Interior bearing wall sole plates on monolithic slab foundations shall be positively anchored with approved fasteners. A nut and washer shall be tightened on each bolt to the plate. Sills and sole plates shall be protected against decay and termites where required by Sections R319 and R320. Cold-formed steel framing systems shall be fastened to the wood sill plates or anchored directly to the foundation as required in Section R505.3.1 or R603.1.1.~~

~~Exception: Foundation anchor straps, spaced as required to provide equivalent anchorage to ½-inch-diameter (12.7 mm) anchor bolts.~~

Table R403.1.1 Add new table to read as shown:

Table R403.1.1
Foundation Uplift Design Details

Footing	Type	T	W	Slab / wall[1]	Resistance	Notes
A	Mono	20	12	6	502	3
	Mono	20	16	6	585	3
B	Mono Interior	20	12	13	796	3
	Mono Interior	20	16	13	879	3
C	12" Stem/Joist	10	20	228	436	1,2,3
D	Mono	20	12	6	502	
	Mono	20	16	6	585	
E	Mono Interior	20	12	13	796	
	Mono Interior	20	16	13	879	
F	Stem/joist	10	20		208	2,3
G	Stem/slab	10	20	6	460	3
H	Stem/slab	10	12	6	377	3
	Stem/slab	10	20	6	460	3

Note 1. Tributory width of 3½" slab or weight of stemwall and bond beam
Note 2. 1st floor dead load multiplied by 0.6 may also be included.
Note ~~203.3.2~~3 All footing dowel bars shall be same size as wall steel, shall have a standard 90-degree hook, and shall be embedded a minimum of 6 inches. Dowel bars shall lap vertical wall reinforcement a minimum of 25 inches.

Section R404.1.1 Change text to read as shown:

R404.1.1 Masonry foundation walls. Concrete masonry and clay masonry foundation walls shall be constructed as set forth in Tables ~~R404.1.1(1)~~, R404.1.1(2), R404.1.1(3) and R404.1.1(4) and shall also comply with the provisions of this section and the applicable provisions of Sections R606, R607 and R608. Rubble stone masonry foundation walls shall be constructed in accordance with Section~~s~~ R404.1.8 ~~and R606.2.2~~. The use of rubble stone masonry foundation walls and plain masonry shall be limited to regions where the basic wind speed is 100 mph or less unless an engineered design is provided.

R404.1.1.1 Bond beams, footing dowels and foundation wall reinforcing, wood or steel light-framed first story walls. Where first story walls are of wood or steel light-frame, a minimum 8 inch x 8 inch (203 mm x 203 mm) nominal grouted masonry or concrete bond beam shall be provided at the top course of the foundation wall. The bond beam shall be reinforced with not less than one No. 5 bar, continuous around corners and intersections.

R404.1.1.2 Where first story walls are of wood or steel light-frame, footing dowel bars and foundation vertical reinforcing shall be not less than No. 4 bars at 8 ft (2438 mm) on center, placed in fully grouted cells. Dowels shall extend into the cast concrete footing and terminate with a standard hook at three inches clear of the footing bottom. Vertical wall reinforcing shall be lap spliced with the dowel, extend into the bond beam at the wall top, and terminate with a standard hook at 1-1/2 inches (38 mm) clear of the top of the bond beam. Alternately stem wall vertical reinforcing shall be permitted to extend into the footing and be terminated with a standard hook at 3 inches (76 mm) clear of the bottom of the footing. In addition grouted, reinforced vertical cells shall be provided at hold down post anchorages and at uplift anchorages that use straps embedded into concrete or masonry.

Section R404.1.4 Change text to read as shown:

R404.1.4 ~~**Reserved**~~ Anchorage of wood and steel light-frame wall systems. Anchorage of wood or steel light framed first story walls shall be in accordance with the following:

> **R404.1.4.1** For wood light-frame walls, sill plate anchorage, Wall stud to foundation uplift anchorage and hold down post anchorage shall be in accordance with AF&PA WFCM
> **R404.1.4.2** For steel light-frame walls, Wall bottom and braced wall chord stud anchorage shall be in accordance with AISI COFS/PM

Section R404.1.5.1 Add text to read as shown:

R404.1.5.1 Pier and curtain wall foundations. In regions where the basic wind speed is 100 mph or less ~~P~~ pier and curtain wall foundations shall be permitted to be used to support light-frame construction not more than two stories in height, provided the following requirements are met:

1-2 No change.

3. Piers shall be constructed in accordance with Section R606.5 ~~and Section R606.5.1~~, and shall be bonded into the load-bearing masonry wall in accordance with Section R608.1.1 or Section R608.1.1.2.

4 – 7 No change.

Section R404.2.6 Change text to read as follows:

R404.2.6 Fastening. Wood structural panel foundation wall sheathing shall be attached to framing in accordance with Table R602.2(1) ~~R602.3(1)~~ and Section R402.1.1.

CHAPTER 5
FLOORS

Section R502 Change to read as shown:

R502.1 **General Requirements.** Floor framing of light-frame wood construction shall be in accordance with the provisions of this Section.

R502.1.1 ~~**R502.1**~~ **Identification.** Load-bearing dimension lumber for joists, beams and girders shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certificate of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

R502.1.1.1 ~~**R502.1.1**~~ **Preservatively treated lumber.** Preservatively treated dimension lumber shall also be identified as required by Section R319.1.

R502.1.1.2 ~~**R502.1.2**~~ **Blocking and subflooring.** Blocking shall be a minimum of utility grade lumber. Subflooring may be a minimum of utility grade lumber or No. 4 common grade boards.

R502.1.1.3 ~~**R502.1.3**~~ **End-jointed lumber.** Approved end-jointed lumber identified by a grade mark conforming to Section R501.2 may be used interchangeably with solid-sawn members of the same species and grade.

R502.1.1.4 ~~**R502.1.4**~~ **Prefabricated wood I-joists.** Structural capacities and design provisions for prefabricated wood I-joists shall be established and monitored in accordance with ASTM D 5055.

R502.1.1.5 ~~**R502.1.5**~~ **Structural glued laminated timbers.** Glued laminated timbers shall be manufactured and identified as required in AITC A190.1 and ASTM D3737.

R502.1.2 ~~**R502.12**~~ **Draftstopping required.** When there is usable space both above and below the concealed space of a floor/ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1,000 square feet (92.9 m2). Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below draftstopping shall be provided in floor/ceiling assemblies under the following circumstances:

1. Ceiling is suspended under the floor framing.
2. Floor framing is constructed of truss-type open-web or perforated members.

R502.1.2.1 ~~**R502.12.1**~~ **Materials.** Draftstopping materials shall not be less than 1/2-inch (12.7 mm) gypsum board, 3/8-inch (9.5 mm)wood structural panels, 3/8-inch (9.5 mm) Type 2-M-W particleboard or other approved materials adequately supported. Draftstopping shall be installed parallel to the floor framing members unless otherwise approved by the building official. The integrity of all draftstops shall be maintained.

R502.1.2.2 ~~**R502.13**~~ **Fireblocking required.** Fireblocking shall be provided in wood-frame floor construction and floor-ceiling assemblies in accordance with Section R602.1.2 ~~R602.8~~.

R502.1.3 ~~**R502.11**~~ **Wood trusses.**

R502.1.3.1 ~~**R502.11.1**~~ **Design.** Wood trusses shall be designed in accordance with approved engineering practice. The design and manufacture of metal plate connected wood trusses shall comply with ANSI/TPI 1. The truss design drawings shall be prepared by a registered professional where required by the Florida Statutes.

R502.1.3.2 ~~R502.11.2~~ **Bracing.** Trusses shall be braced to prevent rotation and provide lateral stability in accordance with the requirements specified in the construction documents for the building and on the individual truss design drawings. In the absence of specific bracing requirements, trusses shall be braced in accordance with the TPI/WTCA BCSI 1 ~~TPI, HIB~~.

R502.1.3.3 ~~R502.11..3~~ **Alterations to trusses.** Truss members and components shall not be cut, notched, spliced or otherwise altered in anyway without the approval of a registered design professional. Alterations resulting in the addition of load (e.g., HVAC equipment, water heater, etc.), that exceed the design load for the truss, shall not be permitted without verification that the truss is capable of supporting the additional loading.

R502.1.3.4 ~~R502.11.4~~ **Truss design drawings.** Truss design drawings, prepared in compliance with Section R502.1.3.1 ~~R502.11.1~~, shall be provided to the building official and approved prior to installation. Truss design drawing shall be provided with the shipment of trusses delivered to the job site. Truss design drawings shall include, at a minimum, the information specified below:

1. Slope or depth, span, and spacing.
2. Location of all joints.
3. Required bearing widths.
4. Design loads as applicable.
   4.1 Top chord live load ~~(including snow loads)~~.
   4.2 Top chord dead load.
   4.3 Bottom chord live load.
   4.4 Bottom chord dead load.
   4.5 Concentrated loads and their points of application.
   4.6 Controlling wind ~~and earthquake~~ loads.
5. Adjustments to lumber and joint connector design values for conditions of use.
6. Each reaction force and direction.
7. Joint connector type and description (e.g., size, thickness or gauge); and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.
8. Lumber size, species and grade for each member.
9. Connection requirements for:
   a. Truss-to-truss girder.
   b. Truss ply-to-ply.
   c. Field splices.
10. Calculated deflection ratio and/or maximum description for live and total load.
11. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections and anchorage of the permanent

continuous lateral bracing. Forces shall be shown on the truss drawing or on supplemental documents.

12. Required permanent truss member bracing location.

R502.2 Design and construction where wind speed is less than 100 mph. Floors shall be designed and constructed in accordance with the provisions of this ~~chapter~~ Section and Figure R502.2 and Sections R319 and R320 or in accordance with AF&PA~~/~~'s NDS.

R502.2.1 Decks. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table R301.5 acting on the cantilevered portion of the deck.

R502.2.2 ~~R502.3~~ Allowable joist spans. Spans for floor joists shall be in accordance with Tables R502.2.2 ~~3.1~~(1) and R502.2.2 .~~3.1~~(2). For other grades and species and for other loading conditions, refer to the AF&PA Span Tables for Joists and Rafters.

R502.2.2.1 ~~R502.3.1~~Sleeping areas and attic joists. Table R502.2.2 ~~3.1~~(1) shall be utilized to determine the maximum allowable span of floor joists that support sleeping areas and attics that are accessed by means of a fixed stairway provided that the design live load does not exceed 30 psf (1.44 kN/m2) and the design dead load does not exceed 10 psf (0.48 kN/m2). The allowable span of ceiling joists that support attics utilized for limited storage or no storage shall be determined in accordance with Section R802.2.2 ~~R802.4~~.

TABLE R502.2.2 .~~3.1~~(1)
FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES
(Residential sleeping areas, live load=30 psf, L/ Δ =360)

TABLE R502.2.2 .~~3.1~~(2)
FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES
(Residential sleeping areas, live load=40 psf, L/ Δ =360)

R502.2.2.2 ~~R502.3.2~~ Other floor joists. Table R502.2.2.~~3.1~~(2) shall be utilized to determine the maximum allowable span of floor joists that support all areas of the building, other than sleeping and attics, provided that the design live load does not exceed 40 psf (1.92 kN/m2) and the design dead does not exceed 10 psf (0.48 kN/m2).

R502.2.2.3 ~~R502.3.3~~ Floor cantilevers. Floor cantilever spans shall not exceed the nominal depth of the wood floor joist. Floor cantilevers constructed in accordance with Table R502.2.2 3.~~3~~(1) shall be permitted when supporting a light-frame bearing wall and roof only. Floor cantilevers supporting an exterior balcony are permitted to be constructed in accordance with Table R502.2.2.3.~~3~~(2).

TABLE R502.2.2.3~~.3~~(1)
CANTILEVER SPANS FOR FLOOR JOISTS SUPPORTING LIGHT-FRAME EXTERIOR BEARING WALL AND ROOF ONLY [a, b, c, f, g,h]
(Floor Live Load ≤ 40 psf, Roof Live Load ≤ 20 psf)

TABLE R502.2.2.3~~.3~~(2)
CANTILEVER SPANS FOR FLOOR JOISTS SUPPORTING EXTERIOR BALCONY [a, b, e, f]

R502.2.3 ~~R502.4~~ **Joists under bearing partitions.** Joists under parallel bearing partitions shall be of adequate size to support the load. Double joists, sized to adequately support the load, that are separated to permit the installation of piping or vents shall be full depth solid blocked with lumber not less than 2 inches (51 mm) in nominal thickness spaced not more than 4 feet (1219 mm) on center. Bearing partitions perpendicular to joists shall not be offset from supporting girders, walls or partitions more than the joist depth unless such joists are of sufficient size to carry the additional load.

R502.2.4 ~~R502.5~~**Allowable girder spans.** The allowable spans of girders fabricated of dimension lumber shall not exceed the values set forth in Tables R502.2.4 ~~5~~(1) and R502.2.4 ~~5~~(2).

TABLE R502.2.4.~~5~~ (1)
GIRDER SPANS [a] AND HEADER SPANS [a] FOR EXTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir [b] and required number of jack studs)

TABLE R502.2.4 ~~5~~ (2)
GIRDER SPANS [a] AND HEADER SPANS [a] FOR INTERIOR BEARING WALLS
(Maximum spans for Douglas fir-larch, hem-fir, southern pine and spruce-pine-fir [b] and required number of jack studs)

R502.2.5 ~~R502.6~~ **Bearing.** The ends of each joist, beam or girder shall have not less than 1.5 inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) on masonry or concrete except where supported on a 1-inch-by-4-inch (25.4 mm by 102 mm) ribbon strip and nailed to the adjacent stud or by the use of approved joist hangers.

R502.2.5.1 ~~R502.6.1~~ **Floor systems.** Joists framing from opposite sides over a bearing support shall lap a minimum of 3 inches (76 mm) and shall be nailed together with a minimum three 10d face nails. A wood or metal splice with strength equal to or greater than that provided by the nailed lap is permitted.

R502.2.5.2 ~~R502.6.2~~**Joist framing.** Joists framing into the side of a wood girder shall be supported by approved framing anchors or on ledger strips not less than nominal 2 inches by 2 inches (51 mm by 51 mm).

R502.2.6 ~~R502.7~~ **Lateral restraint at supports.** Joists shall be supported laterally at the ends by full-depth solid blocking not less than 2 inches (51 mm) nominal in thickness; or by attachment to a header, band, or rim joist, or to an adjoining stud; or shall be otherwise provided with lateral support to prevent rotation.

Exception: Reserved.

R502.2.6.1 ~~**R502.7.1**~~ **Bridging.** Joists exceeding a nominal 2 inches by 12 inches (51 mm by 305 mm) shall be supported laterally by solid blocking, diagonal bridging (wood or metal), or a continuous 1-inch-by-3-inch (25.4 mm by 76 mm) strip nailed across the bottom of joists perpendicular to joists at intervals not exceeding 8 feet (2438 mm).

R502.2.7 ~~**R502.8**~~ **Drilling and notching.** Structural floor members shall not be cut, bored or notched in excess of the limitations specified in this section. See Figure R502.2.7~~8~~.

FIGURE R 502.2.7 ~~8~~
CUTTING, NOTCHING AND DRILLING

R502.2.7.1 ~~**R502.8.1**~~ **Sawn lumber.** Notches in solid lumber joists, rafters and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches (102 mm) or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches (51 mm) to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

R502.2.7.2 ~~**R502.8.2**~~ **Engineered wood products.** Cuts, notches and holes bored in trusses, laminated veneer lumber, glue-laminated members or I-joists are not permitted unless the effects of such penetrations are specifically considered in the design of the member.

R502.2.8 ~~**R502.9**~~ **Fastening.** Floor framing shall be nailed in accordance with Table R602.2(1) ~~R602.3(1).~~ Where posts and beam or girder construction is used to support floor framing, positive connections shall be provided to ensure against uplift and lateral displacement.

R502.2.9 ~~**R502.10**~~ **Framing of openings.** Openings in floor framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet (1219 mm), the header joist may be a single member the same size as the floor joist. Single trimmer joists may be used to carry a single header joist that is located within 3 feet (914 mm) of the trimmer joist bearing. When the header joist span exceeds 4 feet (1219 mm), the trimmer joists and the header joist shall be doubled and of sufficient cross section to support the floor joists framing into the header. Approved hangers shall be used for the header joist to trimmer joist connections when the header joist span exceeds 6 feet (1829 mm). Tail joists over 12 feet (3658mm)long shall be supported at the header by framing anchors or on ledger strips not less than 2 inches by 2 inches (51 mm by 51 mm).

R502.3 Design and construction where wind speed is 100 mph or greater. Floor framing of light-frame wood construction shall be designed and constructed in accordance with the provisions of Section R301.2.1.1, Section R502.1.

Section R503.2.3 Change text to read as shown:

R503.2.3 Installation. Wood structural panels used as subfloor or combination subfloor underlayment shall be attached to wood framing in accordance with Table R602.2(1) ~~R602.3(1)~~ and shall be attached to cold-formed steel framing in accordance with Table R505.3.1(2).

Section R503.3.3 Change text to read as follows:

R503.3.3 Installation. Particleboard underlayment shall be installed in accordance with the recommendations of the manufacturer and attached to framing in accordance with Table R602.2(1) ~~R602.3(1).~~

CHAPTER 6
WALL CONSTRUCTION

Section R601 Change text to read as shown:

R601.2 Requirements. Wall construction shall be capable of accommodating all loads imposed according to Section R301 and of transmitting the resulting loads to the supporting structural elements. A continuous load path between foundations walls, and roofs shall be provided.

R601.2.1 Compressible floor-covering materials. Compressible floor-covering materials that compress more than 1/32 inch (0.794 mm) when subjected to 50 pounds (23 kg) applied over 1 inch square (645 mm) of material and are greater than 1/8 inch (3.2 mm) in thickness in the uncompressed state shall not extend beneath walls, partitions or columns, which are fastened to the floor.

R601.2.2 Fastening devices. Approved connectors, anchors and other fastening devices not included in this code shall be installed in accordance with the manufacturer's recommendations.

R601.2.3 Corrosive conditions. Metal plates, connectors, screws, bolts and nails exposed directly to the weather or subject to salt corrosion in coastal areas, as determined by the building official, shall be stainless steel, hot dipped galvanized after the fastener or connector is fabricated to form a zinc coating not less than 1 oz per sq ft, or hot dipped galvanized coated with a minimum of 1.8 oz per sq ft of steel.

Section R602 Change text to read as shown:

R602.1 General Requirements. Exterior walls of light-frame wood construction shall be in accordance with the provisions of this chapter.

R602.1.1 ~~R602.1~~Identification. Load-bearing dimension lumber for studs, plates and headers shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certification of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

R602.1.1.1 ~~R602.1.1~~End-jointed lumber. Approved end-jointed lumber identified by a grade mark conforming to Section R602.1.1 may be used interchangeably with solid-sawn members of the same species and grade.

R602.1.1.2 ~~R602.1.2~~Structural glued laminated timbers. Glued laminated timbers shall be manufactured and identified as required in AITC A190.1 and ASTM D3737.

R602.1.2 ~~R602.8~~Fireblocking required. Fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. Fireblocking shall be provided in wood-frame construction in the following locations:

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs; as follows:

   1.1. Vertically at the ceiling and floor levels.

   1.2. Horizontally at intervals not exceeding 10 feet (3048 mm).

2. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.

3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R311.2.2.

4. At openings around vents, pipes, and ducts at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.

5. For the fireblocking of chimneys and fireplaces, see Section R1001.16.

6. Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.

R602.1.2.1. ~~R602.8.1~~ Materials. Except as provided in Section R602.1.2~~8~~, Item 4, fireblocking shall consist of 2-inch (51mm)nominal lumber, or two thicknesses of 1-inch (25.4 mm) nominal lumber with broken lap joints, or one thickness of 23/32-inch (19.8 mm) wood structural panels with joints backed by 23/32-inch (19.8 mm)wood structural panels or one thickness of 3/4-inch (19.1 mm) particleboard with joints backed by 3/4-inch (19.1 mm) particleboard, 1/2-inch (12.7 mm) gypsum board, or 1/4-inch (6.4 mm) cement-based millboard.

Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place shall be permitted as an acceptable fire block. Batts or blankets of mineral or glass fiber or other approved non-rigid materials shall be permitted for compliance with the 10 foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs.

Loose-fill insulation material shall not be used as a fire block unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.

R602.1.2.1 .1 ~~R602.8.1.1~~ Unfaced fiberglass. Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a minimum height of 16 inches (406 mm) measured vertically. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.

R602.1.2.1.2 ~~R602.8.1.2~~ Fireblocking integrity. The integrity of all fireblocks shall be maintained.

R602.1.3 ~~R602.7.2~~ Nonbearing walls. Load-bearing headers are not required in interior or exterior nonbearing walls. A single flat 2-inch-by-4-inch (51 mm by 102 mm) member may be used as a header in interior or exterior nonbearing walls for openings up to 8 feet (2438 mm) in width if the vertical distance to the parallel nailing surface above is not more than 24 inches (610 mm). For such nonbearing headers, no cripples or blocking are required above the header.

R602.1.3.1. ~~R602.5~~ Interior nonbearing walls. Interior nonbearing walls shall be permitted to be constructed with 2-inch-by-3-inch (51 mm by 76 mm) studs spaced 24 inches (610 mm) on center or, when not part of a braced wall line, 2-inch-by-4-inch (51mmby 102 mm) flat studs spaced at 16 inches (406 mm) on center. Interior nonbearing walls shall be capped with at least a single top plate. Interior nonbearing walls shall be fireblocked in accordance with Section R602.1.2~~8~~.

R602.2 ~~R602.3~~ Design and construction where wind speed is less than 100 miles per hour (45 m/s). Exterior walls of wood-frame wood construction shall be designed and constructed in accordance with the provisions of this ~~chapter~~ Section and Figures R602.2~~3~~(1) and R602.2~~3~~(2) or in accordance with AF&PA's NDS. Components of exterior walls shall be fastened in accordance with Table R602.2~~3~~(1) through R602.2~~3~~(4). Exterior walls covered with foam plastic sheathing shall be braced in accordance with Section R602.2.10. Structural sheathing of shall be fastened directly to structural framing members.

R602.2.1 ~~R602.2~~ Stud grade. Studs shall be a minimum No. 3, standard or stud grade lumber.

Exception: Bearing studs not supporting floors and nonbearing studs may be utility grade lumber, provided the studs are spaced in accordance with Table R602.2~~3~~(5).

R602.2.2 ~~R602.3.1~~Stud size, height and spacing. The size, height and spacing of studs shall be in accordance with Table R602.2~~3~~.(5).

Exceptions:

1. Utility grade studs shall not be spaced more than 16 inches (406 mm) on center, shall not support more than a roof and ceiling, and shall not exceed 8 feet (2438 mm) in height for exterior walls and load-bearing walls or 10 feet (3048 mm) for interior nonload-bearing walls.

2. Studs more than 10 feet (3048 mm) in height which are in accordance with Table R602.2~~3~~.1.

R602.2.3 ~~R602.3.2~~Top plate. Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and intersections with bearing partitions. End joints in top plates shall be offset at least 24 inches (610 mm). Plates shall be a nominal 2 inches in depth (51 mm) and have a width at least equal to the width of the studs.

Exception: A single top plate may be installed in stud walls, provided the plate is adequately tied at joints, corners and intersecting walls by a minimum 3-inch-by-6-inch by a 0.036-inch-thick (76 mm by 152 mm by 0.914 mm) galvanized steel plate that is nailed to each wall or segment of wall by six 8d nails on each side, provided the rafters or joists are centered over the studs with a tolerance of no more than 1 inch (25.4 mm). The top plate may be omitted over lintels that are adequately tied to adjacent wall sections with steel plates or equivalent as previously described.

R602.2.4 ~~R602.3.3~~ Bearing studs. Where joists, trusses or rafters are spaced more than 16 inches (406 mm) on center and the bearing studs below are spaced 24 inches (610 mm) on center, such members shall bear within 5 inches (127 mm) of the studs beneath.

Exceptions:

1. The top plates are two 2-inch by 6-inch (38mmby 140 mm) or two 3-inch by 4-inch (64 mm by 89 mm) members.

2. A third top plate is installed.

3. Solid blocking equal in size to the studs is installed to reinforce the double top plate.

R602.2.5 ~~R602.3.4~~ Bottom (sole) plate. Studs shall have full bearing on a nominal 2 by (38 mm) or larger plate or sill having a width at least equal to the width of the studs.

R602.2.6 ~~R602.4~~ Interior load-bearing walls. Interior load-bearing walls shall be constructed, framed and fireblocked as specified for exterior walls.

R602.2.7 ~~R602.6~~ Drilling and notching—studs. Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40 percent of a single stud width. Any stud may be bored or drilled, provided that the diameter of the resulting hole is no greater than 40 percent of the stud width, the edge of the hole is no closer than 5/8 inch (15.9 mm) to the edge of the stud, and the hole is not located in the same section as a cut or notch. See Figures R602.2.7(1) ~~R602.6(1)~~ and R602.2.7(2) ~~R602.6(2)~~.

Exceptions:

1. A stud may be bored to a diameter not exceeding 60 percent of its width, provided that such studs located in exterior walls or bearing partitions are doubled and that not more than two successive studs are bored.

2. Approved stud shoes may be used when installed in accordance with the manufacturer's recommendation.

R602.2.7.1 **~~R602.6.1~~** **Drilling and notching of top plate.** When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling or notching of the top plate by more than 50 percent of its width, a galvanized metal tie of not less than 0.054 inches thick (1.37mm) (16ga) and 11/2 inches (38mm) wide shall be fastened to each plate across and to each side of the opening with not less than eight 16d nails at each side or equivalent.

See Figure R602.2.7.1 ~~R602.6.1~~.

Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing.

R602.2.8 **~~R602.7~~** **Headers.** For header spans see Tables R502.2.4(1) ~~R502.5(1)~~ and R502.2.4(2) ~~R502.5(2)~~.

R602.2.8.1 **~~R602.7.1~~****Wood structural panel box headers.** Wood structural panel box headers shall be constructed in accordance with Figure R602.1.3 ~~R602.7.2~~ and Table R602.1.3 ~~R602.7.2~~.

R602.2.9 **~~R602.9~~** **Cripple walls.** Foundation cripple walls shall be framed of studs not less in size than the studding above. When exceeding 4 feet (1219 mm) in height, such walls shall be framed of studs having the size required for an additional story.

Cripple walls with a stud height less than 14 inches (356 mm) shall be sheathed on at least one side with a wood structural panel that is fastened to both the top and bottom plates in accordance with Table R602.2~~3~~(1), or the cripple walls shall be constructed of solid blocking. Cripple walls shall be supported on continuous foundations.

R602.2.10 **~~R602.10~~****Wall bracing.** All exterior walls shall be braced in accordance with this section. In addition, interior braced wall lines shall be provided in accordance with Section R602.2.10.1.1.

R602.2.10.1 **~~R602.10.1~~** **Braced wall lines.** Braced wall lines shall consist of braced wall panel construction methods in accordance with Section R602.2.10.3. The amount and location of bracing shall be in accordance with Table R602.2.10.1 ~~R602.10.1~~ and the amount of bracing shall be the greater of that required by the design wind speed. Braced wall panels shall begin no more than 12.5 feet (3810 mm) from each end of a braced wall line. Braced wall panels that are counted as part of a braced wall line shall be in line, except that offsets out-of-plane of up to 4 feet (1219 mm) shall be permitted provided that the total out-to-out offset dimension in any braced wall line is not more than 8 feet (2438 mm).

A designed collector shall be provided if the bracing begins more than 12 feet (3658 mm) from each end of a braced wall line.

R602.2.10.1.1 **~~R602.10.1.1~~** **Spacing.** Spacing of braced wall lines shall not exceed 35 feet (10,668 mm) on center in both the longitudinal and transverse directions in each story.

Exception: Spacing of braced wall lines not exceeding 50 feet shall be permitted where:

1. The wall bracing provided equals or exceeds the amount of bracing required by Table R602.2.10.1 multiplied by a factor equal to the braced wall line spacing divided by 35 feet, and

2. The length-to-width ratio for the floor/wall diaphragm does not exceed 3:1.

R602.2.10.2 ~~**R602.10.2**~~ **Cripple wall bracing.** Cripple walls shall be braced with an amount and type of bracing as required for the wall above in accordance with Table R602.2.10.1 with the following modifications for cripple wall bracing:

1. The percent bracing amount as determined from Table R602.2.10.1 shall be increased by 15 percent, and

2. The wall panel spacing shall be decreased to 18 feet (5486 mm) instead of 25 feet (7620 mm).

R602.2.10.2.1 ~~**R602.10.2.1**~~ **Redesignation of cripple walls.** Cripple walls are permitted to be redesignated as the first storywalls for purposes of determining wall bracing requirements. If the cripple walls are redesignated, the stories above the redesignated story shall be counted as the second and third stories respectively.

R602.2.10.3 ~~**R602.10.3**~~ **Braced wall panel construction methods.** The construction of braced wall panels shall be in accordance with one of the following methods:

1. Nominal 1-inch-by-4-inch (25.4 mm by 102 mm) continuous diagonal braces let in to the top and bottom plates and the intervening studs or approved metal strap devices installed in accordance with the manufacturer's specifications. The let-in bracing shall be placed at an angle not more than 60 degrees (1.06 rad) or less than 45 degrees (0.79 rad) from the horizontal.

2. Wood boards of 5/8 inch (15.9 mm) net minimum thickness applied diagonally on studs spaced a maximum of 24 inches (610 mm). Diagonal boards shall be attached to studs in accordance with Table R602.2(1) ~~R602.3(1).~~

3. Wood structural panel sheathing with a thickness not less than 5/16 inch (7.9 mm) for 16-inch (406 mm) stud spacing and not less than 3/8 inch (9.5 mm) for 24-inch (610 mm) stud spacing. Wood structural panels shall be installed in accordance with Table R602.2~~3~~(3).

4. One-half-inch (12.7mm)or 25/32-inch (19.8mm)thick structural fiberboard sheathing applied vertically or horizontally on studs spaced a maximum of 16 inches (406 mm) on center. Structural fiberboard sheathing shall be installed in accordance with Table R602.2~~3~~(1).

5. Gypsum board with minimum 1/2-inch (12.7 mm) thickness placed on studs spaced a maximum of 24 inches (610 mm) on center and fastened at 7 inches (178 mm) on center with the size nails specified in Table R602.2(1) ~~R602.3(1)~~ for sheathing and Table R702.3.5 for interior gypsum board.

6. Particleboard wall sheathing panels installed in accordance with Table R602.2~~3~~(4)

7. Portland cement plaster on studs spaced a maximum of 16 inches (406 mm) on center and installed in accordance with Section R703.6.

8. Hardboard panel siding when installed in accordance with Table R703.4.

Exception: Alternate braced wall panels constructed in accordance with Section R602.2.10.6 ~~R602.10.6~~ shall be permitted to replace any of the above methods of braced wall panels.

R602.2.10.4 ~~**R602.10.4**~~ **Length of braced panels.** For Methods 2, 3, 4, 6, 7 and 8 above, each braced wall panel shall be at least 48 inches (1219 mm) in length, covering a minimum of three stud spaces where studs are spaced 16 inches (406 mm) on center and covering a minimum of two stud spaces where studs are spaced 24 inches (610 mm) on center. For Method 5 above, each braced wall panel shall be at least 96 inches (2438 mm) in length where applied to one face of a braced wall panel and at least 48 inches (1219 mm) where applied to both faces.

Exceptions:

1. Lengths of braced wall panels for continuous wood structural panel sheathing shall be in accordance with Section R602.2.10.5 ~~R602.10.5~~.

2. Lengths of alternate braced wall panels shall be in accordance with Section R602.2.10.6.

TABLE R602.2.10.1
WALL BRACING

WIND SPEED	CONDITION	TYPE OF BRACE[b,c]	AMOUNT OF BRACING[a,d,e]
Less than 100 mph	One story Top of two or three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located at each end and at least every 25 feet on center but not less than 16% of braced wall line.
	First story of two story Second story of three story	Methods 1, 2, 3, 4, 5, 6, 7 or 8	Located at each end and at least every 25 feet on center but not less than 16% of braced wall line for Method 3 and 25% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.
	First story of three story	Methods 2, 3, 4, 5, 6, 7 or 8	Minimum 48-inch-wide panels located at each end and at least every 25 feet on center but not less than 25% of braced wall line for method 3 and 35% of braced wall line for Methods 2, 4, 5, 6, 7 or 8.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kN/m2, 1 mile per hour = 1.609 km/h.

a. Reserved.

b. Foundation cripple wall panels shall be braced in accordance with Section R602.2.10.2.

c. Methods of bracing shall be as described in Section R602.2.10.3. The alternate braced wall panels described in Section R602.2.10.6 shall also be permitted.

d. Reserved

e. Reserved.

TABLE R602.2.3.1
MAXIMUM ALLOWABLE LENGTH OF WOOD WALL STUDS EXPOSED TO WIND SPEEDS OF LESS THAN 100 MPH [b,c]

Renumber all impacted tables and figures to reflect new section numbers. No other changes to Tables or Figures.

R602.2.10.5 **~~R602.10.5~~ Continuous structural panel sheathing.** When continuous wood structural panel sheathing is provided in accordance with Method 3 of R602.2.10.3 on all sheathable areas of all exterior walls, and interior braced wall lines, where required, including areas above and below openings, braced wall panel lengths shall be in accordance with Table R602.2.10.5. Wood structural panel sheathing shall be installed at corners in accordance with Figure R602.2.10.5. The bracing amounts in Table R602.2.10.1 for Method 3 shall be permitted to be multiplied by a factor of 0.9 for walls with a maximum opening height that does not exceed 85 percent of the wall height or a factor of 0.8 for walls with a maximum opening height that does not exceed 67 percent of the wall height.

R602.2.10.6 **~~R602.10.6~~ Alternate braced wall panels.** Alternate braced wall lines constructed in accordance with one of the following provisions shall be permitted to replace each 4 feet (1219 mm) of braced wall panel as required by Section R602.2.10.4:

1. In one-story buildings, each panel shall have a length of not less than 2 feet, 8 inches (813 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with 3 / 8-inch minimum- thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table R602.2~~3~~(1) and blocked at all wood structural panel sheathing edges. Two anchor bolts installed in accordance with Figure R403.1(1) shall be provided in each panel. Anchor bolts shall be placed at panel quarter points. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an uplift capacity of at least 1,800 pounds (816.5 kg). The tie-down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation which is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom. When the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch-by-12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first story of two-story buildings, each braced wall panel shall be in accordance with Item 1 above, except that the wood structural panel sheathing shall be provided on both faces, sheathing edge nailing spacing shall not exceed four inches on center, at least three anchor bolts shall be placed at one-fifth points, and tie-down device uplift capacity shall not be less than 3,000 pounds (1360.8 kg).

R602.2.10.7 **~~R602.10.7~~ Panel joints.** All vertical joints of panel sheathing shall occur over studs. Horizontal joints in braced wall panels shall occur over blocking of a minimum of 11/2 inch (38 mm) thickness.

Exception: Blocking is not required behind horizontal joints when constructed in accordance with R602.2.10.3, Braced-wall-panel construction method 3 and Table R602.2.10.1, method 3, or where permitted by the manufacturer's installation requirements for the specific sheathing material.

R602.2.10.8 **~~R602.10.8~~ Connections.** Braced wall panel sole plates shall be fastened to the floor framing and top plates shall be connected to the framing above in accordance with Table R602.2~~3~~(1). Sills shall be fastened to the foundation or slab in accordance with Sections R403.1.6. Where joists are perpendicular to the braced wall lines above, blocking shall be provided under and in line with the braced wall panels.

R602.2.10.9 **~~R602.10.9~~** **Interior braced wall support. Reserved.**

R602.2.10.10 **~~R602.10.10~~ Design of structural elements.** Where a building, or portion thereof, does not comply with one or more of the bracing requirements in this section, those portions shall be designed and constructed in accordance with accepted engineering practice.

R602.2.10.11 **~~R602.10.11~~ Bracing in Seismic Design Categories D_1 and D_2. Reserved.**

Table R602.2.10.11 ~~R602.10.11~~ Adjustment of Bracing Amounts for Interior Braced Wall Lines According to Braced Wall Line Spacing. Reserved.

R602.2.11 ~~R602.11~~ Framing and connections for Seismic Design Categories D_1 and D_2. Reserved.

Figure R602.2.11.3 ~~R602.11.3~~ Stepped Foundation Construction. Reserved.

R602.3 Design and construction where wind speeds is 100 miles per hour (45 m/s) or greater. Exterior walls of light-frame wood construction shall be designed and constructed in accordance with the provisions of Section R301.2.1.1 and Section R602.1.1.

Table R603.3.2(1) Change text to read as follows:

TABLE R603.3.2(1)

WALL FASTENING SCHEDULEa

DESCRIPTION OF BUILDING ELEMENT	NUMBER AND SIZE OF FASTENERSa	SPACING OF FASTENERS
Floor joist to track of load-bearing wall	2-No. 8 screws	Each joist
Wall stud to top or bottom track	2-No. 8 screws	Each end of stud, one per flange
Structural sheathing to wall studs	No. 8 screws	6² o.c. on edges and 12² o.c. at intermediate supports
Roof framing to wall	Approved design or tie down in accordance with Section R802.2.9 ~~R802.11~~	

For SI: 1 inch = 25.4 mm.

a. All screw sizes shown are minimum.

Sections R604.2 and R604.3 Change text to read as follows:

R604.2 Allowable spans. The maximum allowable spans for wood structural panel wall sheathing shall not exceed the values set forth in Table R602.2(3) ~~R602.3(3).~~

R604.3 Installation. Wood structural panel wall sheathing shall be attached to framing in accordance with Table R602.2(1) ~~R602.3(1).~~ Wood structural panels marked Exposure 1 or Exterior are considered water-repellent sheathing under the code.

Section 605.1 Change text to read as shown:

R605.1 Identification and grade. Particleboard shall conform to ANSI A208.1 and shall be so identified by a grade mark or certificate of inspection issued by an approved agency. Particleboard shall comply with the grades specified in Table R602.2(4) ~~R602.3(4).~~

Section 606.2 Change to read as follows:

R606.2 Thickness of masonry. The minimum nominal thickness of exterior concrete masonry walls shall be 8 inches or shall be designed in accordance with Section R606.1. ~~The nominal thickness of masonry walls shall conform to the requirements of Sections R606.2.1 through R606.2.4.~~

~~**R606.2.1 Minimum thickness.** The minimum thickness of masonry bearing walls more than one story high shall be 8 inches (203 mm). Solid masonry walls of one-story dwellings and garages shall not be less than 6 inches (152 mm) in thickness when not greater than 9 feet (2743 mm) in height, provided that when gable construction is used, an additional 6 feet (1829mm) is permitted to the peak of the gable. Masonry walls shall be laterally supported in either the horizontal or vertical direction at intervals as required by Section R606.8.~~

~~**R606.2.2 Rubble stone masonry wall.** The minimum thickness of rough, random or coursed rubble stone masonry walls shall be 16 inches (406 mm).~~

R606.2.~~3~~ 1 Change in thickness. Where walls of masonry of hollow units or masonry bonded hollow walls are decreased in thickness, a course of solid masonry shall be constructed between the wall below and the thinner wall above, or special units or construction shall be used to transmit the loads from face shells or wythes above to those below.

R606.2.4 2 Parapet walls. Unreinforced solid masonry parapet walls shall not be less than 8 inches (203 mm) in thickness and their height shall not exceed four times their thickness. Unreinforced hollow unit masonry parapet walls shall be not less that 8 inches (203 mm) in thickness, and their height shall not exceed three times their thickness. Masonry parapets ~~in areas subject to wind loads of 30 pounds per square foot (1.44 kN/m^2)~~ shall be reinforced in accordance with ACI 530/ASCE 5/TMS 402.

(Remaining text unchanged)

R606.4 Allowable stresses ~~Allowable compressive stresses in masonry shall not exceed the values prescribed in Table R606.4.~~ Concrete masonry units shall be hollow or solid unit masonry in accordance with ASTM C 90 and shall have a minimum net area compressive strength of 1900 psi in compliance with ASTM C 90. Mortar shall comply with Section R607.1. In determining the stresses in masonry, the effects of all loads and conditions of loading and the influence of all forces affecting the design and strength of the several parts shall be taken into account.

(Remaining text unchanged)

~~**R606.5 Piers.** The unsupported height of masonry piers shall not exceed ten times their least dimension. When structural clay tile or hollow concrete masonry units are used for isolated piers to support beams and girders, the cellular spaces shall be filled solidly with concrete or Type M or S mortar, except that unfilled hollow piers may be used if their unsupported height is not more than four times their least dimension. Where hollow masonry units are solidly filled with concrete or Type M, S or N mortar, the allowable compressive stress shall be permitted to be increased as provided in Table R606.4.~~

R606.5 ~~.1~~ Pier cap. Hollow piers shall be capped with 4 inches (102 mm) of solid masonry or concrete or shall have cavities of the top course filled with concrete or grout or other approved methods.

R606.7 ~~Stack b~~ Bond. Masonry walls shall be running bond or stack bond construction. ~~In unreinforced masonry where masonry units are laid in stack bond, longitudinal reinforcement consisting of not less than two continuous wires each with a minimum aggregate cross-sectional area of 0.017 square inch (11 mm^2) shall be provided in horizontal bed joints spaced not more than 16 inches (406 mm) on center vertically.~~

R606.7.1 Joint reinforcement stack bond. When masonry units are laid in stack bond, horizontal joint reinforcement shall be placed in bed joints at not more than 16 inches on center. Horizontal joint reinforcement shall be a minimum of 9-gage and shall be in addition to required vertical reinforcement, Joint reinforcement shall be embedded in accordance with R606.9.6.

~~TABLE R606.4~~
~~ALLOWABLE COMPRESSIVE STRESSES FOR EMPIRICAL DESIGN OF MASONRY~~

~~CONSTRUCTION; COMPRESSIVE STRENGTH OF UNIT, GROSS AREA~~	~~ALLOWABLE COMPRESSIVE STRESSES[a] GROSS CROSS-SECTIONAL AREA[b]~~	
	~~Type M or S Mortar~~	~~Type N mortar~~
~~Solid masonry of brick and other solid units of clay or shale; sand-lime or concrete brick:~~		
~~8,000 + psi~~	~~350~~	~~300~~
~~4,500 psi~~	~~225~~	~~200~~
~~2,500 psi~~	~~160~~	~~140~~
~~1,500 psi~~	~~115~~	~~100~~
~~Grouted[c] masonry, of clay or shale; sand-lime or concrete:~~		
~~4,500+ psi~~	~~225~~	~~200~~
~~2,500 psi~~	~~160~~	~~140~~
~~1,500 psi~~	~~115~~	~~100~~
~~Solid masonry of solid concrete masonry units:~~		
~~3,000+ psi~~	~~225~~	~~200~~
~~2,000 psi~~	~~160~~	~~140~~
~~1,200 psi~~	~~115~~	~~100~~
~~Masonry of hollow load-bearing units:~~		
~~2,000+ psi~~	~~140~~	~~120~~
~~1,500 psi~~	~~115~~	~~100~~
~~1,000 psi~~	~~75~~	~~70~~
~~700 psi~~	~~60~~	~~55~~
~~Hollow walls (cavity or masonry bonded[d]) solid units:~~		
~~2,500+ psi~~	~~160~~	~~140~~
~~1,500 psi~~	~~115~~	~~100~~
~~Hollow units~~	~~75~~	~~70~~

~~**Stone ashlar masonry:**~~ ~~**Granite**~~ ~~**Limestone or marble**~~ ~~**Sandstone or cast stone**~~	~~**720**~~ ~~**450**~~ ~~**360**~~	~~**640**~~ ~~**400**~~ ~~**320**~~
~~**Rubble stone masonry:**~~ ~~**Coarse, rough or random**~~	~~**120**~~	~~**100**~~

~~For SI: 1 pound per square inch = 6.895 kPa.~~

~~a. Linear interpolation shall be used for determining allowable stresses for masonry units having compressive strengths that are intermediate between those given in the table.~~

~~b. Gross cross-sectional area shall be calculated on the actual rather than nominal dimensions.~~

~~c. See Section R607.~~

~~d. Where floor and roof loads are carried upon one wythe, the gross cross-sectional area is that of the wythe under load; if both wythes are loaded, the gross cross-sectional area is that of the wall minus the area of the cavity between the wythes. Walls bonded with metal ties shall be considered as cavity walls unless the collar joints are filled with mortar or grout.~~

~~**R606.8 Lateral support.** Masonry walls shall be laterally sup-ported in either the horizontal or the vertical direction. The maximum spacing between lateral supports shall not exceed the distances in Table R606.8. Lateral support shall be provided by cross walls, pilasters, buttresses or structural frame members when the limiting distance is taken horizontally, or by floors or roofs when the limiting distance is taken vertically.~~

~~**R606.8.1 Horizontal lateral support.** Lateral support in the horizontal direction provided by intersecting masonry walls shall be provided by one of the methods in Section R606.8. 1.1 or Section R606.8. 1.2.~~

~~**R606.8.1.1 Bonding pattern.** Fifty percent of the units at the intersection shall be laid in an overlapping masonry bonding pattern, with alternate units having a bearing of not less than 3 inches (76mm) on the unit below.~~

~~**R606.8.1.2 Metal reinforcement.** Interior nonload-bearing walls shall be anchored at their intersections, at vertical intervals of not more than 16 inches (406 mm) with joint reinforcement of at least 9 gage, or 1/4 inch (6.4 mm) galvanized mesh hardware cloth. Intersecting masonry walls, other than interior nonload-bearing walls, shall be anchored at vertical intervals of not more than 8 inches (203 mm) with joint reinforcement of at least 9 gage and shall extend at least 30 inches (762mm) in each direction at the intersection. Other metal ties, joint reinforcement or anchors, if used, shall be spaced to provide equivalent area of anchorage to that required by this section.~~

~~TABLE R606.8~~
~~SPACING OF LATERAL SUPPORT FOR MASONRY WALLS~~

~~CONSTRUCTION~~	~~MAXIMUM WALL LENGTH TO THICKNESS~~
~~**Bearing walls:**~~ ~~**Solid or solid grouted**~~	~~**20**~~ ~~**18**~~
~~**Nonbearing walls:**~~ ~~**Exterior**~~	~~**18**~~ ~~**36**~~

~~For SI: 1 foot = 304.8 mm.~~

~~a. Except for cavity walls and cantilevered walls, the thickness of a wall shall be its nominal thickness measured perpendicular to the face of the wall. For cavity walls, the thickness shall be determined as the sum of the nominal thicknesses of the individual wythes. For cantilever walls, except for parapets, the~~

~~ratio of height to nominal thickness shall not exceed 6 for solid masonry, or 4 for hollow masonry. For parapets, see Section R606.2.4.~~

~~b. An additional unsupported height of6feet is permitted for gable end walls.~~

~~**R606.8.2 Vertical lateral support.** Vertical lateral support of masonry walls shall be provided in accordance with one of the methods in Section R606.8.2. 1 or Section R606.8.2.2.~~

R606.~~9~~.8 Lintels. Masonry over openings shall be supported by steel lintels, reinforced concrete or masonry lintels or masonry arches, designed to support load imposed.

~~**R606.10 Anchorage.** Masonry walls shall be anchored to floor and roof systems in accordance with the details shown in Figure R606. 10(1). Footings may be considered as points of lateral support.~~

Figure R606.10(1) Reserved.

Figure R606.10(2) Reserved.

Figure R606.10(3) Reserved.

~~**R606.11 Reserved.**~~

TABLE R606.11.3.2 Reserved.

TABLE R606.11.4.1 Reserved.

TABLE R606.11.4.2 Reserved.

R606.9 ~~12~~ ~~Protection for r~~ Reinforcement. Reinforcing steel shall be a minimum of Grade 60 No. 5 or No. 4 bars and shall be identified in an approved manner. ~~All bars shall be completely embedded in mortar or grout. Joint reinforcement embedded in horizontal mortar joints shall not have less than $^5/_8$ inch (15.9 mm) mortar coverage from the exposed face. All other reinforcement shall have a minimum coverage of one bar diameter over all bars, but not less than 3/4 inch (19.1 mm), except where exposed to weather or soil, in which case the mini-mum coverage shall be 2 inches (51 mm).~~

R606.9.1Bundling. Bundling shall be permitted when two bars are required at the same location in a wall or in a bond beam.

R606.9.2 Splicing. Splices shall be lap splices. Non-contact lap splices shall be permitted provided reinforcing bars are not spaced farther apart than 5 inches. Splice lengths shall be in accordance with Table R606.9.2. and shall be a minimum of 25 inches for No. 5 bars and 20 inches for No. 4 bars.

TABLE R606.9.2 LAP SPLICE LENGTHS

Bar Size (No.)	Lap Length (in.)
3	15
4	20
5	25
6	42
7	59

R606.9.3 Bending. Reinforcement shall be bent in the shop or in the field. All reinforcement shall be bent cold. The diameter of the bend, measured on the inside of the bar, shall not be less than six-bar diameters. Reinforcement partially embedded in concrete shall not be field bent.

EXCEPTION: Where bending is necessary to align dowel bars with a vertical cell, bars partially embedded in concrete shall be permitted to be bent at a slope of not more than 1 inch of horizontal displacement to 6 inches of vertical bar length.

R606.9.4 Clearance from masonry. Reinforcing bars embedded in grouted masonry cells shall have a minimum clear distance between reinforcing bars and any face of a cell of ¼-inch for fine grout or ½-inch for coarse grout.

R606.9.5 Cover for reinforcing steel. Reinforcing bars used in masonry walls shall have a masonry cover, including grout, of not less than 2 inches for masonry units with face exposed to earth or weather and 1½-inch for masonry units not exposed to earth or weather.

R606.9.6 Joint reinforcement embedment. Longitudinal wires of joint reinforcement shall be fully embedded in mortar or grout with a minimum cover of ⅝- inch when exposed to earth or weather and ½-inch when not exposed to earth or weather.

R606.9.7 Cleanout openings. Cleanout openings shall be provided for cells containing spliced reinforcement when the grout pour exceeds 5 feet in height. Where cleanout openings are required, an opening shall be provided in the bottom course of the masonry cell to be filled. Cleanout openings shall have a minimum opening dimension of 3 inches.

R606.9.8 Termination. All vertical wall reinforcement shall be terminated by hooking into a bond beam or footing with a standard hook. Standard hooks shall be formed by bending the vertical wall reinforcement in accordance with Section R606.9.3 or shall be a prefabricated standard hook. Splices to standard hooks shall be lap splices with the minimum extension length beyond the bend for standard hooks of 10 inches for No. 5 bars and 8 inches for No. 4 bars. Hooks at bond beams shall extend to the uppermost horizontal reinforcement of the bond beam and shall be embedded a minimum of 6 inches into the bond beam as detailed in Figure R606.9a and Figure R606.9b. Where multiple bars are required, a single standard hook shall terminate into the bond beam or footing. In narrow footings where the width is insufficient to accommodate a standard 90-degree hook and provide the concrete cover required by Table 1907.7.1 of the Florida Building Code, Building, the hook shall be rotated in the horizontal direction until the required concrete cover is achieved.

R606.9.9 Continuity multi-story construction. Vertical wall reinforcement in multi-story construction shall extend through bond beams and shall be continuous with the vertical wall reinforcement of the wall above or be offset in accordance with Section R606.9.9.1 and Figure R606.9.9B

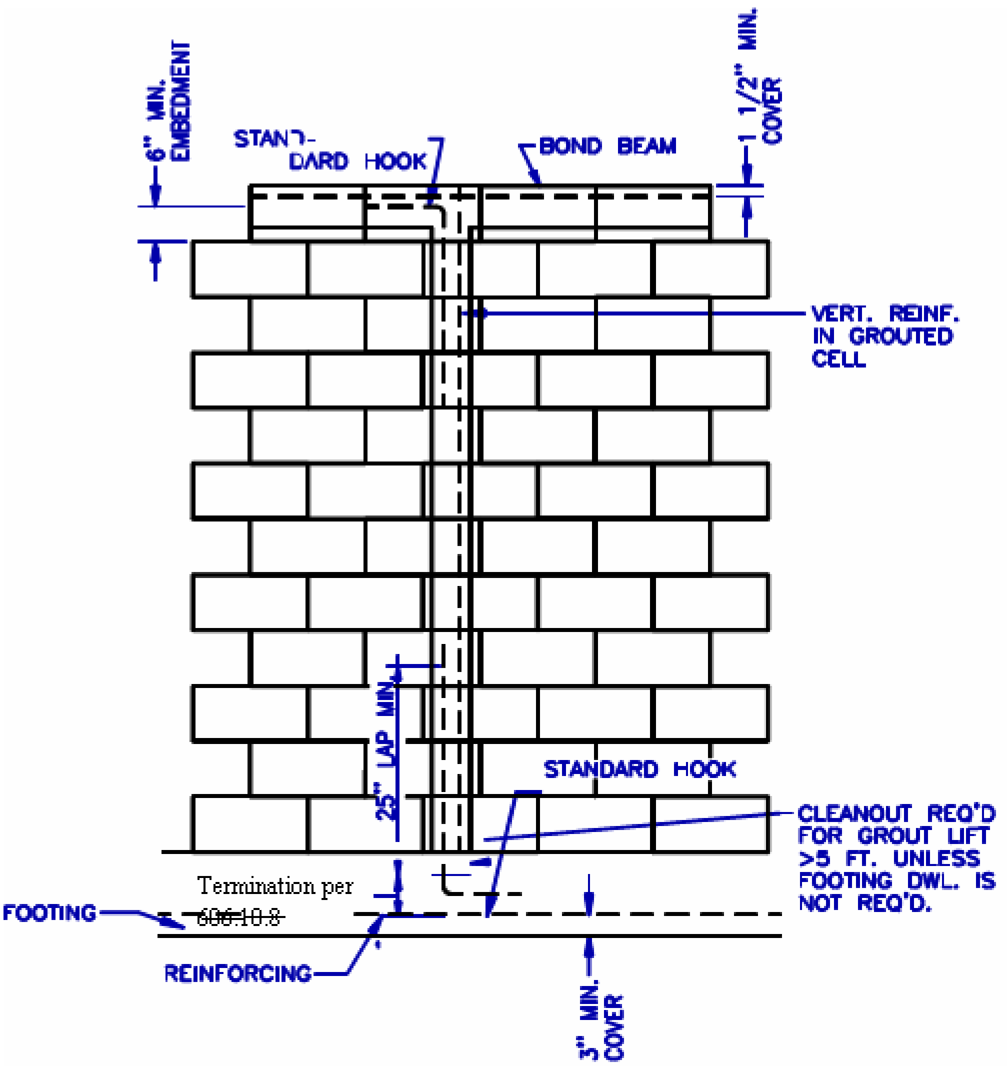
Exception: Where more than one bar in the same cell is required for vertical wall reinforcement, only one bar shall be required to be continuous between stories.

R606.9.9.1 Offset reinforcement. Vertical reinforcement shall be permitted to be offset between floor levels. Reinforcement for the lower story shall be anchored into the upper floor level bond beam and reinforcement for the upper story shall be anchored into the bond beams above and below in accordance with Section R606.9.8 and Figures R606.9A and R606.9B.

R606.9.10 ~~R606.14~~ Metal Accessories. Joint reinforcement, anchors, ties and wire fabric shall conform to the following: ASTM A 82 for wire anchors and ties; ASTM A 36 for plate, headed and bent-bar anchors;

ASTM A 510 for corrugated sheet metal anchors and ties; ASTM A 951 for joint reinforcement; ASTM B 227 for copper-clad steel wire ties; or ASTM A 167 for stain-less steel hardware.

R606.~~14~~ 10.1Corrosion protection. Minimum corrosion protection of joint reinforcement, anchor ties and wire fabric for use in masonry wall construction shall conform to Table ~~R606.14.1.~~ R606.9.10.1



Termination per R606.9.8

FIGURE R606.9.9A
CONTINUITY OF REINFORCEMENT
ONE STORY MASONRY WALL

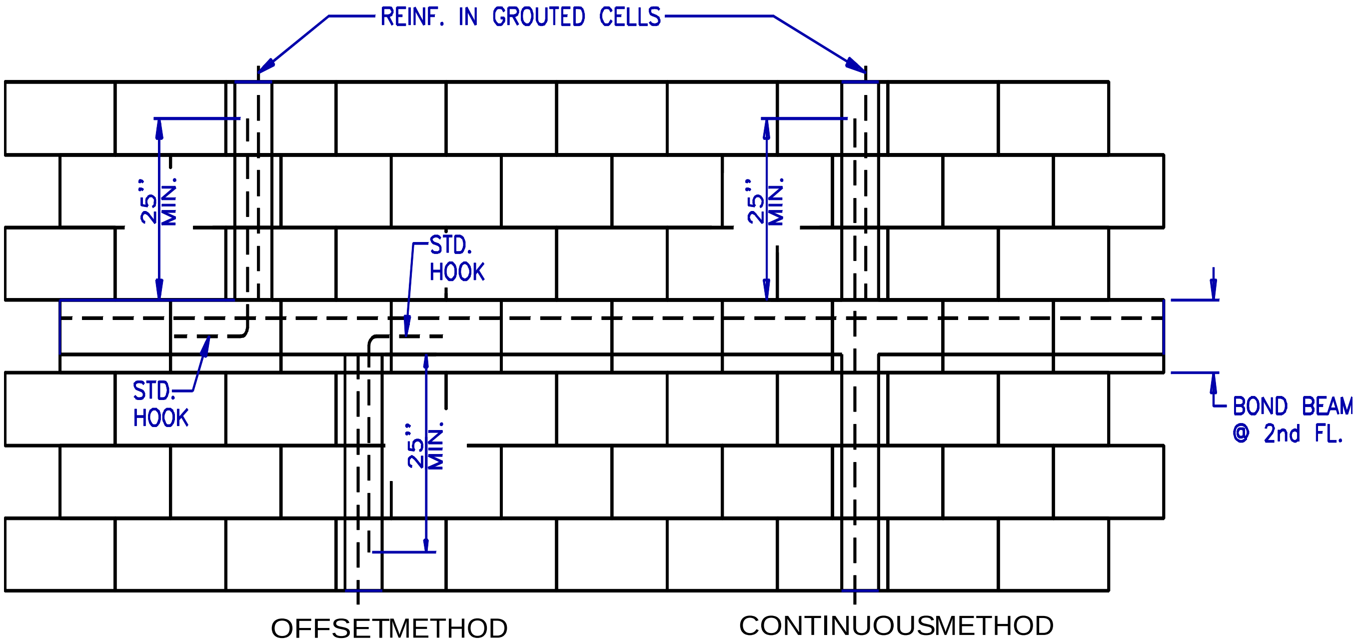


FIGURE R606.9.9B
CONTINUITY OF FIRST AND SECOND FLOOR VERTICAL WALL REINFORCEMENT

TABLE R606.9.10.1 ~~14.1~~

MINIMUM CORROSION PROTECTION

MASONRY METAL ACCESSORY	STANDARD
Joint reinforcement, interior walls	ASTM A 641, Class 1
Wire ties or anchors in exterior walls completely embedded in mortar or grout	ASTM A 641, Class 3
Wire ties or anchors in exterior walls not completely embedded in mortar or grout	ASTM A 153, Class B-2
Joint reinforcement in exterior walls or interior walls exposed to moist environment	ASTM A 153, Class B-2
Sheet metal ties or anchors exposed to weather	ASTM A 153, Class B-2
Sheet metal ties or anchors completely embedded in mortar or grout	ASTM A 525, Class G-60
Stainless steel hardware for any exposure	ASTM A 167, Type 304

R606.11.~~13~~ Beam supports. Beams, girders or other concentrated loads supported by a wall or column shall have a bearing of at least 3 inches (76 mm) in length measured parallel to the beam upon solid masonry not less than 4 inches (102 mm) in thickness, or upon a metal bearing plate of adequate design and dimensions to distribute the load safely, or upon a continuous reinforced masonry member projecting not less than 4 inches (102 mm) from the face of the wall.

R606.11 ~~13~~.1 Joist bearing. ~~Joists shall have a bearing of not less than 1$^1/_2$ inches (38 mm), except as provided in Section R606.13, and shall be supported in accordance with Figure R606. 10(1).~~ Except where supported on a 1-inch by 4-inch (25.4 mm by 102 mm) ribbon strip and nailed to the adjoining stud and as provided in Section R606.11, the ends of each joist shall not have less than 11/2 inches (38 mm) of bearing on wood or metal, or less than 3 inches (76 mm) on masonry.

~~FIGURE R606.10(1) Reserved.~~

~~ANCHORAGE REQUIREMENTS FOR MASONRY WALLS LOCATED WHERE WIND LOADS ARE LESS THAN 30 PSF~~

~~[NOTE: Table is limited to areas where wind speed (mph) is less than 100 (see Section R301 .2.1.1)].~~

SECTION R607 UNIT MASONRY

R607.1 Mortar. Mortar for use in masonry construction shall be either Type M or S with a f'm of 1500- psi in accordance with ~~comply with~~ ASTM C 270. ~~The type of mortar shall be in accordance with Sections R607. 1.1, and R607. 1.2~~ and shall meet the proportion specifications of Table R607. 1 or the property specifications of ASTM C 270.

R607.1.1 Foundation walls. Reserved. ~~Masonry foundation walls constructed as set forth in Tables R404.1.1(1) through R404.1.1(4) and mortar shall be Type M or S.~~

R607.1.2 All other masonry. Reserved. ~~Mortar for masonry serving as the lateral-wind-force-resisting system shall be Type M, S or N mortar.~~

R607.1.3 Reserved.

R607.2 (no change).

TABLE R607.1
MORTAR PROPORTIONS[a, b]

PROPORTIONS BY VOLUME

Mortar	Type	Portland Cement[a] or Blended Cement[b]	Mortar Cement		Masonry Cement		Hydrated lime[e] or Lime Putty	Aggregate Measured in Damp Loose Condition
			M	S	M	S		
Cement-Lime	M	1	—	—	—	—	¼ Over ¼ to ½	Not less than 2 ¼ and not more than 3 times the sum of separate volumes of lime, if used, and cement
	S	1	—	—	—	—	Over ¼ to 1 ¼ Over 1 ¼ to 2 1/2	
Mortar Cement	M	1	—	—	—	—	—	
	M	—	1	—	—	—		
	S	½	—	—	—	—		
	S	—	—	—	—	1		
Masonry Cement	M	1			—	—	—	
	M	—			1	—		
	S	½			—	—		
	S	—			—	1		

For SI: 1 cubic foot = 0.0283 m3, 1 pound = 0.454 kg.

a. For the purpose of these specifications, the weight of 1 cubic foot of the respective materials shall be considered to be as follows:

Portland Cement	94 pounds	Masonry Cement	Weight printed on bag
Mortar Cement	Weight printed on bag	Hydrated Lime	40 pounds
Lime Putty (Quicklime)	80 pounds	Sand, damp and loose	80 pounds of dry sand

b. Two air-entraining materials shall not be combined in mortar.

c. Hydrated lime conforming to the requirements of ASTM C 207.

~~TABLE R607.1~~
~~MORTAR PROPORTIONS[a,b]~~

~~Mortar~~	~~Type~~	~~Portland cement or blended~~	~~Mortar cement~~			~~Masonry~~			~~Hydrated lime[c] or lime putty~~	~~Aggregate ratio (measured in damp, loose~~
			~~M~~	~~S~~	~~N~~	~~M~~	~~S~~	~~N~~		
~~Cement-~~	~~M~~	~~1~~	—	—	—	—	—	—	~~1/4~~	~~Not less than ... more than 3 ... of separate lime, if used.~~
	~~S~~	~~1~~	—	—	—	—	—	—	~~over 1/4 to 1/2~~	
	~~N~~	~~1~~	—	—	—	—	—	—	~~over 1/2 to 1 1/4~~	
	~~O~~	~~1~~	—	—	—	—	—	—	~~over 1 1/4~~	
~~Mortar~~	~~M~~	~~1~~	—	—	~~1~~	—	—	—	—	
	~~M~~	—	~~1~~	—	—	—	—	—		
	~~S~~	~~1/2~~	—	—	~~1~~	—	—	—		
	~~S~~	—	—	~~1~~	—	—	—	—		
	~~N~~	—	—	—	~~1~~	—	—	—		
	~~O~~	—	—	—	~~1~~	—	—	—		
~~Masonry cement~~	~~M~~	~~1~~				—	—	~~1~~		
	~~M~~	—				~~1~~	—	—		
	~~S~~	~~1/2~~				—	—	~~1~~		
	~~S~~	—				—	~~1~~	—		
	~~N~~	—				—	—	~~1~~		
	~~O~~	—				—	—	~~1~~		

~~For SI: 1 cubic foot = 0.0283 m3, 1 pound = 0.454 kg.~~

~~d. For the purpose of these specifications, the weight of 1 cubic foot of the respective materials shall be considered to be as follows:~~

~~Portland Cement 94 pounds Masonry Cement Weight printed on bag~~
~~Mortar Cement Weight printed on bag Hydrated Lime 40 pounds~~
~~Lime Putty (Quicklime) 80 pounds Sand, damp and loose 80 pounds of dry sand~~

~~e. Two air-entraining materials shall not be combined in mortar.~~
~~f. Hydrated lime conforming to the requirements of ASTM C 207.~~

R608 (no change).

SECTION R609
GROUTED MASONRY

R609.1 General. ~~Grouted multiple-wythe masonry is a form of construction in which the space between the wythes is solidly filled with grout. It is not necessary for the cores of masonry units to be filled with grout.~~ Grouted hollow unit masonry is a form of construction in which certain cells of hollow units are continuously filled with grout.

R609.1.1 Grout. Grout shall consist of cementitious material and aggregate in accordance with ASTM C 476 and the proportion specifications of Table R609. 1.1. Type M or Type S mortar to which sufficient water has been added to produce pouring consistency can be used as grout.

R609.1.2 <u>**Grout lift height.**</u> ~~Grouting requirements. Maximum pour heights and the minimum dimensions of spaces provided for grout placement shall conform to Table R609. 1.2.~~ <u>Where the following conditions are met, place grout in lifts not exceeding 12.67 ft (3.86 m).</u>
<u>1. The masonry has cured for at least 4 hours.</u>
<u>2. The grout slump is maintained between 10 and 11 in. (254 and 279 mm).</u>
<u>3. No intermediate reinforced bond beams are placed between the top and the bottom of the pour height.</u>

Otherwise, place grout in lifts not exceeding 5 ft (1.52 m). If ~~the work~~ grouting is stopped for one hour or longer, the horizontal construction joints shall be formed by stopping all tiers at the same elevation and with the grout 1 inch (25.4 mm) below the top.

TABLE R609.1.2 Reserved.
~~GROUT SPACE DIMENSIONS AND POUR HEIGHTS~~

R609.1.3 Grout space (cleaning). Provision shall be made for cleaning grout space. Mortar projections that project more than 0.5 inch (12.7mm) into grout space and any other foreign matter shall be removed from grout space prior to inspection and grouting.

R609.1.4 Grout placement. All cells containing reinforcement or anchor bolts shall be grouted solid. Grout shall be a plastic mix suitable for pumping without segregation of the constituents and shall be mixed thoroughly. Grout shall have a maximum coarse aggregate size of ⅜-inch and shall be placed at an 8 to 11-inch slump and shall have a minimum specified compressive strength of 2000 psi at 28 days when tested in an approved manner or shall be in accordance with ASTM C 476. Grout shall be placed by pumping or by an approved alternate method and shall be placed before any initial set occurs and in no case more than $1^1/_2$ hours after water has been added. Grouting shall be done in a continuous pour, in lifts ~~not exceeding 5 feet (1524 mm). It shall be consolidated by puddling or mechanical vibrating during placing and reconsolidated after excess moisture has been absorbed but before plasticity is lost..~~ in accordance with Section R609.1.2. Grout shall be consolidated at the time of placement in accordance with the following:

1. Consolidate grout pours 12 in. (305 mm) or less in height by mechanical vibration or by puddling.
2. Consolidate pours exceeding 12 in. (305 mm) in height by mechanical vibration, and reconsolidate by mechanical vibration after initial water loss and settlement has occurred.

R609.1.4.1 Grout pumped through aluminum pipes. Grout shall not be pumped through aluminum pipes.

R609.1.5 Cleanouts. ~~Where required by the building official, cleanouts shall be provided as specified in this section.~~ Cleanouts shall be provided at the bottom course at each pour of grout where such pour exceeds 5 feet (1524 mm) in height and where required by the building official. Cleanouts shall be provided with an opening of sufficient size to permit removal of debris. The minimum opening dimension shall be 3 in. (76.2 mm). The cleanouts shall be sealed before grouting and after inspection.

R609.1.5.1 (no change)

R609.1.5.2 Reserved. **~~Grouted hollow unit masonry.~~** ~~Cleanouts shall be provided at the bottom course of each cell to be grouted at each pour of grout, where such pour exceeds 4~~ 5 ~~feet (1219 mm) in height.~~

DELETE SECTIONS R609.2, 609.3, AND R609.4 IN THEIR ENTIRETY AND ADD NEW SECTIONS R609.2 THROUGH R609.6 AS FOLLOWS:

R609.2 Bond beams. A reinforced bond beam shall be provided in masonry walls at the top of the wall and at each floor level of each exterior wall. Masonry walls not extending to the roof line shall have a bond beam at the top of the wall.

Exceptions:

1. A bond beam is not required at the floor level for slab-on-ground floors.

2. Gable endwalls shall be in conformance with Section R609.4.

R609.2.1 Bond beam types. Bond beams shall be one of the following:

1. 8" thick x 8" high masonry.
   8" thick x 12" high masonry.
   8" thick x 16" high masonry.
   8" thick by 24" high masonry
   8" thick x 32" high masonry.
2. Precast units certified by the manufacturer for the uplift loads as set forth in Table R802.2.9.1. Precast units shall be installed in accordance with the manufacturer's specifications, and approved by the building official.

R609.2.2 Bond beam reinforcement. The minimum reinforcement for bond beam roof diaphragm chord tension reinforcement steel shall be as set forth in Table R609.2.2A1 through Table R609.2.2A-4 for the appropriate grade of steel and exposure category. The minimum reinforcement for bond beam uplift resisting reinforcement steel shall be as set forth in Tables R609.2.2B-1 through R609.2.2B-8 for the loads set forth in Table R802.2.9.1. The total minimum area of bond beam reinforcement shall be the sum of the required area of the diaphragm chord tension steel and the required area of bond beam uplift steel. Bond beam area shall be converted to bar size in accordance with Table R609.2.2C.

R609.2.3 Location of reinforcement. Reinforcement shall be located in the top of bond beams and in the top and bottom of bond beams also serving as lintels.

R609.2.4 Corner continuity. Corner continuity. Reinforcement in bond beams shall be continuous around corners as detailed in Figure R609.2.4.

Exception: In bond beams requiring two reinforcing bars, one bar shall be continuous around corners.

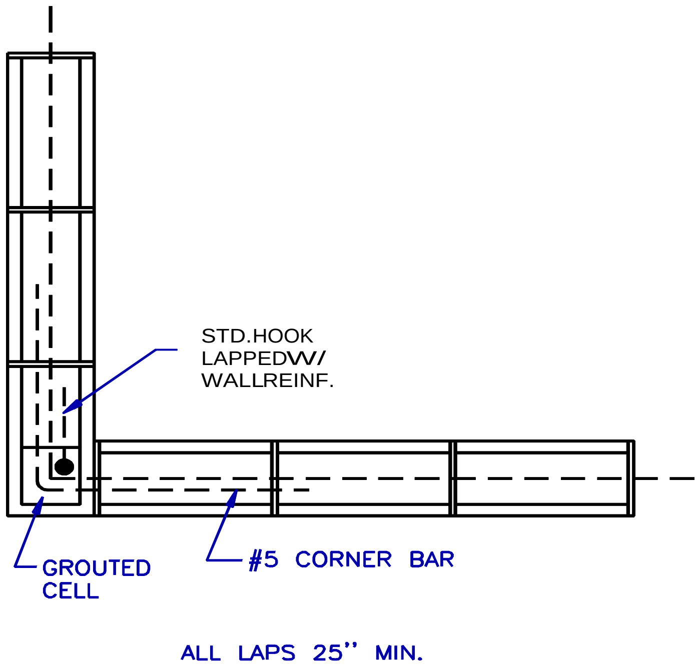


FIGURE R609.2.4
CORNER CONTINUITY OF BOND BEAM AND WALL REINFORCEMENT

R609.2.5 Change in height. Changes in bond beam height shall be permitted as detailed in Figure R609.2.5.

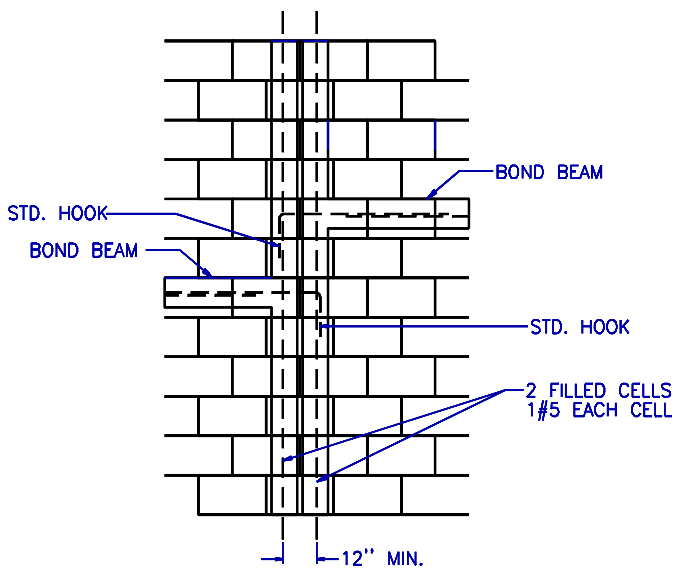


FIGURE R609.2.5
CHANGES IN BOND BEAM HEIGHT

R609.2.6 Precast units reinforcement. Precast bond beams shall properly receive and retain all vertical wall reinforcement. Precast bond beams shall contain the minimum amount of continuous reinforcement set forth in Sections R609.2.2 and R609. 6 as applicable and shall be reinforced at joints to act as drag struts and diaphragm chords.

TABLE R609.2.2A-1 GRADE 60 EXPOSURE B
ROOF DIAPHRAGM CHORD TENSION BOND BEAM STEEL AREA, IN^2

Wind Speed	Building Width	Wall Height	BUILDING LENGTH				
			40	50	60	70	80
100	24	10	0.037	0.052	0.069	0.088	0.110
	24	8	0.030	0.042	0.055	0.071	0.088
	32	10	0.029	0.040	0.053	0.067	0.084
	32	8	0.023	0.032	0.042	0.054	0.067
	40	10	0.026	0.036	0.047	0.059	0.073
	40	8	0.021	0.029	0.037	0.047	0.058
110	24	10	0.045	0.063	0.084	0.107	0.133
	24	8	0.036	0.050	0.067	0.086	0.107
	32	10	0.035	0.048	0.064	0.082	0.101
	32	8	0.028	0.039	0.051	0.065	0.081
	40	10	0.032	0.043	0.057	0.072	0.088
	40	8	0.025	0.035	0.045	0.057	0.070
120	24	10	0.054	0.075	0.099	0.127	0.158
	24	8	0.043	0.060	0.080	0.102	0.127
	32	10	0.041	0.058	0.076	0.097	0.121
	32	8	0.033	0.046	0.061	0.078	0.097
	40	10	0.038	0.052	0.067	0.085	0.105
	40	8	0.030	0.041	0.054	0.068	0.084
130	24	10	0.063	0.088	0.117	0.149	0.186
	24	8	0.050	0.070	0.093	0.120	0.149
	32	10	0.049	0.068	0.089	0.114	0.142
	32	8	0.039	0.054	0.071	0.091	0.113
	40	10	0.044	0.061	0.079	0.100	0.123
	40	8	0.035	0.048	0.063	0.080	0.098
140	24	10	0.073	0.102	0.135	0.173	0.216
	24	8	0.058	0.082	0.108	0.139	0.173
	32	10	0.056	0.078	0.104	0.132	0.164
	32	8	0.045	0.063	0.083	0.106	0.131
	40	10	0.051	0.070	0.092	0.116	0.143
	40	8	0.041	0.056	0.073	0.093	0.114
150	24	10	0.084	0.117	0.155	0.199	0.248
	24	8	0.067	0.094	0.124	0.159	0.198
	32	10	0.065	0.090	0.119	0.152	0.189
	32	8	0.052	0.072	0.095	0.121	0.151
	40	10	0.059	0.081	0.105	0.133	0.164
	40	8	0.047	0.064	0.084	0.106	0.131

Notes:

1. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C.
2. The tabular value for diaphragm chord tension steel area shall be permitted to be multiplied by a factor of 0.65 for bond beam spans located in the end zone.

TABLE R609.2.2A-2 GRADE 60 ROOF EXPOSURE C DIAPHRAGM CHORD TENSION BOND BEAM STEEL AREA, IN^2

Wind Speed	Building Width	Wall Height	BUILDING LENGTH 40	50	60	70	80
100	24	10	0.052	0.073	0.097	0.124	0.154
	24	8	0.042	0.058	0.077	0.099	0.123
	32	10	0.040	0.056	0.074	0.095	0.118
	32	8	0.032	0.045	0.059	0.076	0.094
	40	10	0.037	0.050	0.066	0.083	0.102
	40	8	0.029	0.040	0.052	0.066	0.082
110	24	10	0.063	0.088	0.117	0.150	0.187
	24	8	0.051	0.071	0.094	0.120	0.149
	32	10	0.049	0.068	0.090	0.114	0.142
	32	8	0.039	0.054	0.072	0.092	0.114
	40	10	0.044	0.061	0.079	0.100	0.124
	40	8	0.035	0.049	0.063	0.080	0.099
120	24	10	0.075	0.105	0.139	0.178	0.222
	24	8	0.060	0.084	0.112	0.143	0.178
	32	10	0.058	0.081	0.107	0.136	0.169
	32	8	0.046	0.065	0.085	0.109	0.135
	40	10	0.053	0.072	0.094	0.119	0.147
	40	8	0.042	0.058	0.076	0.095	0.118
130	24	10	0.088	0.123	0.164	0.209	0.261
	24	8	0.071	0.099	0.131	0.168	0.209
	32	10	0.068	0.095	0.125	0.160	0.199
	32	8	0.055	0.076	0.100	0.128	0.159
	40	10	0.062	0.085	0.111	0.140	0.173
	40	8	0.050	0.068	0.089	0.112	0.138
140	24	10	0.102	0.143	0.190	0.243	0.302
	24	8	0.082	0.114	0.152	0.194	0.242
	32	10	0.079	0.110	0.145	0.185	0.230
	32	8	0.063	0.088	0.116	0.148	0.184
	40	10	0.072	0.098	0.129	0.162	0.200
	40	8	0.057	0.079	0.103	0.130	0.160
150	24	10	0.118	0.164	0.218	0.279	0.347
	24	8	0.094	0.131	0.174	0.223	0.278
	32	10	0.091	0.126	0.167	0.213	0.264
	32	8	0.073	0.101	0.133	0.170	0.212
	40	10	0.082	0.113	0.148	0.187	0.230
	40	8	0.066	0.090	0.118	0.149	0.184

Notes:

1. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C.
2. The tabular value for diaphragm chord tension steel area shall be permitted to be multiplied by a factor of 0.65 for bond beam spans located in the end zone.

TABLE R609.2.2A-3 - GRADE 40 EXPOSURE B
ROOF DIAPHRAGM CHORD TENSION BOND BEAM STEEL AREA IN^2

Wind Speed	Building Width	Wall Height	BUILDING LENGTH				
			40	50	60	70	80
100	24	10	0.056	0.078	0.104	0.133	0.165
	24	8	0.045	0.062	0.083	0.106	0.132
	32	10	0.043	0.060	0.079	0.101	0.126
	32	8	0.035	0.048	0.063	0.081	0.101
	40	10	0.039	0.054	0.070	0.089	0.109
	40	8	0.031	0.043	0.056	0.071	0.087
110	24	10	0.068	0.094	0.125	0.160	0.200
	24	8	0.054	0.076	0.100	0.128	0.160
	32	10	0.052	0.073	0.096	0.122	0.152
	32	8	0.042	0.058	0.077	0.098	0.122
	40	10	0.047	0.065	0.085	0.107	0.132
	40	8	0.038	0.052	0.068	0.086	0.106
120	24	10	0.081	0.112	0.149	0.191	0.238
	24	8	0.064	0.090	0.119	0.153	0.190
	32	10	0.062	0.086	0.114	0.146	0.181
	32	8	0.050	0.069	0.091	0.117	0.145
	40	10	0.056	0.077	0.101	0.128	0.157
	40	8	0.045	0.062	0.081	0.102	0.126
130	24	10	0.095	0.132	0.175	0.224	0.279
	24	8	0.076	0.106	0.140	0.179	0.223
	32	10	0.073	0.101	0.134	0.171	0.212
	32	8	0.058	0.081	0.107	0.137	0.170
	40	10	0.066	0.091	0.119	0.150	0.185
	40	8	0.053	0.073	0.095	0.120	0.148
140	24	10	0.110	0.153	0.203	0.260	0.324
	24	8	0.088	0.122	0.162	0.208	0.259
	32	10	0.085	0.117	0.155	0.198	0.246
	32	8	0.068	0.094	0.124	0.159	0.197
	40	10	0.077	0.105	0.138	0.174	0.214
	40	8	0.062	0.084	0.110	0.139	0.171
150	24	10	0.126	0.176	0.233	0.298	0.371
	24	8	0.101	0.140	0.186	0.239	0.297
	32	10	0.097	0.135	0.178	0.228	0.283
	32	8	0.078	0.108	0.143	0.182	0.226
	40	10	0.088	0.121	0.158	0.200	0.246
	40	8	0.071	0.097	0.126	0.160	0.197

Notes

1. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C
2. The tabular value for diaphragm chord tension steel area shall be permitted to be multiplied by a factor of 0.65 for bond beam spans located in the end zone.

TABLE R609.2.2A-4 - GRADE 40 EXPOSURE C
ROOF DIAPHRAGM CHORD TENSION BOND BEAM STEEL AREA IN^2

Wind Speed	Building Width	Wall Height	BUILDING LENGTH				
			40	50	60	70	80
100	24	10	0.078	0.109	0.145	0.186	0.231
	24	8	0.063	0.088	0.116	0.149	0.185
	32	10	0.060	0.084	0.111	0.142	0.176
	32	8	0.048	0.067	0.089	0.114	0.141
	40	10	0.055	0.075	0.098	0.124	0.153
	40	8	0.044	0.060	0.079	0.099	0.123
110	24	10	0.095	0.132	0.176	0.225	0.280
	24	8	0.076	0.106	0.141	0.180	0.224
	32	10	0.073	0.102	0.135	0.172	0.213
	32	8	0.059	0.081	0.108	0.137	0.171
	40	10	0.067	0.091	0.119	0.150	0.185
	40	8	0.053	0.073	0.095	0.120	0.148
120	24	10	0.113	0.158	0.209	0.268	0.333
	24	8	0.090	0.126	0.167	0.214	0.267
	32	10	0.087	0.121	0.160	0.204	0.254
	32	8	0.070	0.097	0.128	0.163	0.203
	40	10	0.079	0.108	0.142	0.179	0.221
	40	8	0.063	0.087	0.113	0.143	0.176
130	24	10	0.133	0.185	0.245	0.314	0.391
	24	8	0.106	0.148	0.196	0.251	0.313
	32	10	0.102	0.142	0.188	0.240	0.298
	32	8	0.082	0.114	0.150	0.192	0.238
	40	10	0.093	0.127	0.166	0.210	0.259
	40	8	0.074	0.102	0.133	0.168	0.207
140	24	10	0.154	0.214	0.285	0.364	0.454
	24	8	0.123	0.172	0.228	0.291	0.363
	32	10	0.119	0.165	0.218	0.278	0.345
	32	8	0.095	0.132	0.174	0.223	0.276
	40	10	0.108	0.148	0.193	0.244	0.300
	40	8	0.086	0.118	0.154	0.195	0.240
150	24	10	0.176	0.246	0.327	0.418	0.521
	24	8	0.141	0.197	0.261	0.335	0.417
	32	10	0.136	0.189	0.250	0.319	0.397
	32	8	0.109	0.151	0.200	0.255	0.317
	40	10	0.124	0.169	0.221	0.280	0.345
	40	8	0.099	0.136	0.177	0.224	0.276

Notes

1. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C
2. The tabular value for diaphragm chord tension steel area shall be permitted to be multiplied by a factor of 0.65 for bond beam spans located in the end zone.

TABLE R609.2.2B-1 GRADE 60
AREA OF STEEL REQUIRED IN BOND BEAM FOR UPLIFT BENDING, IN^2

Uplift, plf	8 in. bond beam/lintel span, ft							
	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.009	0.021	0.038	0.060	0.088	0.123	NP	NP
150	0.016	0.037	0.067	0.107	0.159	NP	NP	NP
200	0.023	0.053	0.096	0.157	NP	NP	NP	NP
250	0.030	0.069	0.127	0.211	NP	NP	NP	NP
300	0.037	0.086	0.160	0.270	NP	NP	NP	NP
350	0.044	0.103	0.194	NP	NP	NP	NP	NP
400	0.051	0.120	0.230	NP	NP	NP	NP	NP
450	0.058	0.138	0.269	NP	NP	NP	NP	NP
500	0.065	0.156	NP	NP	NP	NP	NP	NP
550	0.073	0.175	NP	NP	NP	NP	NP	NP
600	0.080	0.195	NP	NP	NP	NP	NP	NP
650	0.088	0.215	NP	NP	NP	NP	NP	NP
700	0.095	0.235	NP	NP	NP	NP	NP	NP
750	0.103	0.257	NP	NP	NP	NP	NP	NP
800	0.110	0.280	NP	NP	NP	NP	NP	NP
850	0.118	NP	NP	NP	NP	NP	NP	NP
900	0.126	NP	NP	NP	NP	NP	NP	NP
950	0.134	NP	NP	NP	NP	NP	NP	NP
1000	0.142	NP	NP	NP	NP	NP	NP	NP
1050	0.150	NP	NP	NP	NP	NP	NP	NP
1100	0.158	NP	NP	NP	NP	NP	NP	NP

Note:
1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2B-2 GRADE 60
AREA OF STEEL REQUIRED IN BOND BEAM FOR UPLIFT BENDING, IN^2

Uplift, plf	16 in. bond beam/lintel span, ft							
	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.005	0.010	0.019	0.029	0.042	0.058	0.076	0.097
200	0.007	0.017	0.030	0.046	0.067	0.092	0.121	0.154
250	0.010	0.023	0.040	0.063	0.092	0.126	0.167	0.214
300	0.013	0.029	0.051	0.081	0.117	0.162	0.214	0.275
350	0.015	0.035	0.062	0.098	0.143	0.197	0.262	NP
400	0.018	0.041	0.073	0.116	0.169	0.234	0.312	NP
450	0.021	0.047	0.084	0.134	0.195	0.271	NP	NP
500	0.023	0.053	0.096	0.152	0.222	0.309	NP	NP
550	0.026	0.059	0.107	0.170	0.249	0.348	NP	NP
600	0.029	0.066	0.118	0.188	0.277	0.388	NP	NP
650	0.032	0.072	0.130	0.206	0.305	0.429	NP	NP
700	0.034	0.078	0.141	0.225	0.334	NP	NP	NP
750	0.037	0.084	0.152	0.244	0.363	NP	NP	NP
800	0.040	0.091	0.164	0.263	0.392	NP	NP	NP
850	0.042	0.097	0.176	0.282	0.422	NP	NP	NP
900	0.045	0.103	0.187	0.302	0.453	NP	NP	NP
950	0.048	0.110	0.199	0.321	NP	NP	NP	NP
1000	0.051	0.116	0.211	0.341	NP	NP	NP	NP
1050	0.053	0.122	0.223	0.362	NP	NP	NP	NP
1100	0.056	0.129	0.235	0.382	NP	NP	NP	NP

Notes:

1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel . Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2B-3 GRADE 60
AREA OF STEEL REQUIRED IN BOND BEAM FOR UPLIFT BENDING, IN^2

Uplift, plf	24 in. bond beam/lintel span, ft							
	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
200	0.004	0.008	0.014	0.022	0.032	0.043	0.057	0.072
250	0.005	0.012	0.021	0.032	0.047	0.064	0.084	0.106
300	0.007	0.015	0.027	0.043	0.062	0.085	0.111	0.142
350	0.009	0.019	0.034	0.054	0.077	0.106	0.139	0.177
400	0.010	0.023	0.041	0.064	0.093	0.127	0.167	0.213
450	0.012	0.027	0.048	0.075	0.108	0.148	0.195	0.249
500	0.014	0.031	0.054	0.086	0.124	0.170	0.224	0.286
550	0.015	0.034	0.061	0.096	0.140	0.192	0.253	0.323
600	0.017	0.038	0.068	0.107	0.155	0.213	0.282	0.361
650	0.019	0.042	0.075	0.118	0.171	0.235	0.311	0.399
700	0.020	0.046	0.082	0.129	0.187	0.257	0.341	0.438
750	0.022	0.050	0.089	0.140	0.203	0.280	0.371	0.477
800	0.024	0.053	0.095	0.150	0.219	0.302	0.401	0.517
850	0.025	0.057	0.102	0.161	0.235	0.325	0.432	0.558
900	0.027	0.061	0.109	0.172	0.251	0.347	0.462	NP
950	0.029	0.065	0.116	0.183	0.268	0.370	0.494	NP
1000	0.030	0.069	0.123	0.194	0.284	0.394	0.525	NP
1050	0.032	0.072	0.130	0.206	0.301	0.417	0.557	NP
1100	0.034	0.076	0.137	0.217	0.317	0.440	NP	NP

Notes:

1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2B-4 GRADE 60
AREA OF STEEL REQUIRED IN BOND BEAM FOR UPLIFT BENDING, IN^2

Uplift, plf	32 in. bond beam/lintel span, ft							
	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	0.003	0.007	0.012	0.019	0.027	0.037	0.048	0.061
300	0.004	0.009	0.017	0.026	0.038	0.052	0.068	0.086
350	0.005	0.012	0.022	0.034	0.049	0.067	0.087	0.111
400	0.007	0.015	0.027	0.042	0.060	0.082	0.107	0.136
450	0.008	0.018	0.031	0.049	0.071	0.097	0.127	0.161
500	0.009	0.020	0.036	0.057	0.082	0.112	0.147	0.187
550	0.010	0.023	0.041	0.065	0.093	0.127	0.167	0.213
600	0.011	0.026	0.046	0.072	0.104	0.143	0.187	0.239
650	0.013	0.029	0.051	0.080	0.116	0.158	0.208	0.265
700	0.014	0.031	0.056	0.088	0.127	0.174	0.228	0.291
750	0.015	0.034	0.061	0.095	0.138	0.189	0.249	0.317
800	0.016	0.037	0.066	0.103	0.149	0.205	0.269	0.344
850	0.018	0.040	0.071	0.111	0.161	0.220	0.290	0.370
900	0.019	0.042	0.076	0.119	0.172	0.236	0.311	0.397
950	0.020	0.045	0.081	0.127	0.183	0.252	0.332	0.424
1000	0.021	0.048	0.085	0.134	0.195	0.267	0.353	0.451
1050	0.022	0.051	0.090	0.142	0.206	0.283	0.374	0.479
1100	0.024	0.053	0.095	0.150	0.218	0.299	0.395	0.506

Notes:

1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel. Select appropriate bar size and number of bars from Table R609.2.2C

TABLE R609.2.2B-5 GRADE 40
AREA BOND BEAM/LINTEL UPLIFT STEEL DESIGN

Uplift, plf	8 in. bond beam/lintel span, ft							
-	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.014	0.032	0.057	0.090	0.132	0.184	NP	NP
150	0.024	0.055	0.100	0.160	0.239	NP	NP	NP
200	0.034	0.079	0.144	0.235	NP	NP	NP	NP
250	0.045	0.103	0.191	NP	NP	NP	NP	NP
300	0.055	0.128	0.240	NP	NP	NP	NP	NP
350	0.066	0.154	NP	NP	NP	NP	NP	NP
400	0.076	0.180	NP	NP	NP	NP	NP	NP
450	0.087	0.207	NP	NP	NP	NP	NP	NP
500	0.098	0.234	NP	NP	NP	NP	NP	NP
550	0.109	0.263	NP	NP	NP	NP	NP	NP
600	0.120	NP	NP	NP	NP	NP	NP	NP
650	0.131	NP	NP	NP	NP	NP	NP	NP
700	0.143	NP	NP	NP	NP	NP	NP	NP
750	0.154	NP	NP	NP	NP	NP	NP	NP
800	0.166	NP	NP	NP	NP	NP	NP	NP
850	0.177	NP	NP	NP	NP	NP	NP	NP
900	0.189	NP	NP	NP	NP	NP	NP	NP
950	0.201	NP	NP	NP	NP	NP	NP	NP
1000	0.213	NP	NP	NP	NP	NP	NP	NP
1050	0.225	NP	NP	NP	NP	NP	NP	NP
1100	0.238	NP	NP	NP	NP	NP	NP	NP

Notes:

1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel . Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2B-6 GRADE 40 AREA BOND BEAM/LINTEL UPLIFT STEEL DESIGN								
Uplift, plf	16 in. bond beam/lintel span, ft							
	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.007	0.016	0.028	0.044	0.063	0.087	0.114	0.145
200	0.011	0.025	0.044	0.069	0.101	0.138	0.181	0.231
250	0.015	0.034	0.061	0.095	0.138	0.190	0.250	0.320
300	0.019	0.043	0.077	0.121	0.176	0.242	0.321	0.413
350	0.023	0.052	0.093	0.147	0.215	0.296	0.393	NP
400	0.027	0.061	0.110	0.174	0.254	0.351	0.468	NP
450	0.031	0.071	0.127	0.200	0.293	0.407	NP	NP
500	0.035	0.080	0.143	0.227	0.333	0.464	NP	NP
550	0.039	0.089	0.160	0.254	0.374	0.523	NP	NP
600	0.043	0.098	0.177	0.282	0.415	0.583	NP	NP
650	0.047	0.108	0.194	0.310	0.458	0.644	NP	NP
700	0.051	0.117	0.211	0.338	0.500	NP	NP	NP
750	0.056	0.126	0.229	0.366	0.544	NP	NP	NP
800	0.060	0.136	0.246	0.394	0.588	NP	NP	NP
850	0.064	0.145	0.264	0.423	0.633	NP	NP	NP
900	0.068	0.155	0.281	0.453	0.679	NP	NP	NP
950	0.072	0.164	0.299	0.482	NP	NP	NP	NP
1000	0.076	0.174	0.317	0.512	NP	NP	NP	NP
1050	0.080	0.183	0.335	0.542	NP	NP	NP	NP
1100	0.084	0.193	0.353	0.573	NP	NP	NP	NP

Notes:

1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel . Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2B-7 GRADE 40 AREA BOND BEAM/LINTEL UPLIFT STEEL DESIGN								
Uplift, plf	24 in. bond beam/lintel span, ft							
-	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
200	0.005	0.012	0.021	0.033	0.048	0.065	0.085	0.108
250	0.008	0.017	0.031	0.049	0.070	0.096	0.126	0.160
300	0.010	0.023	0.041	0.065	0.093	0.127	0.167	0.212
350	0.013	0.029	0.051	0.080	0.116	0.159	0.209	0.266
400	0.015	0.034	0.061	0.096	0.139	0.191	0.251	0.319
450	0.018	0.040	0.072	0.112	0.163	0.223	0.293	0.374
500	0.020	0.046	0.082	0.128	0.186	0.255	0.336	0.429
550	0.023	0.051	0.092	0.144	0.209	0.287	0.379	0.485
600	0.025	0.057	0.102	0.161	0.233	0.320	0.423	0.542
650	0.028	0.063	0.112	0.177	0.257	0.353	0.467	0.599
700	0.030	0.069	0.123	0.193	0.280	0.386	0.511	0.657
750	0.033	0.074	0.133	0.209	0.304	0.419	0.556	0.716
800	0.035	0.080	0.143	0.226	0.329	0.453	0.601	0.776
850	0.038	0.086	0.154	0.242	0.353	0.487	0.647	0.837
900	0.040	0.091	0.164	0.259	0.377	0.521	0.694	NP
950	0.043	0.097	0.174	0.275	0.402	0.556	0.741	NP
1000	0.045	0.103	0.185	0.292	0.426	0.590	0.788	NP
1050	0.048	0.109	0.195	0.308	0.451	0.625	0.836	NP
1100	0.051	0.114	0.205	0.325	0.476	0.661	NP	NP

Notes:

1. When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.
2. Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel . Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2B-8GRADE 40 AREA BOND BEAM/LINTEL UPLIFT STEEL DESIGN								
Uplift, plf	32 in. bond beam/lintel span, ft							
-	4	6	8	10	12	14	16	18
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
250	0.004	0.010	0.018	0.028	0.040	0.055	0.072	0.091
300	0.006	0.014	0.025	0.039	0.057	0.077	0.101	0.129
350	0.008	0.018	0.033	0.051	0.073	0.100	0.131	0.166
400	0.010	0.022	0.040	0.062	0.090	0.123	0.161	0.204
450	0.012	0.026	0.047	0.074	0.107	0.145	0.191	0.242
500	0.014	0.031	0.054	0.085	0.123	0.168	0.221	0.281
550	0.015	0.035	0.062	0.097	0.140	0.191	0.251	0.319
600	0.017	0.039	0.069	0.108	0.157	0.214	0.281	0.358
650	0.019	0.043	0.077	0.120	0.173	0.237	0.312	0.397
700	0.021	0.047	0.084	0.132	0.190	0.260	0.342	0.436
750	0.023	0.051	0.091	0.143	0.207	0.284	0.373	0.476
800	0.025	0.055	0.099	0.155	0.224	0.307	0.404	0.515
850	0.026	0.059	0.106	0.166	0.241	0.330	0.435	0.556
900	0.028	0.064	0.113	0.178	0.258	0.354	0.466	0.596
950	0.030	0.068	0.121	0.190	0.275	0.377	0.497	0.636
1000	0.032	0.072	0.128	0.201	0.292	0.401	0.529	0.677
1050	0.034	0.076	0.136	0.213	0.309	0.425	0.561	0.718
1100	0.035	0.080	0.143	0.225	0.326	0.449	0.592	0.760

Notes:

1When reinforcement required is 0.00, only diaphragm chord tension reinforcement is required.

2Diaphragm chord tension steel area shall be added to bond beam uplift steel area for total required bond beam area of steel Select appropriate bar size and number of bars from Table R609.2.2C.

TABLE R609.2.2C
BOND BEAM AREA OF STEEL PROVIDED IN^2/FT

Number of bars	Bar size No. 4	Bar size No. 5	Bar size No. 6
1	0.20	0.31	0.44
2	0.40	0.62	0.88

R609.3 Vertical Reinforcement. Vertical reinforcement shall be provided in conformance with Sections R609.3.1 through R609.3.6.

R609.3.1 One reinforcement bar shall be provided in each corner, including interior corners and corners created by changes in wall direction or offsetting of walls.

R609.3.2 Openings. A minimum of one bar of the size used for vertical wall reinforcement shall be provided on each side of openings wider than 6 feet. If more vertical reinforcement is interrupted by an opening than is provided beside the opening (total in the first and second cells adjacent to the opening), one-half of the equivalent area of reinforcement interrupted by the opening shall be placed on each side of the opening. This reinforcement shall be placed within the first and/or second cells beside the opening.

R609.3.2.1 Girders. At least one reinforcement bar shall be provided where girders or girder trusses bear on masonry walls.

R609.3.3 Spacing. Vertical reinforcement shall be provided as set forth in Tables R609.3.3.A-1 through Table R609.3.3A-4 and R609.3.3.B-1, through R609.3.3B-4 as applicable.

R609.3.4 Precast bond beams. Vertical reinforcement used in conjunction with precast bond beams shall be spaced the same as for masonry bond beams. Reinforcement shall terminate in the precast beam as set forth in Section R606.9.8.

R609.3.5 Duplication. Reinforcing steel requirements shall not be additive. A single bar shall be permitted to satisfy multiple requirements.

R609.3.6 Termination. Vertical reinforcement shall terminate in footings and bond beams as set forth in Section R606.9.8.

TABLE R609.3.3A-1 GRADE 60
SINGLE STORY AND TOP STORY WALLS PARALLEL TO RIDGE VERTICAL REINFORCEMENT SPACING No. 5 BARS (⅝")

	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
100	8.00	9.87	9.87	9.87	8.34	8.34	8.34
	8.67	9.97	9.97	9.97	8.42	8.42	8.42
	9.33	10.06	10.06	10.06	8.49	8.49	8.49
	10.00	10.14	10.14	10.14	8.57	8.57	8.54
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
110	8.00	8.97	8.97	8.97	7.58	7.58	7.58
	8.67	9.06	9.06	9.06	7.65	7.65	7.65
	9.33	9.14	9.14	9.14	7.72	7.72	7.72
	10.00	9.22	9.22	9.22	7.79	7.79	7.79
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
120	8.00	8.23	8.23	8.23	6.95	6.95	6.95
	8.67	8.30	8.30	8.30	7.01	7.01	7.01
	9.33	8.38	8.38	8.38	7.08	7.08	7.08
	10.00	8.45	8.45	8.45	6.87	6.87	6.87
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
130	8.00	7.59	7.59	7.59	6.41	6.41	6.21
	8.67	7.67	7.67	7.67	6.47	6.14	5.67
	9.33	7.73	7.73	7.57	6.03	5.58	5.19
	10.00	7.80	7.36	6.90	5.44	5.07	4.74
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
140	8.00	7.05	7.05	7.05	5.95	5.76	5.27
	8.67	7.12	7.12	7.01	5.70	5.22	4.82
	9.33	7.18	6.88	6.40	5.14	4.75	4.41
	10.00	6.70	6.24	5.85	4.64	4.32	4.04
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
150	8.00	6.58	6.58	6.58	5.46	4.96	4.54
	8.67	6.64	6.50	6.01	4.91	4.50	4.15
	9.33	6.39	5.91	5.49	4.43	4.09	3.80
	10.00	5.76	5.37	5.02	4.00	3.72	3.48

TABLE R609.3.3A-2 GRADE 60
SINGLE STORY AND TOP STORY WALLS PARALLEL TO RIDGE VERTICAL REINFORCEMENT SPACING No. 4 BARS (½")

	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
100	8.00	9.87	9.87	9.87	8.34	7.97	7.32
	8.67	9.97	9.97	9.97	7.79	7.17	6.65
	9.33	10.06	9.69	9.08	6.98	6.48	6.05
	10.00	9.06	8.72	8.22	6.27	5.87	5.51
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
110	8.00	8.97	8.97	8.76	7.01	6.38	5.85
	8.67	9.06	9.06	9.06	6.83	6.83	6.83
	9.33	8.45	8.45	8.45	5.99	5.99	5.99
	10.00	7.47	7.47	7.47	5.30	5.30	5.30
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
120	8.00	8.23	7.72	7.09	5.75	5.23	4.80
	8.67	8.07	8.07	8.07	5.72	5.72	5.72
	9.33	7.08	7.08	7.08	5.02	5.02	5.02
	10.00	6.26	6.26	6.26	4.43	4.43	4.43
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
130	8.00	7.04	6.41	5.88	4.82	4.38	4.01
	8.67	6.29	5.78	5.35	4.32	3.96	3.66
	9.33	5.65	5.24	4.88	3.89	3.60	3.35
	10.00	5.09	4.75	4.45	3.51	3.27	3.06
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
140	8.00	7.05	7.05	7.05	5.95	5.76	5.27
	8.67	7.12	7.12	7.01	5.70	5.22	4.82
	9.33	7.18	6.88	6.40	5.14	4.75	4.41
	10.00	6.70	6.24	5.85	4.64	4.32	4.04
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
150	8.00	6.58	6.58	6.58	5.46	4.96	4.54
	8.67	6.64	6.50	6.01	4.91	4.50	4.15
	9.33	6.39	5.91	5.49	4.43	4.09	3.80
	10.00	5.76	5.37	5.02	4.00	3.72	3.48

TABLE R609.3.3A-3 GRADE 40
SINGLE STORY AND TOP STORY WALLS PARALLEL TO RIDGE VERTICAL REINFORCEMENT SPACING No. 5 BARS(⅝")

	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
100	8.00	9.87	9.87	9.87	8.34	8.23	7.57
	8.67	9.97	9.97	9.97	8.05	7.41	6.87
	9.33	10.06	10.01	9.38	7.22	6.70	6.25
	10.00	9.36	9.01	8.49	6.48	6.06	5.69
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
110	8.00	8.97	8.97	8.97	7.24	6.59	6.05
	8.67	9.06	9.06	9.06	7.06	7.06	7.06
	9.33	8.73	8.73	8.73	6.19	6.19	6.19
	10.00	7.72	7.72	7.72	5.47	5.47	5.47
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
120	8.00	8.23	7.98	7.33	5.95	5.41	4.96
	8.67	8.30	8.30	8.30	5.92	5.92	5.92
	9.33	7.32	7.32	7.32	5.19	5.19	5.19
	10.00	6.47	6.47	6.47	4.58	4.58	4.58
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
130	8.00	7.27	6.62	6.07	4.98	4.52	4.14
	8.67	6.50	5.98	5.53	4.47	4.10	3.78
	9.33	5.84	5.41	5.04	4.02	3.72	3.46
	10.00	5.26	4.91	4.60	3.63	3.38	3.16
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
140	8.00	6.15	5.59	5.13	4.23	3.84	3.52
	8.67	5.51	5.06	4.67	3.80	3.48	3.21
	9.33	4.95	4.59	4.27	3.43	3.17	2.94
	10.00	4.46	4.16	3.90	3.09	2.88	2.69
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
150	8.00	5.27	4.79	4.39	3.64	3.31	3.02
	8.67	4.73	4.34	4.00	3.27	3.00	2.76
	9.33	4.26	3.94	3.66	2.95	2.73	2.53
	10.00	3.84	3.58	3.35	2.66	2.48	2.32

TABLE R609.3.3A-4 GRADE 40
SINGLE STORY AND TOP STORY WALLS PARALLEL TO RIDGE VERTICAL REINFORCEMENT SPACING No. 4 BARS (½")

	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
100	8.00	8.78	8.04	7.42	5.82	5.31	4.88
	8.67	7.77	7.19	6.69	5.19	4.78	4.43
	9.33	6.83	6.46	6.05	4.66	4.32	4.03
	10.00	6.04	5.81	5.48	4.18	3.91	3.67
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
110	8.00	6.94	6.34	5.84	4.67	4.25	3.90
	8.67	6.42	6.42	6.42	4.56	4.56	4.56
	9.33	5.63	5.63	5.63	4.00	4.00	4.00
	10.00	4.98	4.98	4.98	3.53	3.53	3.53
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
120	8.00	5.64	5.15	4.73	3.84	3.49	3.20
	8.67	5.38	5.38	5.38	3.82	3.82	3.82
	9.33	4.72	4.72	4.72	3.35	3.35	3.35
	10.00	4.17	4.17	4.17	2.95	2.95	2.95
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
130	8.00	4.69	4.27	3.92	3.21	2.92	2.67
	8.67	4.19	3.86	3.57	2.88	2.64	2.44
	9.33	3.77	3.49	3.25	2.60	2.40	2.23
	10.00	3.39	3.17	2.97	2.34	2.18	2.04
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
140	8.00	6.15	5.59	5.13	4.23	3.84	3.52
	8.67	5.51	5.06	4.67	3.80	3.48	3.21
	9.33	4.95	4.59	4.27	3.43	3.17	2.94
	10.00	4.46	4.16	3.90	3.09	2.88	2.69
	Exposure	B	B	B	C	C	C
		Building Width					
Wind Speed	Wall Height	24	32	40	24	32	40
150	8.00	5.27	4.79	4.39	3.64	3.31	3.02
	8.67	4.73	4.34	4.00	3.27	3.00	2.76
	9.33	4.26	3.94	3.66	2.95	2.73	2.53
	10.00	3.84	3.58	3.35	2.66	2.48	2.32

TABLE R609.3.3B-1 GRADE 60

MAXIMUM SPACING OF No. 5 ($^5/_8$")VERTICAL REINFORCEMENT AT CONTINUOUS CONCRETE MASONRY LOWER STORIES OF MULTISTORY AND GABLE ENDS SINGLE STORY OR TOP STORY OF MULTISTORY, FEET

Wind Speed		100		110		120	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	9.87	10.53	8.97	9.57	8.23	8.78
	8.67	9.97	10.59	9.06	9.63	8.30	8.82
	9.33	10.06	10.64	9.14	9.68	8.38	8.87
	10	10.14	10.69	9.22	9.72	8.45	8.91
	12	10.17	10.83	8.38	9.14	7.01	7.65
	14	7.75	8.29	6.37	6.82	5.33	5.70
	16	6.12	6.43	5.03	5.29	4.19	4.41
	18	4.97	5.14	4.07	4.21	3.39	3.51
	20	4.12	4.20	3.38	3.44	2.81	2.86
	22	3.48	3.49	2.84	2.85	2.36	2.36
	-	-	-	-	-	-	-
C	8	8.34	8.89	7.58	8.09	6.95	7.41
	8.67	8.42	8.94	7.65	8.13	7.01	7.45
	9.33	8.49	8.99	7.72	8.17	7.08	7.49
	10	8.57	9.03	7.79	8.21	6.87	7.53
	12	7.21	7.86	5.92	6.47	4.95	5.40
	14	5.47	5.86	4.49	4.81	3.75	4.01
	16	4.31	4.54	3.53	3.72	2.94	3.09
	18	3.49	3.61	2.85	2.95	2.37	2.45
	20	2.89	2.94	2.35	2.40	1.94	1.98
	22	2.43	2.43	1.97	1.98	1.62	1.63

Wind Speed		130		140		150	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	7.59	8.10	7.05	7.52	6.58	7.02
	8.67	7.67	8.15	7.12	7.56	6.64	7.06
	9.33	7.73	8.19	7.18	7.60	6.70	7.10
	10	7.80	8.23	7.08	7.64	6.14	6.85
	12	5.95	6.49	5.10	5.57	4.42	4.83
	14	4.51	4.83	3.86	4.14	3.34	3.58
	16	3.55	3.73	3.03	3.19	2.62	2.76
	18	2.86	2.96	2.44	2.53	2.10	2.18
	20	2.36	2.41	2.01	2.05	1.72	1.76
	22	1.98	1.99	1.68	1.68	1.43	1.44
C	8	6.41	6.84	5.95	6.35	5.56	5.93
	8.67	6.47	6.88	6.01	6.39	5.24	5.96
	9.33	6.52	6.91	5.53	6.37	4.75	5.53
	10	5.83	6.50	5.00	5.58	4.31	4.84
	12	4.19	4.58	3.59	3.92	3.10	3.39
	14	3.16	3.39	2.70	2.90	2.33	2.50
	16	2.47	2.61	2.11	2.22	1.81	1.91
	18	1.99	2.06	1.68	1.75	1.44	1.49
	20	1.63	1.66	1.37	1.40	1.16	1.19
	22	1.35	1.35	1.13	1.14	1.03	1.26

TABLE R609.3.3B-2 GRADE 60

MAXIMUM SPACING OF No. 4 (½")VERTICAL REINFORCEMENT AT CONTINUOUS CONCRETE MASONRY LOWER STORIES OF MULTISTORY AND GABLE ENDS SINGLE STORY OR TOP STORY OF MULTISTORY, FEET

Wind Speed		100		110		120	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	9.87	10.53	8.97	9.57	8.23	8.78
	8.67	9.97	10.59	9.06	9.63	8.07	8.82
	9.33	10.06	10.64	8.45	9.48	7.08	7.95
	10	9.06	10.09	7.47	8.32	6.26	6.97
	12	6.56	7.16	5.40	5.89	4.52	4.93
	14	5.00	5.35	4.11	4.40	3.44	3.68
	16	3.95	4.15	3.24	3.41	2.71	2.85
	18	3.21	3.31	2.63	2.72	2.19	2.27
	20	2.66	2.71	2.18	2.22	1.81	1.84
	22	2.25	2.25	1.83	1.84	1.52	1.53
	-	-	-	-	-	-	-
C	8	8.34	8.89	7.58	8.09	6.20	7.41
	8.67	8.29	8.94	6.83	7.73	5.58	6.48
	9.33	7.28	8.17	5.99	6.73	5.02	5.64
	10	6.43	7.16	5.30	5.90	4.43	4.94
	12	4.65	5.07	3.82	4.17	3.19	3.49
	14	3.53	3.78	2.90	3.10	2.42	2.59
	16	2.78	2.93	2.28	2.40	1.90	2.00
	18	2.25	2.33	1.84	1.90	1.53	1.58
	20	1.86	1.90	1.52	1.55	1.25	1.28
	22	1.57	1.57	1.27	1.28	1.05	1.05

Wind Speed		130		140		150	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	7.59	8.10	6.42	7.52	5.47	6.68
	8.67	6.86	7.76	5.77	6.68	4.93	5.80
	9.33	6.02	6.76	5.17	5.81	4.46	5.05
	10	5.32	5.92	4.57	5.09	3.96	4.42
	12	3.84	4.19	3.29	3.59	2.85	3.12
	14	2.91	3.12	2.49	2.67	2.16	2.31
	16	2.29	2.41	1.96	2.06	1.69	1.78
	18	1.85	1.91	1.58	1.63	1.36	1.41
	20	1.52	1.55	1.30	1.32	1.11	1.13
	22	1.28	1.28	1.08	1.09	0.93	0.93
C	8	5.15	6.29	4.36	5.30	3.73	4.53
	8.67	4.65	5.50	3.94	4.73	3.38	4.09
	9.33	4.21	4.79	3.57	4.11	3.06	3.57
	10	3.76	4.19	3.22	3.60	2.78	3.12
	12	2.70	2.95	2.31	2.53	2.00	2.19
	14	2.04	2.19	1.74	1.87	1.50	1.61
	16	1.60	1.68	1.36	1.43	1.17	1.23
	18	1.28	1.33	1.09	1.13	0.93	0.96
	20	1.05	1.07	0.88	0.90	0.75	0.77
	22	0.87	0.87	0.73	0.73	0.67	0.81

TABLE R609.3.3B-3 GRADE 40

MAXIMUM SPACING OF No. 5 ($^{5}/_{8}$")VERTICAL REINFORCEMENT AT CONTINUOUS CONCRETE MASONRY LOWER STORIES OF MULTISTORY AND GABLE ENDS SINGLE STORY OR TOP STORY OF MULTISTORY, FEET

Wind Speed		100		110		120	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	9.87	10.53	8.97	9.57	8.23	8.78
	8.67	9.97	10.59	9.06	9.63	8.30	8.82
	9.33	10.06	10.64	8.73	9.68	7.32	8.21
	10	9.36	10.42	7.72	8.60	6.47	7.20
	12	6.78	7.39	5.58	6.09	4.67	5.10
	14	5.16	5.53	4.25	4.55	3.55	3.80
	16	4.08	4.29	3.35	3.52	2.80	2.94
	18	3.31	3.43	2.72	2.81	2.26	2.34
	20	2.75	2.80	2.25	2.29	1.87	1.90
	22	2.32	2.33	1.90	1.90	1.57	1.58
	-	-	-	-	-	-	-
C	8	8.34	8.89	7.58	8.09	6.40	7.41
	8.67	8.42	8.94	7.06	7.99	5.77	6.69
	9.33	7.52	8.44	6.19	6.95	5.19	5.82
	10	6.65	7.40	5.47	6.10	4.58	5.10
	12	4.80	5.24	3.95	4.31	3.30	3.60
	14	3.65	3.91	3.00	3.21	2.50	2.68
	16	2.88	3.02	2.35	2.48	1.96	2.06
	18	2.33	2.41	1.90	1.97	1.58	1.63
	20	1.92	1.96	1.57	1.60	1.30	1.32
	22	1.62	1.62	1.31	1.32	1.08	1.09

Wind Speed		130		140		150	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	7.59	8.10	6.63	7.52	5.65	6.91
	8.67	7.09	8.02	5.97	6.90	5.09	5.99
	9.33	6.22	6.98	5.35	6.00	4.61	5.21
	10	5.49	6.12	4.72	5.26	4.10	4.57
	12	3.96	4.33	3.40	3.71	2.95	3.22
	14	3.01	3.22	2.58	2.76	2.23	2.39
	16	2.36	2.49	2.02	2.13	1.74	1.84
	18	1.91	1.98	1.63	1.69	1.40	1.45
	20	1.57	1.60	1.34	1.36	1.15	1.17
	22	1.32	1.32	1.12	1.12	0.00	0.00
C	8	5.32	6.50	4.50	5.47	3.86	4.68
	8.67	4.80	5.69	4.07	4.89	3.49	4.22
	9.33	4.35	4.95	3.69	4.25	3.17	3.68
	10	3.88	4.33	3.33	3.72	2.87	3.22
	12	2.79	3.05	2.39	2.61	2.07	2.26
	14	2.11	2.26	1.80	1.93	1.55	1.67
	16	1.65	1.74	1.40	1.48	1.21	1.27
	18	1.32	1.37	1.12	1.16	0.00	0.00
	20	1.08	1.10	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00

TABLE R609.3.3B-4 GRADE 40

MAXIMUM SPACING OF NO. 4 (½") VERTICAL REINFORCEMENT AT CONTINUOUS CONCRETE OR MASONRY LOWER STORIES OF MULTISTORY AND GABLE ENDS SINGLE STORY OR TOP STORY OF MULTISTORY, FEET

Wind Speed		100		110		120	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	8.98	10.23	7.41	8.44	6.21	7.08
	8.67	7.78	8.80	6.42	7.26	5.38	6.09
	9.33	6.83	7.66	5.63	6.32	4.72	5.30
	10	6.04	6.73	4.98	5.55	4.17	4.65
	12	4.38	4.77	3.60	3.93	3.02	3.29
	14	3.33	3.56	2.74	2.93	2.29	2.45
	16	2.63	2.77	2.16	2.27	1.80	1.90
	18	2.14	2.21	1.75	1.81	1.46	1.51
	20	1.77	1.81	1.45	1.48	1.21	1.23
	22	1.50	1.50	1.22	1.23	1.01	1.02
C	8	6.38	7.28	5.08	6.00	4.13	5.03
	8.67	5.53	6.25	4.56	5.15	3.72	4.32
	9.33	4.85	5.44	4.00	4.49	3.35	3.76
	10	4.29	4.78	3.53	3.93	2.95	3.29
	12	3.10	3.38	2.55	2.78	2.13	2.32
	14	2.35	2.52	1.93	2.07	1.61	1.73
	16	1.85	1.95	1.52	1.60	1.26	1.33
	18	1.50	1.55	1.23	1.27	1.02	1.05
	20	1.24	1.26	1.01	1.03	0.84	0.85
	22	1.04	1.05	0.85	0.85	0.70	0.70

Wind Speed		130		140		150	
Exp	Wall Ht	End Zone	Int Zone	End Zone	Int Zone	End Zone	Int Zone
B	8	5.10	6.02	4.28	5.18	3.64	4.46
	8.67	4.57	5.17	3.85	4.45	3.29	3.87
	9.33	4.01	4.50	3.45	3.87	2.97	3.36
	10	3.54	3.95	3.05	3.39	2.64	2.95
	12	2.56	2.79	2.19	2.40	1.90	2.08
	14	1.94	2.08	1.66	1.78	1.44	1.54
	16	1.53	1.61	1.30	1.37	1.13	1.19
	18	1.23	1.27	1.05	1.09	0.90	0.94
	20	1.02	1.03	0.86	0.88	0.74	0.76
	22	0.85	0.85	0.72	0.72	0.00	0.00
C	8	3.43	4.19	2.90	3.53	2.49	3.02
	8.67	3.10	3.67	2.62	3.15	2.25	2.72
	9.33	2.80	3.19	2.38	2.74	2.04	2.38
	10	2.51	2.79	2.15	2.40	1.85	2.08
	12	1.80	1.97	1.54	1.69	1.33	1.46
	14	1.36	1.46	1.16	1.25	1.00	1.08
	16	1.06	1.12	0.91	0.96	0.78	0.82
	18	0.85	0.89	0.72	0.75	0.00	0.00
	20	0.70	0.71	0.00	0.00	0.00	0.00
	22	0.00	0.00	0.00	0.00	0.00	0.00

R609.4 Masonry gables. Gable end walls of concrete or masonry shall be constructed full height to the roof line.

Exception: Gable end trusses or wood framed gable end walls in conformance with Tables R609.4A and R609.4B and Figure R609.4. Wood gable stud wall connectors shall be capable of resisting the vertical and horizontal loads of Table 609.4B as well as the uplift load stipulated at Figure 609.4. Where masonry gable end walls do not go to the roof a bond beam complying with Section R609.2 shall be provided at the top of the masonry.

R609.4.1 Rake beam. Where concrete or masonry is carried full height to the roof line, a cast-in-place rake beam as detailed in Figure R609.4.1 shall be provided. The minimum thickness of the rake beam from top of masonry shall be 4 inches. One No. 5 continuous reinforcing bar shall be placed in the rake beam along the roof line.

R609.4.2 Vertical reinforcement. Vertical reinforcement shall be provided at the maximum spacing as set forth in Tables R609.3.3B-1 through R609.3.3.B-4 as applicable.

R609.4.3 Termination. Required vertical reinforcement shall terminate at the rake beam in accordance with Section R606.9.8.

R609.4.4 Nailer. A minimum 2x4 nailer for connecting roof sheathing shall be bolted to the top of the wall with a minimum of ½" anchor bolts spaced as set forth in Table R609.4.4. The nailer shall be permitted to be bolted to the inside or outside of the wall.

R609.4.5 Gable Overhang. Gable overhangs up to 2 feet in width complying with Figure R609.4.5 shall be permitted.

TABLE R609.4A

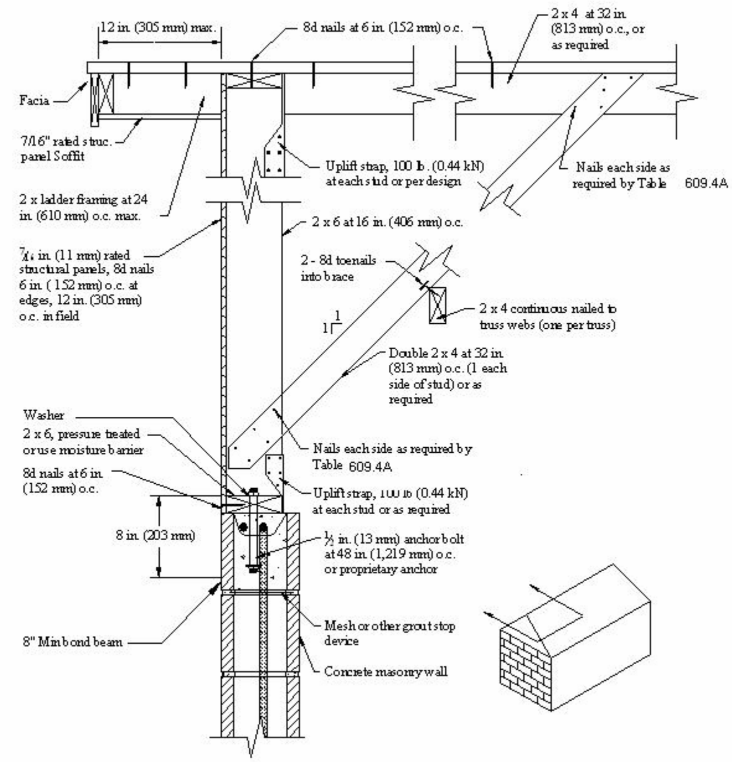
WOOD GABLE BRACE NAILING

			RAKE HEIGHT					
		NAIL SIZE	12	14	16	18	20	22
EXPOSURE B	100	10d	4	4	5	5	6	6
		8d	6	7	8	8	9	10
	110	10d	4	5	6	6	7	7
		8d	7	8	9	10	11	11
	120	10d	5	6	7	7	8	8
		8d	9	10	11	12	13	13
	130	10d	6	7	8	9	10	10
		8d	10	11	13	14	15	15
	140	10d	7	8	9	10	11	11
		8d	12	13	15	16	18	18
	150	10d	4	4	5	5	6	6
		8d	6	7	8	8	9	9
EXPOSURE C	100	10d	5	6	7	7	8	8
		8d	8	9	11	12	13	13
	110	10d	6	7	8	9	10	10
		8d	10	11	13	14	15	15
	120	10d	7	8	9	10	11	11
		8d	12	14	15	17	18	18
	130	10d	9	10	11	12	13	13
		8d	14	16	18	20	22	22
	140	10d	10	12	13	14	15	15
		8d	16	19	21	23	25	25
	150	10d	12	13	15	16	18	18
		8d	19	21	24	26	29	29

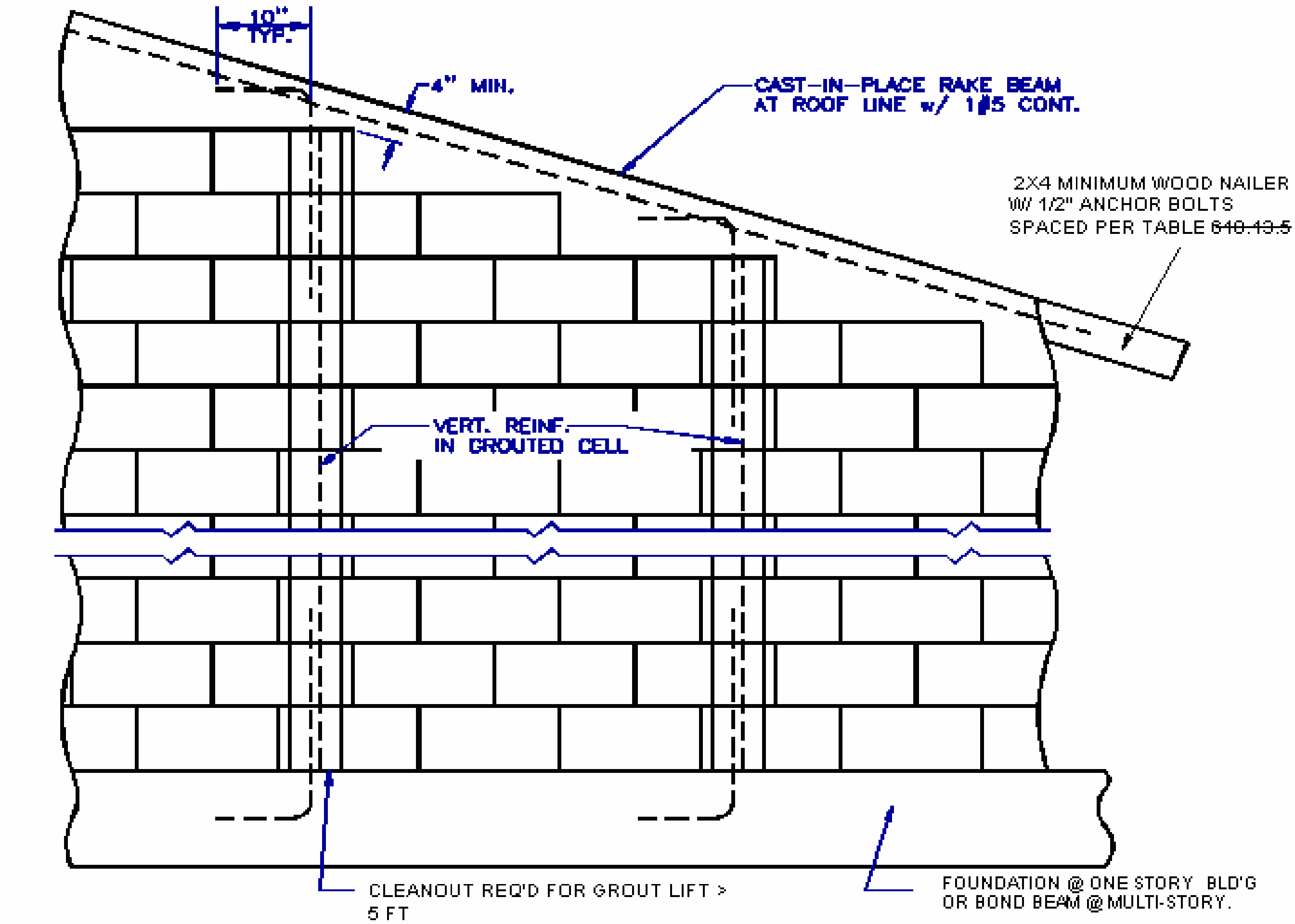
TABLE R609.4B
WOOD GABLE STUD CONNECTOR LOADS

	WIND SPEED	ROOF ZONE	CONNECTOR LOAD VERT	CONNECTOR LOAD HORIZ	WALL ZONE
EXPOSURE B	100	2E	43	16	1E
		2E	43	11	1
	110	2E	53	20	1E
		2E	53	13	1
	120	2E	62	23	1E
		2E	62	15	1
	130	2E	73	27	1E
		2E	73	18	1
	140	2E	85	32	1E
		2E	85	21	1
	150	2E	98	36	1E
		2E	98	24	1
EXPOSURE C	100	2E	61	23	1E
		2E	61	15	1
	110	2E	74	28	1E
		2E	74	18	1
	120	2E	88	33	1E
		2E	88	22	1
	130	2E	103	38	1E
		2E	103	25	1
	140	2E	119	45	1E
		2E	119	30	1
	150	2E	137	51	1E
		2E	137	34	1

FIGURE R609.4
GABLE END BRACING FOR MASONRY WALLS NOT CONTINUOUS TO THE ROOF DIAPHRAGM



[Should refer to Table R609.4A]



[Use Table R609.4.4 in place of 610.13.5.]

FIGURE R609.4.1
CONTINUOUS GABLE ENDWALL REINFORCEMENT
ONE AND MULTISTORY

TABLE R609.4.4
ANCHOR BOLT SPACING FOR ATTACHING
2X4 MINIMUM WOOD NAILER TO RAKE BEAM

Required Roof Diaphragm Capacity	½-Inch Anchor Bolt Maximum Spacing
≤ 105	6'-0"
145	5'-0"
195	4'-0"
230	3'-6"
270	3'-0"
325	2'-6"
415	2'-0"
565	1'-6"
700	1'-2"
845	1'-0"

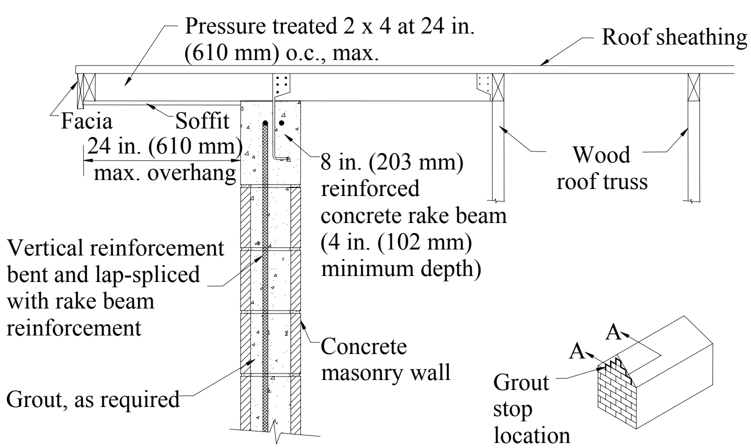


Figure R609.4.5 Gable Overhang

R609.5 Exterior shearwalls. Each exterior wall shall have the required length of effective shearwall to resist horizontal movement or forces at the ends of diaphragms in conformance with this section.

R609.5.1 Shearwall lengths. The required shearwall segment length shall be as set forth in Table R609.5.1A through Table R609.5.1F as applicable.

R609.5.2 Multi-Story Shearwalls. Shearwall segments in an upper story shall be located directly over and within the length of shearwall segments in the story below. Reinforcement at the ends of shearwall segments shall be continuous from the bond beam of the upper story through the story below.

Exception: Offsetting of vertical reinforcement as set forth in Section R606.9.9.1 shall be permitted.

R609.5.3 The connector load for total shear at the top story wall shall be determined in accordance with Table R609.5.3A and Figure R609.5.3. Transverse connector loads shall be in accordance with Table R 609.5.3B and Figure R609.5.3

R609.5.4 Endwall roof shear loads shall be in accordance with Table R609.5.4.

TABLE R609.5.1A GRADE 60
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 4 REINFORCEMENT
ROOF ANGLE ≤ 23^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.96	1.37	1.87	2.19	2.96	3.86	3.22	4.33	5.61
	110	1.16	1.66	2.26	2.65	3.59	4.67	3.90	5.24	6.79
	120	1.39	1.98	2.69	3.16	4.27	5.56	4.64	6.24	8.08
	130	1.63	2.32	3.16	3.70	5.01	6.52	5.44	7.32	9.49
	140	1.89	2.69	3.66	4.29	5.81	7.57	6.31	8.49	11.00
	150	2.17	3.09	4.21	4.93	6.67	8.68	7.24	9.75	12.63
C	100	1.14	1.65	2.27	2.89	3.94	5.17	4.50	6.04	7.81
	110	1.38	1.99	2.75	3.50	4.77	6.26	5.44	7.31	9.45
	120	1.64	2.37	3.27	4.17	5.68	7.45	6.48	8.69	11.25
	130	1.93	2.78	3.84	4.89	6.66	8.74	7.60	10.20	13.20
	140	2.24	3.23	4.46	5.67	7.73	10.14	8.81	11.83	15.31
	150	2.57	3.71	5.12	6.51	8.87	11.64	10.12	13.59	17.57

REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE
NO. 5 REINFORCEMENT
ROOF ANGLE ≤ 23^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.77	1.10	1.49	1.75	2.37	3.08	2.57	3.46	4.48
	110	0.93	1.33	1.81	2.12	2.86	3.73	3.11	4.19	5.43
	120	1.11	1.58	2.15	2.52	3.41	4.44	3.70	4.98	6.46
	130	1.30	1.85	2.52	2.96	4.00	5.21	4.35	5.85	7.58
	140	1.51	2.15	2.93	3.43	4.64	6.04	5.04	6.78	8.79
	150	1.73	2.47	3.36	3.94	5.33	6.94	5.79	7.78	10.09
C	100	0.91	1.32	1.82	2.31	3.15	4.13	3.59	4.82	6.24
	110	1.10	1.59	2.20	2.80	3.81	5.00	4.35	5.84	7.55
	120	1.31	1.90	2.61	3.33	4.54	5.95	5.17	6.94	8.98
	130	1.54	2.22	3.07	3.90	5.32	6.98	6.07	8.15	10.54
	140	1.79	2.58	3.56	4.53	6.17	8.10	7.04	9.45	12.23
	150	2.05	2.96	4.09	5.20	7.09	9.30	8.08	10.85	14.04

Notes:

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths normal to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.

TABLE R609.5.1B GRADE 60
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE
NO. 4 REINFORCEMENT
ROOF ANGLE 30^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.99	1.46	2.02	2.11	2.93	3.86	3.08	4.24	5.57
	110	1.20	1.76	2.45	2.56	3.55	4.68	3.73	5.14	6.74
	120	1.42	2.10	2.91	3.04	4.22	5.56	4.44	6.11	8.02
	130	1.67	2.46	3.42	3.57	4.95	6.53	5.21	7.17	9.41
	140	1.94	2.85	3.96	4.14	5.74	7.57	6.04	8.32	10.91
	150	2.22	3.28	4.55	4.76	6.59	8.69	6.94	9.55	12.53
C	100	1.19	1.78	2.51	2.81	3.94	5.25	4.30	5.90	7.72
	110	1.44	2.15	3.03	3.41	4.77	6.35	5.20	7.14	9.34
	120	1.71	2.56	3.61	4.05	5.67	7.56	6.19	8.50	11.12
	130	2.01	3.01	4.24	4.76	6.66	8.87	7.26	9.97	13.05
	140	2.33	3.49	4.91	5.52	7.72	10.28	8.42	11.57	15.13
	150	2.67	4.00	5.64	6.33	8.87	11.81	9.67	13.28	17.37

REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE
NO. 5 REINFORCEMENT
ROOF ANGLE 30^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.79	1.16	1.61	1.69	2.34	3.09	2.46	3.39	4.45
	110	0.96	1.41	1.95	2.04	2.83	3.73	2.98	4.10	5.38
	120	1.14	1.67	2.32	2.43	3.37	4.44	3.55	4.88	6.40
	130	1.33	1.97	2.73	2.85	3.95	5.22	4.16	5.73	7.52
	140	1.55	2.28	3.16	3.31	4.59	6.05	4.83	6.64	8.72
	150	1.78	2.62	3.63	3.80	5.26	6.94	5.54	7.63	10.01
C	100	0.95	1.42	2.00	2.25	3.15	4.19	3.43	4.71	6.17
	110	1.15	1.72	2.42	2.72	3.81	5.07	4.15	5.70	7.46
	120	1.37	2.05	2.88	3.24	4.53	6.03	4.94	6.79	8.88
	130	1.60	2.40	3.38	3.80	5.32	7.08	5.80	7.96	10.42
	140	1.86	2.78	3.93	4.41	6.17	8.21	6.73	9.24	12.09
	150	2.14	3.20	4.51	5.06	7.08	9.43	7.72	10.60	13.87

Notes:

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths normal to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.

TABLE R609.5.1C GRADE 60
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE
NO. 4 REINFORCEMENT
ROOF ANGLE 45^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	1.26	1.93	2.76	1.26	3.40	4.60	3.43	4.86	6.55
	110	1.52	2.33	3.34	2.89	4.12	5.57	4.15	5.89	7.92
	120	1.81	2.78	3.97	3.43	4.90	6.63	4.94	7.00	9.43
	130	2.13	3.26	4.66	4.03	5.75	7.78	5.80	8.22	11.07
	140	2.47	3.78	5.41	4.67	6.67	9.02	6.73	9.53	12.84
	150	2.83	4.34	6.21	5.36	7.65	10.35	7.72	10.94	14.73
C	100	1.57	2.46	3.59	3.24	4.70	6.45	4.30	5.90	7.72
	110	1.89	2.97	4.34	3.92	5.69	7.81	5.20	7.14	9.34
	120	2.25	3.54	5.17	4.67	6.77	9.29	6.19	8.50	11.12
	130	2.65	4.15	6.07	5.48	7.94	10.90	7.26	9.97	13.05
	140	3.07	4.81	7.03	6.36	9.21	12.65	8.42	11.57	15.13
	150	3.52	5.52	8.08	7.30	10.58	14.52	9.67	13.28	17.37

REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE
NO. 5 REINFORCEMENT
ROOF ANGLE 45^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	1.01	1.54	2.20	1.90	2.72	3.68	2.74	3.88	5.23
	110	1.22	1.86	2.67	2.30	3.29	4.45	3.32	4.70	6.33
	120	1.45	2.22	3.17	2.74	3.91	5.29	3.95	5.59	7.53
	130	1.70	2.60	3.72	3.22	4.59	6.21	4.63	6.57	8.84
	140	1.97	3.02	4.32	3.73	5.33	7.20	5.37	7.61	10.25
	150	2.26	3.46	4.96	4.28	6.11	8.27	6.17	8.74	11.77
C	100	1.25	1.96	2.87	2.59	3.75	5.15	3.80	5.36	7.19
	110	1.51	2.37	3.47	3.13	4.54	6.24	4.60	6.49	8.70
	120	1.80	2.82	4.13	3.73	5.41	7.42	5.47	7.72	10.35
	130	2.11	3.31	4.84	4.38	6.35	8.71	6.42	9.06	12.15
	140	2.45	3.84	5.62	5.08	7.36	10.10	7.45	10.51	14.09
	150	2.81	4.41	6.45	5.83	8.45	11.59	8.55	12.06	16.18

Notes:
1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths normal to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.

TABLE R609.5.1D GRADE 60
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE
NO. 4 REINFORCEMENT PER FOOT OF BUILDING LENGTH
ROOF ANGLE ≤ 23^0

Exp	Wind Speed	TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
		24	32	40	24	32	40	24	32	40
B	100	0.032	0.032	0.031	0.085	0.084	0.084	0.137	0.137	0.137
	110	0.039	0.038	0.038	0.102	0.102	0.102	0.166	0.166	0.166
	120	0.046	0.046	0.045	0.122	0.122	0.121	0.198	0.198	0.197
	130	0.054	0.054	0.053	0.143	0.143	0.142	0.232	0.232	0.231
	140	0.063	0.062	0.061	0.166	0.166	0.165	0.269	0.269	0.268
	150	0.072	0.071	0.071	0.191	0.190	0.189	0.309	0.309	0.308
C	100	0.045	0.044	0.044	0.119	0.118	0.118	0.193	0.192	0.192
	110	0.054	0.054	0.053	0.144	0.143	0.143	0.233	0.233	0.232
	120	0.064	0.064	0.063	0.171	0.171	0.170	0.277	0.277	0.276
	130	0.076	0.075	0.074	0.201	0.200	0.199	0.326	0.325	0.324
	140	0.088	0.087	0.086	0.233	0.232	0.231	0.378	0.377	0.376
	150	0.101	0.100	0.099	0.267	0.267	0.265	0.434	0.433	0.432

REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE
NO. 5 REINFORCEMENT PER FOOT OF BUILDING LENGTH
ROOF ANGLE ≤ 23^0

Exp	Wind Speed	TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
		24	32	40	24	32	40	24	32	40
B	100	0.025	0.025	0.025	0.068	0.067	0.067	0.110	0.110	0.109
	110	0.031	0.031	0.030	0.082	0.082	0.081	0.133	0.133	0.132
	120	0.037	0.036	0.036	0.097	0.097	0.097	0.158	0.158	0.157
	130	0.043	0.043	0.042	0.114	0.114	0.114	0.186	0.185	0.185
	140	0.050	0.050	0.049	0.133	0.132	0.132	0.215	0.215	0.214
	150	0.057	0.057	0.056	0.152	0.152	0.151	0.247	0.247	0.246
C	100	0.036	0.036	0.035	0.095	0.095	0.094	0.154	0.154	0.153
	110	0.043	0.043	0.042	0.115	0.114	0.114	0.186	0.186	0.185
	120	0.051	0.051	0.051	0.137	0.136	0.136	0.222	0.221	0.221
	130	0.060	0.060	0.059	0.160	0.160	0.159	0.260	0.260	0.259
	140	0.070	0.070	0.069	0.186	0.185	0.185	0.302	0.301	0.300
	150	0.080	0.080	0.079	0.213	0.213	0.212	0.346	0.346	0.345

Notes:
1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths parallel to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.

TABLE R609.5.1E GRADE 60
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE
NO. 4 REINFORCEMENT PER FOOT OF BUILDING LENGTH
ROOF ANGLE 30^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.053	0.061	0.070	0.099	0.107	0.116	0.145	0.153	0.162
	110	0.064	0.074	0.084	0.119	0.129	0.140	0.175	0.185	0.196
	120	0.076	0.088	0.100	0.142	0.154	0.167	0.209	0.221	0.233
	130	0.089	0.103	0.118	0.167	0.181	0.196	0.245	0.259	0.274
	140	0.103	0.119	0.137	0.193	0.210	0.227	0.284	0.300	0.318
	150	0.118	0.137	0.157	0.222	0.241	0.261	0.326	0.345	0.365
C	100	0.074	0.085	0.098	0.138	0.150	0.162	0.203	0.215	0.227
	110	0.089	0.103	0.118	0.167	0.181	0.197	0.246	0.260	0.275
	120	0.106	0.123	0.141	0.199	0.216	0.234	0.292	0.309	0.327
	130	0.124	0.144	0.165	0.234	0.253	0.275	0.343	0.363	0.384
	140	0.144	0.167	0.192	0.271	0.294	0.318	0.398	0.421	0.445
	150	0.166	0.192	0.220	0.311	0.337	0.366	0.457	0.483	0.511

REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE
NO. 5 REINFORCEMENT PER FOOT OF BUILDING LENGTH
ROOF ANGLE 30^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
	100	0.042	0.049	0.056	0.079	0.085	0.093	0.116	0.122	0.129
	110	0.051	0.059	0.067	0.095	0.103	0.112	0.140	0.148	0.157
	120	0.060	0.070	0.080	0.113	0.123	0.133	0.167	0.176	0.186
	130	0.071	0.082	0.094	0.133	0.144	0.156	0.195	0.207	0.219
	140	0.082	0.095	0.109	0.154	0.167	0.181	0.227	0.240	0.254
	150	0.094	0.109	0.125	0.177	0.192	0.208	0.260	0.275	0.291
C	100	0.059	0.068	0.078	0.110	0.120	0.130	0.162	0.171	0.181
	110	0.071	0.082	0.094	0.134	0.145	0.157	0.196	0.207	0.220
	120	0.085	0.098	0.112	0.159	0.172	0.187	0.234	0.247	0.261
	130	0.099	0.115	0.132	0.187	0.202	0.219	0.274	0.290	0.307
	140	0.115	0.133	0.153	0.217	0.235	0.254	0.318	0.336	0.356
	150	0.132	0.153	0.176	0.249	0.270	0.292	0.365	0.386	0.408

Notes:

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths parallel to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.

TABLE R609.5.1F GRADE 60
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE
NO. 4 REINFORCEMENT PER FOOT OF BUILDING LENGTH
ROOF ANGLE 45^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
	Wind	BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Speed	24	32	40	24	32	40	24	32	40
B	100	0.070	0.085	0.100	0.116	0.131	0.146	0.163	0.177	0.192
	110	0.085	0.102	0.121	0.141	0.158	0.177	0.197	0.214	0.233
	120	0.101	0.122	0.144	0.168	0.188	0.211	0.234	0.255	0.277
	130	0.119	0.143	0.169	0.197	0.221	0.247	0.275	0.299	0.325
	140	0.138	0.166	0.196	0.228	0.256	0.287	0.319	0.347	0.377
	150	0.158	0.191	0.225	0.262	0.294	0.329	0.366	0.398	0.433
C	100	0.099	0.119	0.140	0.163	0.183	0.205	0.228	0.248	0.270
	110	0.119	0.144	0.170	0.198	0.222	0.248	0.276	0.300	0.326
	120	0.142	0.171	0.202	0.235	0.264	0.295	0.328	0.357	0.388
	130	0.167	0.201	0.237	0.276	0.310	0.347	0.385	0.419	0.456
	140	0.193	0.233	0.275	0.320	0.360	0.402	0.447	0.486	0.529
	150	0.222	0.267	0.316	0.367	0.413	0.461	0.513	0.558	0.607

REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE
NO. 5 REINFORCEMENT PER FOOT OF BUILDING LENGTH
ROOF ANGLE 45^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
	Wind	BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Speed	24	32	40	24	32	40	24	32	40
B	100	0.056	0.068	0.080	0.093	0.105	0.117	0.130	0.141	0.154
	110	0.068	0.082	0.097	0.113	0.126	0.141	0.157	0.171	0.186
	120	0.081	0.097	0.115	0.134	0.150	0.168	0.187	0.204	0.221
	130	0.095	0.114	0.135	0.157	0.177	0.197	0.219	0.239	0.260
	140	0.110	0.133	0.157	0.182	0.205	0.229	0.255	0.277	0.301
	150	0.126	0.152	0.180	0.209	0.235	0.263	0.292	0.318	0.346
C	100	0.079	0.095	0.112	0.130	0.147	0.164	0.182	0.198	0.215
	110	0.095	0.115	0.136	0.158	0.177	0.198	0.220	0.240	0.261
	120	0.113	0.137	0.161	0.188	0.211	0.236	0.262	0.285	0.310
	130	0.133	0.160	0.189	0.220	0.248	0.277	0.308	0.335	0.364
	140	0.154	0.186	0.220	0.256	0.287	0.321	0.357	0.388	0.422
	150	0.177	0.213	0.252	0.293	0.330	0.369	0.410	0.446	0.485

Notes:

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths parallel to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.

TABLE R609.5.1G GRADE 40
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE NO. 4 REINFORCEMENT[1,2,3,5]

ROOF ANGLE ≤ 23^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	1.42	2.02	2.75	3.23	4.37	5.69	4.74	6.38	8.27
	110	1.72	2.44	3.33	3.90	5.28	6.88	5.74	7.72	10.01
	120	2.04	2.91	3.97	4.65	6.29	8.19	6.83	9.19	11.91
	130	2.40	3.41	4.65	5.45	7.38	9.61	8.01	10.78	13.97
	140	2.78	3.96	5.40	6.33	8.56	11.14	9.29	12.50	16.21
	150	3.19	4.55	6.20	7.26	9.82	12.79	10.67	14.35	18.61
C	100	1.68	2.43	3.35	4.26	5.81	7.62	6.62	8.89	11.50
	110	2.03	2.94	4.05	5.16	7.03	9.22	8.01	10.76	13.92
	120	2.42	3.49	4.82	6.14	8.36	10.97	9.54	12.81	16.57
	130	2.84	4.10	5.66	7.20	9.82	12.88	11.19	15.03	19.44
	140	3.30	4.76	6.56	8.35	11.38	14.94	12.98	17.43	22.55
	150	3.78	5.46	7.53	9.59	13.07	17.15	14.90	20.01	25.89

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1H GRADE 40
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE NO. 5 REINFORCEMENT[1,2,3,6]

ROOF ANGLE ≤ 23^0

Exp	Wind Speed	TOP STORY BUILDING WIDTH 24	32	40	1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY BUILDING WIDTH 24	32	40	1ST STORY OF 3 STORY BUILDING WIDTH 24	32	40
B	100	1.14	1.62	2.21	2.59	3.50	4.56	3.80	5.12	6.63
	110	1.38	1.96	2.67	3.13	4.24	5.52	4.60	6.19	8.02
	120	1.64	2.33	3.18	3.73	5.04	6.57	5.48	7.37	9.55
	130	1.92	2.74	3.73	4.37	5.92	7.71	6.43	8.65	11.21
	140	2.23	3.18	4.33	5.07	6.86	8.94	7.45	10.03	13.00
	150	2.56	3.65	4.97	5.82	7.88	10.26	8.56	11.51	14.92
C	100	1.35	1.95	2.69	3.42	4.66	6.11	5.31	7.13	9.23
	110	1.63	2.36	3.25	4.13	5.64	7.40	6.43	8.63	11.16
	120	1.94	2.80	3.87	4.92	6.71	8.80	7.65	10.27	13.29
	130	2.28	3.29	4.54	5.77	7.87	10.33	8.98	12.05	15.59
	140	2.64	3.82	5.26	6.70	9.13	11.98	10.41	13.98	18.08
	150	3.03	4.38	6.04	7.69	10.48	13.75	11.95	16.05	20.76

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1I GRADE 40
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE NO. 4 REINFORCEMENT[1,2,3,5]

ROOF ANGLE 30°

Exp	Wind Speed	TOP STORY BUILDING WIDTH 24	TOP STORY 32	TOP STORY 40	1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY BUILDING WIDTH 24	32	40	1ST STORY OF 3 STORY BUILDING WIDTH 24	32	40
B	100	1.46	2.14	2.98	3.11	4.32	5.69	4.54	6.25	8.20
	110	1.76	2.59	3.60	3.77	5.22	6.89	5.50	7.57	9.92
	120	2.10	3.09	4.29	4.48	6.21	8.19	6.54	9.00	11.81
	130	2.46	3.62	5.03	5.26	7.29	9.62	7.67	10.57	13.86
	140	2.85	4.20	5.84	6.10	8.46	11.15	8.90	12.25	16.07
	150	3.28	4.82	6.70	7.01	9.71	12.80	10.22	14.07	18.45
C	100	1.75	2.62	3.69	4.15	5.80	7.73	6.33	8.69	11.37
	110	2.12	3.17	4.47	5.02	7.02	9.35	7.66	10.52	13.76
	120	2.52	3.77	5.32	5.97	8.36	11.13	9.11	12.51	16.37
	130	2.96	4.43	6.24	7.01	9.81	13.06	10.70	14.69	19.22
	140	3.43	5.14	7.24	8.12	11.37	15.15	12.41	17.03	22.29
	150	3.94	5.90	8.31	9.33	13.06	17.39	14.24	19.55	25.58

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1J GRADE 40
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE NO. 5 REINFORCEMENT[1,2,3,6]

		ROOF ANGLE 30^0								
		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
	Wind	BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Speed	24	32	40	24	32	40	24	32	40
B	100	1.17	1.72	2.39	2.50	3.46	4.56	3.64	5.01	6.58
	110	1.41	2.08	2.89	3.02	4.19	5.52	4.41	6.07	7.96
	120	1.68	2.48	3.44	3.60	4.98	6.57	5.24	7.22	9.47
	130	1.97	2.91	4.04	4.22	5.85	7.71	6.15	8.47	11.11
	140	2.29	3.37	4.68	4.89	6.78	8.95	7.14	9.83	12.89
	150	2.63	3.87	5.37	5.62	7.79	10.27	8.19	11.28	14.80
C	100	1.40	2.10	2.96	3.32	4.65	6.20	5.08	6.97	9.12
	110	1.70	2.54	3.58	4.02	5.63	7.50	6.14	8.43	11.03
	120	2.02	3.03	4.27	4.79	6.70	8.92	7.31	10.04	13.13
	130	2.37	3.55	5.01	5.62	7.87	10.47	8.58	11.78	15.41
	140	2.75	4.12	5.81	6.52	9.12	12.15	9.95	13.66	17.87
	150	3.16	4.73	6.66	7.48	10.47	13.94	11.42	15.68	20.52

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1K GRADE 40
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE NO. 4 REINFORCEMENT[1,2,3,5]
ROOF ANGLE 45^0

Exp	Wind Speed	TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
		24	32	40	24	32	40	24	32	40
B	100	1.85	2.84	4.06	1.85	5.01	6.78	5.06	7.16	9.65
	110	2.24	3.44	4.92	4.25	6.06	8.20	6.12	8.67	11.67
	120	2.67	4.09	5.85	5.06	7.22	9.76	7.28	10.32	13.89
	130	3.13	4.80	6.87	5.93	8.47	11.45	8.54	12.11	16.30
	140	3.63	5.57	7.97	6.88	9.82	13.28	9.91	14.04	18.90
	150	4.17	6.39	9.14	7.90	11.27	15.25	11.38	16.12	21.70
C	100	2.31	3.62	5.29	4.78	6.92	9.50	6.33	8.69	11.37
	110	2.79	4.38	6.40	5.78	8.38	11.50	7.66	10.52	13.76
	120	3.32	5.21	7.61	6.88	9.97	13.68	9.11	12.51	16.37
	130	3.90	6.11	8.93	8.07	11.70	16.06	10.70	14.69	19.22
	140	4.52	7.09	10.36	9.36	13.57	18.63	12.41	17.03	22.29
	150	5.19	8.14	11.89	10.75	15.58	21.38	14.24	19.55	25.58

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1L GRADE 40
REQUIRED SHEARWALL LENGTH PARALLEL TO RIDGE NO. 5 REINFORCEMENT[1,2,3,6]
ROOF ANGLE 45^0

Exp	Wind Speed	TOP STORY BUILDING WIDTH 24	TOP STORY 32	TOP STORY 40	1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY BUILDING WIDTH 24	32	40	1ST STORY OF 3 STORY BUILDING WIDTH 24	32	40
B	100	1.49	2.28	3.26	2.82	4.02	5.44	4.05	5.75	7.74
	110	1.80	2.76	3.94	3.41	4.86	6.58	4.91	6.95	9.36
	120	2.14	3.28	4.69	4.06	5.79	7.83	5.84	8.27	11.14
	130	2.51	3.85	5.51	4.76	6.79	9.19	6.85	9.71	13.07
	140	2.91	4.46	6.39	5.52	7.88	10.65	7.95	11.26	15.16
	150	3.35	5.12	7.33	6.34	9.04	12.23	9.12	12.93	17.40
C	100	1.85	2.90	4.24	3.83	5.55	7.62	5.62	7.93	10.63
	110	2.24	3.51	5.13	4.64	6.72	9.22	6.80	9.59	12.87
	120	2.66	4.18	6.10	5.52	8.00	10.97	8.09	11.42	15.31
	130	3.13	4.90	7.16	6.48	9.38	12.88	9.50	13.40	17.97
	140	3.62	5.68	8.31	7.51	10.88	14.94	11.01	15.54	20.84
	150	4.16	6.53	9.54	8.62	12.49	17.15	12.64	17.84	23.92

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1M GRADE 40
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 4 REINFORCEMENT PER FOOT OF BUILDING LENGTH[1,2,3,4,5]
ROOF ANGLE ≤ 23^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.047	0.047	0.046	0.125	0.124	0.124	0.202	0.202	0.202
	110	0.057	0.057	0.056	0.151	0.151	0.150	0.245	0.245	0.244
	120	0.068	0.067	0.067	0.180	0.179	0.178	0.291	0.291	0.290
	130	0.079	0.079	0.078	0.211	0.210	0.209	0.342	0.342	0.341
	140	0.092	0.092	0.091	0.244	0.244	0.243	0.397	0.396	0.395
	150	0.106	0.105	0.104	0.281	0.280	0.279	0.455	0.455	0.454
C	100	0.066	0.066	0.065	0.175	0.174	0.174	0.284	0.283	0.283
	110	0.080	0.079	0.078	0.212	0.211	0.210	0.343	0.343	0.342
	120	0.095	0.094	0.093	0.252	0.251	0.250	0.409	0.408	0.407
	130	0.111	0.111	0.109	0.295	0.295	0.294	0.480	0.479	0.478
	140	0.129	0.128	0.127	0.343	0.342	0.340	0.556	0.556	0.554
	150	0.148	0.147	0.146	0.393	0.393	0.391	0.639	0.638	0.636

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1N GRADE 40
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 5 REINFORCEMENT PER FOOT OF BUILDING LENGTH[1,2,3,4,6]
ROOF ANGLE ≤ 23^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.038	0.037	0.037	0.100	0.100	0.099	0.162	0.162	0.162
	110	0.046	0.045	0.045	0.121	0.121	0.120	0.196	0.196	0.196
	120	0.054	0.054	0.053	0.144	0.144	0.143	0.234	0.233	0.233
	130	0.064	0.063	0.063	0.169	0.169	0.168	0.274	0.274	0.273
	140	0.074	0.073	0.073	0.196	0.196	0.195	0.318	0.318	0.317
	150	0.085	0.084	0.083	0.225	0.225	0.224	0.365	0.365	0.364
C	100	0.053	0.053	0.052	0.140	0.140	0.139	0.228	0.227	0.227
	110	0.064	0.064	0.063	0.170	0.169	0.169	0.275	0.275	0.274
	120	0.076	0.076	0.075	0.202	0.201	0.201	0.328	0.327	0.326
	130	0.089	0.089	0.088	0.237	0.236	0.235	0.385	0.384	0.383
	140	0.104	0.103	0.102	0.275	0.274	0.273	0.446	0.446	0.444
	150	0.119	0.118	0.117	0.316	0.315	0.313	0.512	0.511	0.510

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1O GRADE 40
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 4 REINFORCEMENT PER FOOT OF BUILDING LENGTH[1,2,3,4,5]
ROOF ANGLE 30°

Exp	Wind Speed	TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
		24	32	40	24	32	40	24	32	40
B	100	0.077	0.090	0.103	0.145	0.158	0.171	0.213	0.226	0.239
	110	0.094	0.108	0.124	0.176	0.191	0.207	0.258	0.273	0.289
	120	0.111	0.129	0.148	0.209	0.227	0.246	0.307	0.325	0.344
	130	0.131	0.151	0.174	0.246	0.266	0.288	0.360	0.381	0.403
	140	0.152	0.176	0.201	0.285	0.309	0.335	0.418	0.442	0.468
	150	0.174	0.202	0.231	0.327	0.354	0.384	0.480	0.507	0.537
C	100	0.108	0.126	0.144	0.204	0.221	0.239	0.299	0.316	0.335
	110	0.131	0.152	0.174	0.247	0.267	0.290	0.362	0.383	0.405
	120	0.156	0.181	0.207	0.293	0.318	0.345	0.431	0.455	0.482
	130	0.183	0.212	0.243	0.344	0.373	0.404	0.505	0.534	0.565
	140	0.213	0.246	0.282	0.399	0.433	0.469	0.586	0.620	0.656
	150	0.244	0.283	0.324	0.458	0.497	0.538	0.673	0.711	0.753

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length required.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1P GRADE 40
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 5 REINFORCEMENT PER FOOT OF BUILDING LENGTH[1,2,3,4,6]
ROOF ANGLE 30°

Exp	Wind Speed	TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
		24	32	40	24	32	40	24	32	40
B	100	0.062	0.072	0.082	0.117	0.126	0.137	0.171	0.181	0.191
	110	0.075	0.087	0.100	0.141	0.153	0.166	0.207	0.219	0.232
	120	0.089	0.103	0.119	0.168	0.182	0.197	0.246	0.260	0.276
	130	0.105	0.121	0.139	0.197	0.214	0.231	0.289	0.306	0.323
	140	0.122	0.141	0.161	0.228	0.248	0.268	0.335	0.355	0.375
	150	0.140	0.162	0.185	0.262	0.284	0.308	0.385	0.407	0.431
C	100	0.087	0.101	0.115	0.163	0.177	0.192	0.240	0.254	0.268
	110	0.105	0.122	0.140	0.198	0.214	0.232	0.290	0.307	0.325
	120	0.125	0.145	0.166	0.235	0.255	0.276	0.345	0.365	0.386
	130	0.147	0.170	0.195	0.276	0.299	0.324	0.405	0.429	0.453
	140	0.170	0.197	0.226	0.320	0.347	0.376	0.470	0.497	0.526
	150	0.196	0.227	0.260	0.368	0.399	0.432	0.540	0.571	0.604

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1Q GRADE 40
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 4 REINFORCEMENT PER FOOT OF BUILDING LENGTH[1,2,3,4,5]
ROOF ANGLE 45^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.104	0.125	0.147	0.172	0.193	0.215	0.240	0.261	0.283
	110	0.125	0.151	0.178	0.208	0.233	0.261	0.290	0.315	0.343
	120	0.149	0.180	0.212	0.247	0.278	0.310	0.345	0.375	0.408
	130	0.175	0.211	0.249	0.290	0.326	0.364	0.405	0.441	0.479
	140	0.203	0.244	0.289	0.336	0.378	0.422	0.469	0.511	0.555
	150	0.233	0.281	0.332	0.386	0.434	0.485	0.539	0.587	0.638
C	100	0.145	0.175	0.207	0.240	0.270	0.302	0.336	0.365	0.397
	110	0.176	0.212	0.250	0.291	0.327	0.365	0.406	0.442	0.481
	120	0.209	0.252	0.298	0.346	0.389	0.435	0.484	0.526	0.572
	130	0.245	0.296	0.349	0.406	0.457	0.510	0.567	0.618	0.672
	140	0.285	0.343	0.405	0.471	0.530	0.592	0.658	0.716	0.779
	150	0.327	0.393	0.465	0.541	0.608	0.680	0.756	0.822	0.894

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1R GRADE 40
REQUIRED SHEARWALL LENGTH PERPENDICULAR TO RIDGE NO. 5 REINFORCEMENT PER FOOT OF BUILDING LENGTH[1,2,3,4,6]
ROOF ANGLE 45^0

		TOP STORY			1ST STORY OF 2 STORY OR 2ND STORY OF 3 STORY			1ST STORY OF 3 STORY		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
Exp	Wind Speed	24	32	40	24	32	40	24	32	40
B	100	0.083	0.100	0.118	0.138	0.155	0.173	0.192	0.209	0.227
	110	0.100	0.121	0.143	0.166	0.187	0.209	0.232	0.253	0.275
	120	0.120	0.144	0.170	0.198	0.223	0.249	0.277	0.301	0.327
	130	0.140	0.169	0.200	0.232	0.261	0.292	0.325	0.353	0.384
	140	0.163	0.196	0.232	0.270	0.303	0.339	0.376	0.410	0.445
	150	0.187	0.225	0.266	0.310	0.348	0.389	0.432	0.470	0.511
C	100	0.116	0.140	0.166	0.193	0.217	0.242	0.269	0.293	0.319
	110	0.141	0.170	0.201	0.233	0.262	0.293	0.326	0.355	0.386
	120	0.168	0.202	0.239	0.278	0.312	0.349	0.388	0.422	0.459
	130	0.197	0.237	0.280	0.326	0.366	0.409	0.455	0.495	0.539
	140	0.228	0.275	0.325	0.378	0.425	0.475	0.528	0.575	0.625
	150	0.262	0.316	0.373	0.434	0.488	0.545	0.606	0.660	0.717

Notes :

1. The cumulative shear wall segment length for each side of the building shall be equal to or greater than the tabular shear wall length required. If the required shear wall segment length provided is not continuous the total shear wall length required shall be increased by 8" for each additional shear wall segment on a side.
2. Minimum shear wall segment length shall be 2'-0". A grouted cell with reinforcing steel shall be provided at each end of every shear wall segment. A minimum length of 24 inches (610 mm) of solid wall segment, extending the full height of each wall, shall be provided at exterior corners of exterior walls. A fully grouted cell with reinforcing steel shall be provided at each end of every shear wall segment.
3. Portions of walls with openings shall not be considered part of the shear wall length.
4. Required shearwall lengths perpendicular to the ridge are per lineal foot of building length. Multiply tabular values by building length for total shear wall length.
5. Shearwall lengths for no. 4 reinforcement are based on shearwall segment height of 80 inches. And shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment lengths and heights.
6. Shearwall lengths for no. 5 reinforcement are based on shearwall segment height of 96 inches and shearwall segment length of 24 inches. Multiply tabular length by shearwall adjustment factor from Table R609.5.1S for other segment height lengths and heights.

TABLE R609.5.1S
SHEARWALL LENGTH ADJUSTMENT FACTOR GRADE 40 STEEL

Area of Steel, in²	MAX SEGMENT HT (in.)[1]	MINIMUM SEGMENT LENGTH (inches)						
		24	32	40	48	56	64	72
0.20 (No. 4)	80	1.00	0.94	0.90	0.87	0.85	0.84	0.82
	88	1.09	1.02	0.98	0.95	0.93	0.91	0.90
	96	1.19	1.11	1.07	1.03	1.01	0.99	0.98
	104	1.28	1.20	1.15	1.11	1.09	1.07	1.05
0.31 (No. 5)	80	1.00	0.93	0.89	0.87	0.85	0.83	0.82
	88	1.10	1.02	0.98	0.95	0.93	0.91	0.90
	96	1.00	0.93	0.89	0.87	0.85	0.83	0.82
	104	1.29	1.20	1.15	1.11	1.09	1.07	1.05

1. Segment height is the distance from the bottom of the segment to the top of the tallest opening adjacent to the segment.

TABLE R609.5.3A

TOTAL SHEAR AT TOP OF TOP STORY WALL[1, 2]

EXPO-SURE	WIND SPEED	VEL PRESSURE	ROOF ANGLE UP TO 45 BUILDING WIDTH			ROOF ANGLE UP TO 30 BUILDING WIDTH		
			24	32	40	24	32	40
B	100	15.2	2022	3113	4456	1568	2319	3215
	110	18.4	2447	3767	5392	1897	2806	3890
	120	22.0	2912	4483	6417	2258	3339	4630
	130	25.8	3418	5262	7531	2649	3919	5433
	140	29.9	3964	6102	8734	3073	4545	6301
	150	34.3	4550	7005	10027	3527	5218	7234
C	100	21.4	2835	4365	6248	2198	3251	4507
	110	25.9	3431	5282	7560	2660	3934	5454
	120	30.8	4083	6286	8997	3165	4682	6491
	130	36.1	4792	7377	10559	3715	5495	7618
	140	41.9	5557	8555	12246	4308	6372	8835
	150	48.1	6380	9821	14058	4946	7315	10142

1. Loads are based on 10' wall height. Multiply by 0.9 for 8' wall heights

2. To determine individual connector load parallel to the wall) divide shear value by the number of connectors (Load F_1 from Figure R609.5.3)

TABLE R609.5.3B
TRANSVERSE CONNECTOR LOAD (F_2)[1, 2]

EXPO-SURE	WIND SPEED	VEL PRESSURE	ROOF ANGLE < 23° Edge Zone	ROOF ANGLE < 23° Int Zone	R00F ANGLE > 23°
B	100	15.2	394	319	289
	110	18.4	477	386	349
	120	22.0	568	460	416
	130	25.8	667	539	488
	140	29.9	773	626	566
	150	34.3	887	718	650
C	100	21.4	553	448	405
	110	25.9	669	541	490
	120	30.8	796	644	583
	130	36.1	935	756	684
	140	41.9	1084	877	793
	150	48.1	1244	1007	911

1. Loads are based on 10' wall height. Multiply by 0.8 for 8' wall height.
2. F_2 load in accordance with Figure R609.5.3

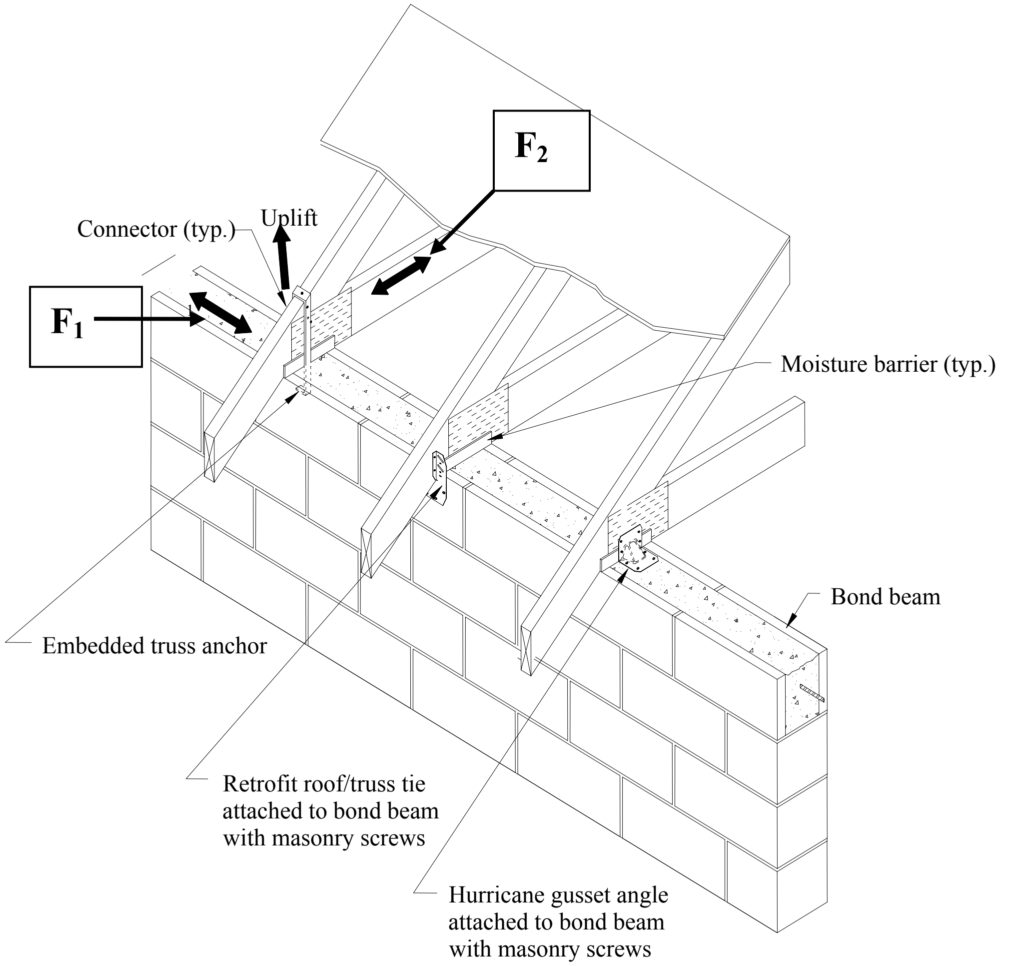


FIGURE R609.5.3
TYPICAL ROOF TO WALL CONNECTIONS

TABLE R609.5.4
END WALL ROOF SHEAR PER FOOT OF BUILDING LENGTH

EXP	WIND SPEED	POUNDS PER FT OF BLDG LENGTH FOR 23° ROOF SLOPE			POUNDS PER FT OF BLDG LENGTH FOR 30° ROOF SLOPE			POUNDS PER FT OF BLDG LENGTH FOR 45° ROOF SLOPE		
		BUILDING WIDTH			BUILDING WIDTH			BUILDING WIDTH		
		24	32	40	24	32	40	24	32	40
B	100	43.6	42.8	43.1	76.9	87.8	100.1	104.4	123.8	145.1
	110	52.7	51.8	52.2	93.1	106.3	121.1	126.3	149.8	175.5
	120	62.8	61.7	62.1	110.8	126.5	144.2	150.3	178.3	208.9
	130	73.7	72.4	72.8	130.0	148.5	169.2	176.4	209.2	245.1
	140	85.4	84.0	84.5	150.8	172.2	196.2	204.6	242.6	284.3
	150	98.1	96.4	97.0	173.1	197.7	225.3	234.8	278.5	326.4
C	100	61.1	60.1	60.4	107.9	123.2	140.4	146.3	173.6	203.4
	110	73.9	72.7	73.1	130.5	149.0	169.9	177.1	210.0	246.1
	120	88.0	86.5	87.0	155.3	177.4	202.1	210.7	249.9	292.9
	130	103.3	101.5	102.1	182.3	208.1	237.2	247.3	293.3	343.7
	140	119.8	117.7	118.4	211.4	241.4	275.1	286.8	340.2	398.6
	150	137.5	135.2	136.0	242.7	277.1	315.8	329.2	390.5	457.6

Notes:
1. Tabular values between 23° and 30° and between 30° and 45° are permitted to be interpolated.
2. Multiply by total building length for total end wall shear. Divide total shear by building width for required shear capacity of roof diaphragm and connections

R609.6 Assemblies and beams spanning openings.

R609.6.1 Pre-engineered Assemblies for Masonry Walls.

R609.6.1.1 Unreinforced masonry units above an opening and 8 inch high bond beams above an opening shall be supported by an assembly.

R609.6.1.2 Pre-engineered assemblies shall be selected from a manufacturer's approved schedule or other approved tables for the load capacities based on the appropriate minimum gravity load carrying capacities established in Tables R609.6.1.2(1), R609.6.1.2(2), and R609.6.1.2(3).

R609.6.1.3 Pre-engineered assemblies may function as a bond beam over an opening provided that:
1. The bond beam reinforcement is continuous through the assembly.
2. The assembly has an uplift rating that equals or exceeds the appropriate value stipulated in Table R609.6.1.2(1) if the lintel directly supports a roof.

EXCEPTION: If the reinforcement in the top of the assembly is equal to or greater than the reinforcement required in the bottom of the assembly by the manufacturer, uplift need not be considered.

R609.6.1.4 Pre-engineered assemblies spanning openings shall extend a minimum of 4 inches nominal past each side of the opening.

TABLE R609.6.1.2(1)
SUPERIMPOSED LOADS
MINIMUM RATED LOAD CAPACITY OF 6 INCH OR 8 INCH THICK PRE-ENGINEERED ASSEMBLIES SPANNING OPENINGS OF ONE STORY AND TOP STORY OF MULTI-STORY BUILDINGS

Roof Span (ft)	Gravity (plf)	Uplift (plf) 100 mph	Uplift (plf) 120 mph	Uplift (plf) 140 mph
4[2]	150	85	112	165
12	330	152	204	305
24	600	262	351	525
36	870	374	502	745
44	1,050	451	605	900
52	1,230	530	710	1,055
60	1,410	609	816	1,215

NOTES:

1. All loads are superimposed at the top of the wall and do not include dead loads of the bond beam or masonry above the assembly. Add 100% of additional dead loads to the gravity loads and subtract 85% of these loads from the uplift loads.
2. Use 4-foot roof span for assemblies in endwalls.
3. For total roof dead loads over 10 psf, increase gravity loads by the following amount:
   (Roof Dead Load - 10 psf) x (Roof Span + 2 ft)/ 2
4. Uplift rating is required only if a pre-engineered assembly is used to directly support a roof. (See Section R609.6.1.3 for cases where uplift need not be considered.)

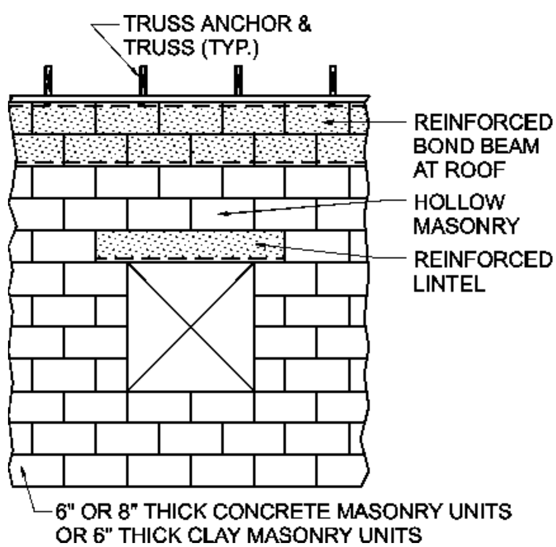


TABLE R609.6.1.2(2)
SUPERIMPOSED LOADS MINIMUM RATED LOAD CAPACITY OF 8 INCH THICK PRE-ENGINEERED ASSEMBLIES SPANNING OPENINGS OF BOTTOM STORY OF TWO-STORY BUILDINGS, SECOND AND BOTTOM STORIES OF THREE-STORY BUILDINGS—WOOD FLOOR SYSTEM

Floor[1] Span (ft)		Minimum Rated Gravity Load Assembly (plf)				
		Assembly Clear Span (ft)				
	4	6	8	12	16	20
4[2]	210	260	310	410	510	610
12	430	480	530	630	730	830
24	760	810	860	960	1,060	1,160
36	1,090	1,140	1,190	1,290	1,390	1,490
44	1,310	1,360	1,410	1,510	1,610	1,710
52	1,530	1,580	1,630	1,730	1,830	1,930
60	1,750	1,800	1,850	1,950	2,050	2,150

NOTES:

1. For a wall supporting floors on both sides, enter Table with the sum of the 2 full spans.
   NOTE: Tabular values are for 1/2 the load of the full span shown.
2. Use 4 ft building width for assemblies in walls not supporting floors (normally endwalls and interior masonry walls and shearwalls).
3. The values in this table may be interpolated.
4. These loads take into account the dead load of any masonry in the wall above the assembly and live and dead loads of the roof and floor supported. Dead load of the assembly is not included in the table and if not included in the pre-engineered concrete design must be added to the loads in the table.
5. This table is applicable for all roof dead loads.

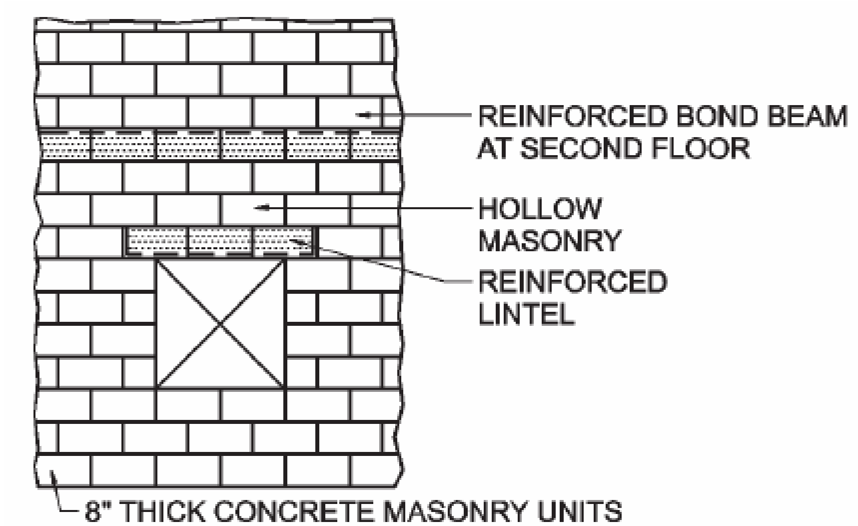
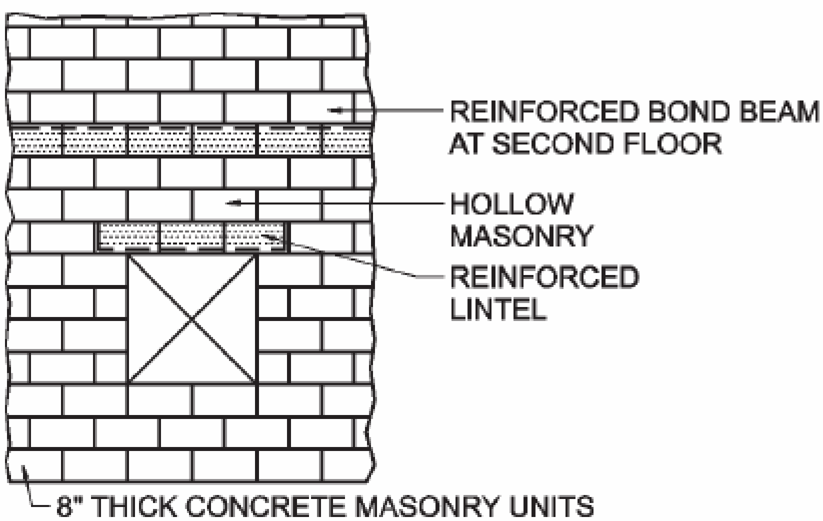


TABLE R609.6.1.2(3)
SUPERIMPOSED LOADS
MINIMUM RATED LOAD CAPACITY OF NOMINAL 8 INCH THICK
PRE-ENGINEERED ASSEMBLIES SPANNING OPENINGS OF
BOTTOM STORY OF TWO-STORY BUILDINGS, SECOND AND BOTTOM STORIES OF
THREE-STORY BUILDINGS—HOLLOWCORE FLOOR SYSTEM

Floor[1] Span (ft)	Minimum Rated Gravity Load of Assembly (plf)					
	Assembly Clear Span (ft)					
	4	6	8	12	16	20
4[2]	290	340	390	490	590	690
12	670	720	770	870	970	1,070
24	1,240	1,290	1,340	1,440	1,540	1,640
36	1,810	1,860	1,910	2,010	2,110	2,210
44	2,190	2,240	2,290	2,390	2,490	2,590
52	2,570	2,620	2,670	2,770	2,870	2,970
60	2,950	3,000	3,050	3,150	3,250	3,350

NOTES:

1. For a wall supporting floors on both sides, enter Table with the sum of the 2 full spans.
   NOTE: Tabular values are for 1/2 the load of the full span shown.
2. Use 4 ft building width for assemblies in non-floor bearing walls (normally endwalls and interior masonry walls and shearwalls).
3. The values in this table may be interpolated.
4. These loads take into account the dead load of any masonry in the wall above the assembly and live and dead loads of the roof and floor supported. Dead load of the assembly is not included in the table and if not included in the pre-engineered concrete assembly design must be added to the loads in the table.
5. This table is applicable for all roof dead loads.



R609.6.2 Continuous Bond Beams Spanning Openings.

R609.6.2.1 Under the provisions of this section, bond beams shall:

1. Be 16 inches high nominal over openings, except cast-in-place concrete bond beams which may be 12 inches high nominal.
2. Have top reinforcement continuous over the wall and opening.
3. Have bottom reinforcement extending past each side of the opening a minimum of 24 inches for concrete walls and 4 inches for masonry walls.
4. Meet the provisions of Tables R609.6.2.1(1), R609.6.2.1 (2), and R609.6.2.1 (3) as appropriate.

R609.6.2.2 Top reinforcement required over the opening which is in addition to that required over the wall shall extend past the opening a minimum of 24 inches.

R609.6.2.3 When pre-engineered assemblies are utilized to form the bottom portion of the bond beam over the opening in masonry walls, the bottom reinforcement of the pre-engineered assemblies shall be counted toward the additional bottom reinforcement required over the opening.

R609.6.3 Bond beams combined with lintels.

R609.6.3.1 The provisions of this section shall apply when the lintel, the wall area between the lintel and the bond beam, and the bond beam itself are solid grouted masonry units or cast together as one unit.

R609.6.3.2 Combined bond beams/lintels shall meet the requirements of the appropriate Table R609.6.3.2(1), R609.6.3.2 (2), or R609.6.3.2 (3).

R609.6.3.3 Top reinforcement which is in addition to that required in the bond beam over the wall shall extend a mini-mum of 24 inches past each side of the opening. Top bond beam reinforcement shall be continuous over wall and opening.

R609.6.3.4 Bottom reinforcing shall extend past each side of the opening a minimum of 24 inches for concrete walls and 4 inches for masonry walls. When using a precast lintel, the reinforcing in the precast lintel shall be included when determining the total amount of bottom reinforcement furnished.

R609.6.3.5 For masonry walls, a cleanout shall be provided in the cells directly above the ends of the lintel when the reinforcing steel in the bottom of the lintel is more than 22 inches below the top of the bond beam.

TABLE R609.6.2.1(1)
MAXIMUM CLEAR SPAN CAPACITY OF CONTINUOUS BOND BEAMS ACTING AS LINTELS
ONE STORY AND TOP STORY OF MULTI-STORY BUILDINGS

Roof Span (ft)	Maximum Allowable Clear Span (ft-in)[5]											
	Bond Beam 6" Thick Wall[1,2,4]						Bond Beam 8" Thick Wall[1,2,4]					
	16-1	16-2	C12-1	C12-2	C16-1	C16-2	16-1	16-2	C12-1	C12-2	C16-1	C16-2
4[3]	16-0	17-4	16-0	20-8	18-0	24-8	16-0	18-8	15-4	20-8	17-4	23-4
12	12-0	13-4	12-0	15-4	14-0	18-8	12-8	14-0	11-4	16-0	13-4	18-0
24	8-8	8-8	9-4	10-8	10-8	14-8	10-0	11-4	8-8	12-8	10-8	14-8
36	6-8	6-8	8-0	8-0	9-4	11-4	8-8	8-8	7-4	10-0	8-8	12-0
44	6-0	6-0	7-4	7-4	8-0	10-0	7-4	7-4	6-8	8-8	8-0	11-4
52	5-4	5-4	6-0	6-0	8-0	8-8	6-8	6-8	6-8	8-0	7-4	10-8
60	4-8	4-8	6-0	6-0	7-4	8-0	6-0	6-0	6-0	7-4	7-4	10-0

NOTES:

1) Designation of bond beam types over openings:
   a) Letter C designates a concrete bond beam. All other bond beams are masonry.
   b) The first number denotes the nominal height of the bond beam in inches.
   c) The second number denotes the number of No.5 reinforcing bars in the top and the bottom of the beam. A single (1) No.7 bar may be used in lieu of 2 No.5 bars. The bottom reinforcing steel shall be located no more than 2 3/4 inches clear distance from the bottom of masonry bond beams and 1 1/2 inches for concrete bond beams.
2) All bond beams have reinforcement in the top as required by Tables R609.2.2A-1 through 609.2.2A-4 and Tables R609.2.2B-1 throughR609.2.2B-8 as appropriate. If 2 No.5 are required in this table and only 1 No.5 is required by Table R609.2.2A-1 through R609.2.2A-4 and Tables R609.2.2B-1 through R609.2.2B-8 as appropriate, the additional bar shall be placed in the top of the bond beam over the opening and shall extend past the opening a minimum of 24 inches.
3) Use 4 foot roof span for lintels in endwalls.
4) The bottom reinforcement in precast lintels may be used to satisfy the continuous bond beam bottom reinforcement requirement.
5) For roof dead loads more than 10 psf:
   a. For 20 psf roof dead load, multiply allowable clear spans by 0.85.
   b. For 30 psf roof dead load, multiply allowable clear spans by 0.75.
   c. Values for other roof dead loads may be interpolated.

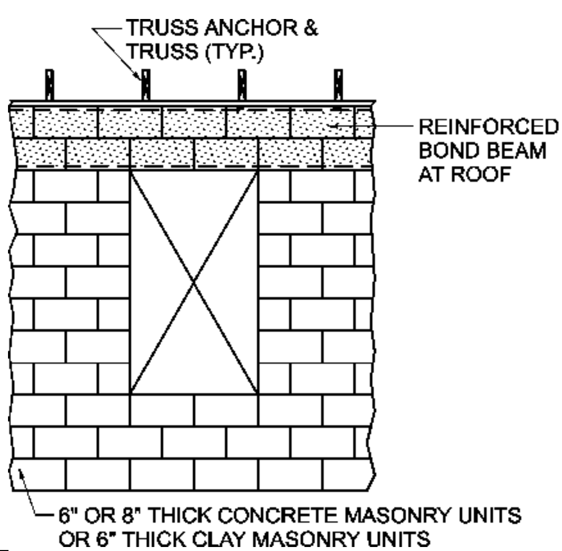


TABLE R609.6.2.1.(2)
MAXIMUM CLEAR SPAN CAPACITY OF CONTINUOUS BOND BEAMS ACTING AS LINTELS BOTTOM STORY OF TWO-STORY BUILDINGS, SECOND AND BOTTOM STORIES OF THREE-STORY BUILDINGS—WOOD FLOOR SYSTEM

Building Width (ft)	Bond Beam 8" Thick Wall[1,2,4]						
	16-1	16-2	C1-1	C12-2	C16-1	C16-2	C16-3
	Maximum Allowable Clear Span (ft-in)[5]						
4[3]	11-4	13-4	10-8	14-0	12-0	15-4	18-0
12	10-0	11-4	9-4	12-0	10-8	14-0	16-0
24	8-8	8-8	8-0	10-0	8-8	12-0	12-8
36	6-8	6-8	6-8	8-0	8-0	10-8	10-8
44	6-0	6-0	6-0	7-4	7-4	9-4	9-4
52	5-4	5-4	6-0	6-8	6-8	8-8	8-8
60	4-8	4-8	5-4	6-0	6-8	8-0	8-0

NOTES:

1. Designation of bond beam over openings:
   a. Letter C designates a concrete bond beam. All other bond beams are masonry.
   b. The first number denotes the nominal height of the bond beam in inches.
   c. The second number denotes the number of No.5 reinforcing bars in the top and the bottom of the beam. 1 No.7 may be used in lieu of 2 No.5. The bottom rein-forcing steel shall be located no more than 2 3/4 inches clear distance from the bottom of masonry bond beams and 1 1/2 inches for concrete bond beams.
2. All bond beams shall have reinforcement in the top in accordance with Section R609.6.2.
3. Use 4 foot floor span for lintels in walls parallel to hollowcore.
4. The bottom reinforcement in precast lintels may be used to satisfy the continuous bond beam bottom reinforcement requirement.
5. This table is applicable for all roof dead loads.

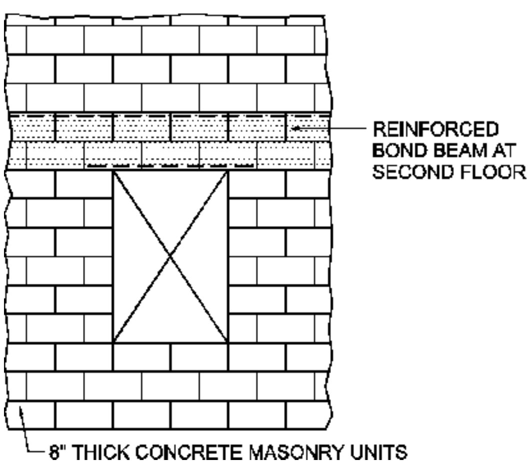


TABLE R609.6.2.1(3)
MAXIMUM CLEAR SPAN CAPACITY OF
CONTINUOUS BOND BEAMS ACTING AS LINTELS
BOTTOM STORY OF TWO-STORY BUILDINGS, SECOND AND BOTTOM STORIES OF THREE-STORY BUILDINGS—HOLLOWCORE SECOND FLOOR

Building Width (ft)	Bond Beam 8" Thick Wall1,2,4						
	16-1	16-2	C12-1	C12-2	C16-1	C16-2	C16-3
	Maximum Allowable Clear Span (ft-in)5						
4[3]	10-8	12-0	10-0	13-4	11-4	14-8	17-4
12	8-8	9-4	8-0	10-8	9-4	12-0	13-4
24	6-0	6-0	6-0	7-4	7-4	10-0	10-0
36	4-8	4-8	5-4	6-0	6-0	8-0	8-0
44	4-0	4-0	4-8	5-4	6-0	7-4	7-4
52	4-0	4-0	4-8	4-8	5-4	6-8	6-8
60	3-4	3-4	4-0	4-0	5-4	6-0	6-0

NOTES:

1. Designation of bond beam over openings:
   d. Letter C designates a concrete bond beam. All other bond beams are masonry.
   e. The first number denotes the nominal height of the bond beam in inches.
   f. The second number denotes the number of No.5 reinforcing bars in the top and the bottom of the beam. 1 No.7 may be used in lieu of 2 No.5. The bottom rein-forcing steel shall be located no more than 2 3/4 inches clear distance from the bottom of masonry bond beams and 1 1/2 inches for concrete bond beams.
2. All bond beams shall have reinforcement in the top in accordance with Section R609.6.2.
3. Use 4 foot floor span for lintels in walls parallel to hollowcore.
4. The bottom reinforcement in precast lintels may be used to satisfy the continuous bond beam bottom reinforcement requirement.
5. This table is applicable for all roof dead loads.

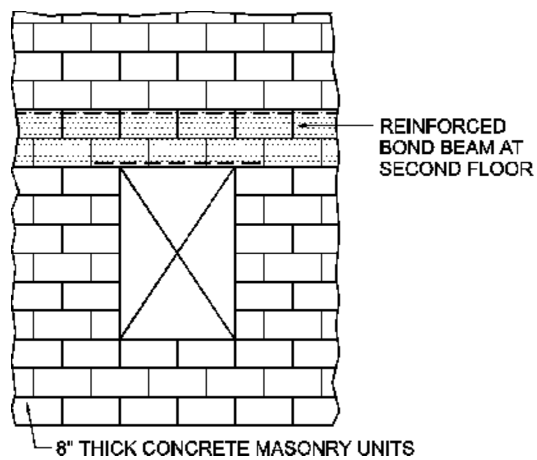


TABLE R609.6.3.2(1)
COMBINED BOND BEAM/LINTELS
ONE STORY AND TOP STORY OF MULTI-STORY BUILDINGS

Bond Beam Height	Roof Span (ft)	Maximum Allowable Clear Span (ft-in)[5]															
		Combined Bond Beam/Lintel 8" Thick Wall[1,2,]															
		12-1	12-2	16-1	16-2	24-1	24-2	24-3	32-2	32-3	32-4	40-2	40-3	40-4	48-3	48-4	48-5
6"	4	11-4	12-0	14-8	16-0	18-8	22-8	23-4	27-4	29-4	30-0	29-4	34-0	35-4	38-0	39-4	40-8
	12	8-0	8-8	11-4	12-0	14-8	17-4	17-4	18-8	22-9	23-3	24-8	24-8	28-9	29-4	31-4	33-4
	24	6-0	6-9	8-8	8-8	11-4	14-0	14-0	18-0	18-0	18-0	20-0	22-0	20-0	26-0	26-0	26-0
	36	4-8	4-8	6-8	6-8	10-0	10-8	10-8	14-0	14-0	14-0	17-4	17-4	17-4	20-8	20-8	20-8
	44	4-0	4-0	6-0	6-0	9-4	9-4	9-4	12-8	12-8	12-8	15-4	15-4	15-4	18-0	18-0	18-0
	52	3-4	3-4	5-4	5-4	8-0	8-0	8-0	11-4	11-4	11-4	14-0	14-0	14-0	16-8	16-8	16-8
	60	3-4	3-4	4-8	4-8	7-4	7-4	7-4	10-0	10-0	10-0	12-8	12-8	12-8	15-4	15-4	15-4
8"	4	12-0	12-8	14-8	16-8	17-4	23-4	24-8	25-4	30-0	30-8	26-8	32-8	35-4	34-0	39-4	40-8
	12	8-8	9-4	11-4	13-4	14-0	18-8	20-8	21-4	24-8	26-0	22-8	28-0	30-0	29-4	34-0	35-4
	24	6-8	7-4	9-4	10-0	11-4	15-4	16-0	17-4	20-8	21-4	19-4	23-4	25-4	25-4	28-8	30-0
	36	6-0	6-0	8-0	8-8	9-4	13-4	13-4	15-4	17-4	17-4	16-8	20-8	21-4	22-0	24-8	24-8
	44	5-4	5-4	7-4	7-4	8-8	11-4	11-4	14-0	15-4	15-4	16-0	18-8	18-8	20-8	22-0	22-0
	52	4-8	4-8	6-8	6-8	8-0	10-0	10-0	13-4	14-0	14-0	14-8	17-4	17-4	19-4	20-0	20-0
	60	4-0	4-0	6-0	6-0	8-0	9-4	9-4	12-8	12-8	12-8	14-0	15-4	15-4	18-8	18-8	18-8

NOTES:

1. Designation of combined bond beam/lintels:
   a. The first number denotes the nominal height of the bond beam/lintel in inches.
   b. The second number denotes the number of No.5 reinforcing bars in the bottom of the bond beam/lintel. The equivalent or greater area of reinforcement may be obtained by using reinforcement other than No.5. For example, when 3 No.5 are required 1 No.9 may be used. Also, 1 No.7 may be used to replace 2 No.5 or 2 No.7 to replace 4 No.5. The bottom reinforcing steel is to be located not more than 2 3/4 inches clear distance from the bottom of the lintel.
2. All bond beams shall have reinforcement in the top in accordance with R609.2.2A-1 through R609.2.2A-4 and Tables R609.8.2B-1 throughR609.8.2B-8, as appropriate.

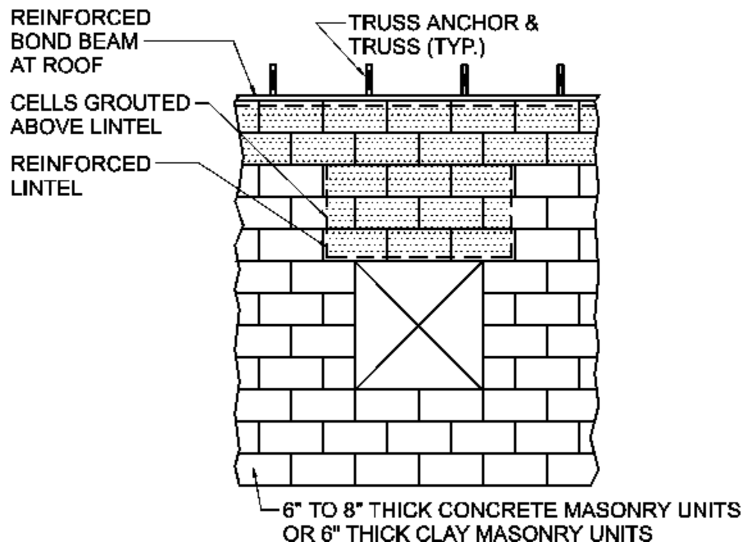

REINFORCED BOND BEAM AT ROOF
TRUSS ANCHOR & TRUSS (TYP.)
CELLS GROUTED ABOVE LINTEL
REINFORCED LINTEL
6" TO 8" THICK CONCRETE MASONRY UNITS OR 6" THICK CLAY MASONRY UNITS

TABLE R609.6.3.2(2)
COMBINED BOND BEAM/LINTELS
BOTTOM STORY OF TWO-STORY BUILDINGS, SECOND AND BOTTOM STORIES OF THREE STORY BUILDINGS - WOOD FLOOR SYSTEM

Floor Span Supported (ft)	Combined Bond Beam/Lintel 8" Thick Wall[1,2,]									
	12-2	16-2	24-2	24-3	32-2	32-3	40-3	40-4	48-3	48-4
	Maximum Allowable Clear Span (ft-in)[5]									
4[3]	9-4	12-0	16-0	16-8	18-0	20-0	22-8	24-0	24-0	26-8
12	8-0	10-8	14-0	15-4	16-0	18-8	20-8	22-0	22-0	24-0
24	6-0	8-8	12-0	12-0	14-0	15-4	18-0	18-0	20-0	20-8
36	4-8	6-8	10-0	10-0	12-8	13-4	16-0	16-0	18-0	18-0
44	4-0	6-0	9-4	9-4	12-0	12-0	14-8	14-8	16-8	16-8
52	4-0	5-4	8-8	8-8	10-8	10-8	13-4	13-4	16-0	16-0
60	3-4	4-8	8-0	8-0	10-0	10-0	12-8	12-8	14-8	14-8

Notes:

1. Designation of combined bond beam/lintels:
   a. The first number denotes the nominal height of the bond beam/lintel in inches.
   b. The second number denotes the number of No.5 reinforcing bars in the bottom of the bond beam/lintel. The equivalent or greater area of reinforcement may be obtained by using reinforcement other than No.5 bars. For example, when 3 No.5 are required, 1 No.9 may be used. Also, 1 No.7 may be used to replace 2 No.5 or 2 No.7 may be used to replace 4 No.5. The bottom reinforcing steel is to be located not more than 2 3/4 inches clear distance from the bottom of the lintel.
2. All bond beams shall have reinforcement in the top in accordance with Section R609.6.2.
3. Use 4 foot floor span for walls parallel to hollowcore (nonloadbearing).
4. All The bottom reinforcement in precast lintels may be used to satisfy the continuous bond beam bottom reinforcement requirement.
5. This table is applicable for all roof dead loads.

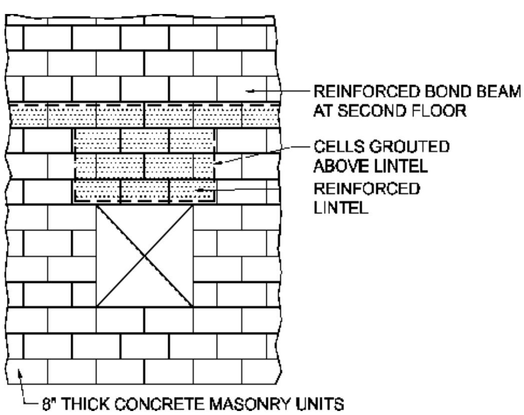


TABLE R609.6.3.2(3)
COMBINED BOND BEAM/LINTELS
BOTTOM STORY OF TWO-STORY BUILDINGS , SECOND AND BOTTOM STORIES OF THREE-STORY BUILDINGS - HOLLOWCORE FLOOR SYSTEM

Floor Span Supported (ft)	Combined Bond Beam/Lintel 8" Thick Wall[1,2,]									
	12-2	16-2	24-2	24-3	32-2	32-3	40-3	40-4	48-3	48-4
	Maximum Allowable Clear Span (ft-in)[5]									
4[3]	8-8	11-4	15-4	16-0	17-4	19-4	22-0	23-4	23-4	25-4
12	6-8	9-4	12-8	12-8	14-8	16-0	18-8	18-8	20-8	21-4
24	4-8	6-0	9-4	9-4	12-0	12-0	14-8	14-8	17-4	17-4
36	3-4	4-8	7-4	7-4	10-0	10-0	12-0	12-0	14-8	14-8
44	2-8	4-0	6-8	6-8	8-8	8-8	11-4	11-4	13-4	13-4
52	2-8	4-0	6-0	6-0	8-0	8-0	10-0	10-0	12-0	12-0
60	2-8	3-4	5-4	5-4	7-4	7-4	9-4	9-4	11-4	11-4

Notes:

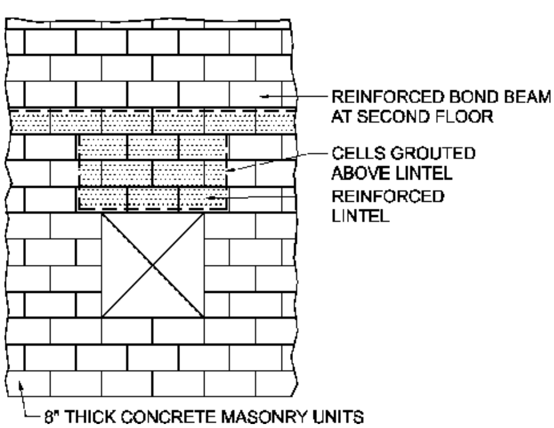
1) Designation of combined bond beam/lintels:
   a) The first number denotes the nominal height of the bond beam/lintel in inches.
   b) The second number denotes the number of No.5 reinforcing bars in the bottom of the bond beam/lintel. The equivalent or greater area of reinforcement may be obtained by using reinforcement other than No.5 bars. For example, when 3 No.5 are required, 1 No.9 may be used. Also, 1 No.7 may be used to replace 2 No.5 or 2 No.7 may be used to replace 4 No.5. The bottom reinforcing steel is to be located not more than 2 3/4 inches clear distance from the bottom of the lintel.

2.All bond beams shall have reinforcement in the top in accordance with Section R609.6.2.

3.Use 4 foot floor span for walls parallel to hollowcore (non-loadbearing).

4.All The bottom reinforcement in precast lintels may be used to satisfy the continuous bond beam bottom reinforcement requirement.

5.This table is applicable for all roof dead loads.



Section R611.8.3. Change text to read as follows:

R611.8.3 Floor and roof diaphragm construction. Floor and roof diaphragms shall be constructed of structural wood sheathing panels, attached to wood framing in accordance with Table R602.2(1) ~~R602.3(1)~~ or Table R602.2(2) ~~R602.3(2)~~ or to cold- formed steel floor framing in accordance with Table R505.3.1(2) or to cold-formed steel roof framing in accordance with Table R804.3.

Section R611.9. Change text to read as shown:

R611.9 ICF wall to top sill plate (roof) connections. Wood sill plates attaching roof framing to ICF walls shall be anchored with minimum ½ inch (12.7 mm) diameter anchor bolt embedded a minimum of 7 inches (178 mm) and placed at 6 feet (1829 mm) on center in accordance with Figure R611.9. Anchor bolts shall be located in the cores of waffle-grid and screen-grid ICF walls. Roof assemblies subject to wind uplift pressure of 20 pounds per square foot (1.44 kN/m2) or greater as established in Table R301.2(2) shall have rafter or truss ties provided in accordance with Table R802.2.9.1 ~~R802.11~~.

Section R613 No change to text to read as shown:

R613.1 General. This section prescribes performance and construction requirements for exterior window systems installed in wall systems. Waterproofing, sealing and flashing systems are not included in the scope of this section.

R613.2 Performance. Exterior windows and doors shall be designed to resist the design wind loads specified in Table R301.2(2) adjusted for height and exposure per Table R301.2(3).

Section R613.3 Change text to read as shown:

R613.3 Exterior windows, sliding and patio glass doors.

R613.3.1 Testing and Labeling. Exterior windows and glass doors shall be tested by an approved independent testing laboratory, and shall be labeled with an approved label identifying the manufacturer, performance characteristics and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade notice of acceptance to indicate compliance with the requirements of one of the following specifications:

> ANSI/AAMA/NWWDA 101/I.S. 2 or 101/I.S. 2/NAFS or AAMA/WDMA/CSA 101/I.S. 2/A440 or TAS 202 (HVHZ shall comply with TAS 202 utilizing ASTM E 1300-98 or ASTM E 1300-02).

Exceptions:
1. Door assemblies installed in nonhabitable areas where the door assembly and area are designed to accept water infiltration need not be tested for water infiltration.
2. Door assemblies installed where the overhang (OH) ratio is equal to or more than 1 need not be tested for water infiltration. The overhang ratio shall be calculated by the following equation: OH ratio = OH Length/OH Height

Where:
OH Length = The horizontal measure of how far an overhang over a door projects out from door's surface.
OH Height = The vertical measure of the distance from the door's sill to the bottom of the overhang over a door.
3. Pass-through windows for serving from a single-family kitchen, where protected by a roof overhang of 5 feet (1.5 m) or more shall be exempted from the requirements of the water infiltration test.

Glass Strength: Products tested and labeled as conforming to the requirements of s.R613.3.1 shall not be subject to the requirements of ~~Sections~~ the Florida Building Code, Building. Determination of load resistance of glass for specified loads of products not tested and certified in accordance with s. R613.3.1 shall be designed and labeled to comply with ASTM E 1300. The label shall designate the type and thickness of glass or glazing material.

R613.3.2 Supplemental label. A supplemental temporary label conforming to AAMA 203, Procedural Guide for the Window Inspection and Notification System, shall be acceptable for establishing calculated allowable design pressures higher than indicated on the label required by R613.3.1 for window sizes smaller than that required by the ANSI/AAMA/NWWDA 101/I.S. 2 or 101/I.S. 2/NAFS or AAMA/WDMA/CSA 101/I.S. 2/A440 test requirements. This supplemental label shall remain on the window until final approval by the building official.

R613.4 Exterior door assemblies. Exterior door assemblies not covered by R613.3 or R613.4.3~~2~~ shall comply with Section R613.4.1 or R613.4.2

R613.4.1 Exterior door assemblies ~~not covered by R613.3 or R613.4.1~~ shall be tested for structural integrity in accordance with ASTM E 330 Procedure A at a load of 1.5 times the required design pressure load. The load shall be sustained for 10 seconds with no permanent deformation of any main frame or panel member in excess of 0.4 percent of its span after the load is removed. HVHZ shall comply with TAS 202. After each specified loading, there shall be no glass breakage, permanent damage to fasteners, hardware parts, or any other damage which causes the door to be inoperable.

The minimum test sizes and minimum design pressures shall be as indicated in Table R613.4

The unit size tested shall qualify all units smaller in width and/or height of the same operation type and be limited to cases where frame, panels and structural members maintain the same profile as tested.

R613.4.2 ~~**613.4.1**~~ Sectional garage doors shall be tested for determination of structural performance under uniform static air pressure difference in accordance with ANSI/DASMA 108 or TAS 202 (HVHZ shall comply with TAS 202).

R613.4.3 ~~**613.4.2**~~ **Custom doors.** Custom (one of a kind) exterior door assemblies shall be tested by an approved testing laboratory or be engineered in accordance with accepted engineering practices.

R613.4.4 **~~613.4.3~~** Door components evaluated by an approved product evaluation entity, certification agency, testing laboratory or engineer may be interchangeable in exterior door assemblies provided that the door component(s) provide equal or greater structural performance as demonstrated by accepted engineering practices.

R613.4.4.1 **~~613.4.3.1~~** **Optional exterior door component testing.** With the exception of HVHZ, exterior side-hinged door assemblies not covered by Section R613.3 shall have the option to have the components of the assembly tested and rated for structural integrity in accordance with the following specification:

SDI A250.13

Following the structural testing of exterior door components, there shall be no permanent deformation of any perimeter frame or panel member in excess of 0.4 percent of its span after the load is removed. After each specified loading, there shall be no glass breakage, permanent damage to fasteners, hardware parts, or any other damage that causes the door to be inoperable, as applicable.

R613.5 Windborne debris protection. ~~Reserved~~. Protection of exterior windows , glass doors, and other glazed areas shall be in accordance with Section R 301.2.1.2.

R613.6 Anchorage methods.
R613.6.1 Anchoring requirements. Window and door assembly anchoring systems ~~assemblies~~ shall be tested to achieve the ~~anchored in accordance with the published manufacturer's recommendations to achieve the~~ design pressure specified. Substitute anchoring systems ~~used for substrates not specified by the fenestration manufacturer~~ shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice. When provided, the manufacturer's published installation instructions for as tested or substitute anchoring systems can be used. In no case shall the anchorage exceed the spacing for the tested rated performance.

R613.6.1.1 **~~R613.6.2~~** **Masonry, concrete or other structural substrate.** Where the wood shim or buck thickness is less than 11/2 inches (38 mm), window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system, in accordance with the manufacturers published installation instructions. Anchors shall be securely fastened directly into the masonry, concrete or other structural substrate material. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.

Where the wood buck thickness is 11/2 inches (38 mm) or greater, the buck shall be securely fastened to transfer load to the masonry, concrete or other structural substrate and the buck shall extend beyond the interior face of the window or door frame. Window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange to the secured wood buck in accordance with the manufacturers published installation instructions.

Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame assembly to the secured wood buck.

R613.6.1.2 ~~R613.6.3~~ Wood or other approved framing material. Where the framing material is wood or other approved framing material, window and glass door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange in accordance with the manufacturer's published installation instructions. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.

Section R613.7 Change text to read as shown:

R613.7 Mullions occurring between individual window and glass door assemblies.

R613.7.1 Mullions. Mullions, other than mullions which are an integral part of a window or glass door assembly tested and labeled in accordance with Section R613.3.1, shall be tested by an approved testing laboratory in accordance with AAMA 450 or be engineered in accordance with accepted engineering practice. ~~Both methods shall use performance criteria cited in Sections R613.7.2, R613.7.3 and R613.7.4.~~

R613.7.1.1 Engineered Mullions. Mullions qualified by accepted engineering practice shall comply with the performance criteria in Sections R613.7.2, R613.7.3, and R613.7.4.

R613.7.1.2 Mullions tested as stand alone units. Mullions tested as stand alone units in accordance with AAMA 450 shall comply with the performance criteria in Sections R613.7.2, R613.7.3, and R613.7.4.

R613.7.1.3 Mullions tested in an assembly. Mullions qualified by a test of an entire assembly in accordance with AAMA 450 shall comply with Sections R613.7.2 and R613.7.4.

R613.7.2 Load transfer. Mullions shall be designed to transfer the design pressure loads applied by the window and door assemblies to the rough opening substrate.

R613.7.3 Deflection. Mullions shall be capable of resisting the design pressure loads applied by the window and door assemblies to be supported without deflecting more than L/175, where L is the span of the mullion in inches.

R613.7.4 Structural safety factor. Mullions shall be capable of resisting a load of 1.5 times the design pressure loads applied by the window and door assemblies to be supported without exceeding the appropriate material stress levels. If tested by an approved laboratory, the 1.5 times the design pressure load shall be sustained for 10 seconds, and the permanent deformation shall not exceed 0.4 percent of the mullion span after the 1.5 times design pressure load is removed.

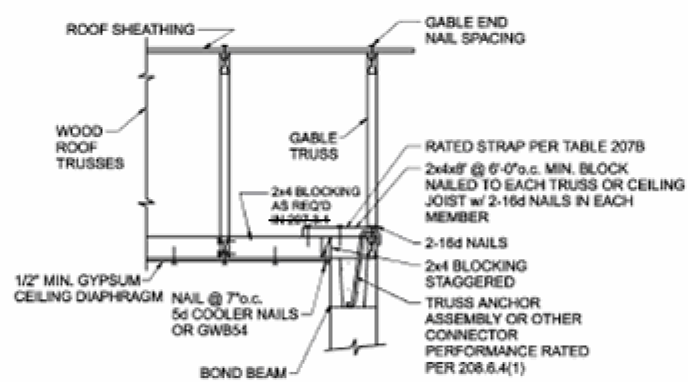
R613.8 Flashing, Sealants and Weatherstripping. Flashing and sealants for Exterior windows and doors shall comply with Section R703.8.

Section R614 Add text to read as shown:

SECTION R614
COMBINED CONCRETE, MASONRY, OR ICF AND WOOD EXTERIOR WALL CONSTRUCTION

R614.1 General. This section prescribes construction requirements for individual building elements where one or more exterior walls above the foundation contain multiple construction types. Where specific construction requirements are not specifically prescribed in this section, the requirements in the applicable sections of each material shall govern.

R614.2 Concrete, masonry, or ICF first story, wood frame second and third story.
R614.2.1 Foundation. The foundation system shall be designed in accordance with Chapter 4.
R614.2.2 First story construction. The concrete, masonry, or ICF first story shall be in accordance with the Chapter 6 for the applicable first story construction method.
R614.2.3 Floor systems. The second and third story floor system shall be in accordance with Chapter 5.
R614.2.4 Second and third story construction. The second and third story walls, ceilings, and roof shall be in accordance with the appropriate sections in Chapters 6, 8, and 9.
R614.2.5 Shear wall connections. Second story shearwalls shall be connected to first-story walls in accordance with Tables 3.2A, 3.2B, 3.2C, A-3.2A, A-3.2B, or A-3.2C of the *AF&PA Wood Frame Construction Manual for One- and Two-Family Dwellings* as applicable.
R614.3 Wood frame gable endwalls above concrete, masonry, or ICF walls. This condition is not permitted unless there is a ceiling diaphragm in accordance with Figure 3.7a and Figure 3.15 of the *AF&PA Wood Frame Construction Manual for One- and Two-Family Dwellings*.
R614.3.1 Gable construction. Gable construction shall be in accordance with the *AF&PA Wood Frame Construction Manual for One- and Two-Family Dwellings*.
R614.3.2 Wall construction. Concrete, masonry, or ICF wall construction shall be in accordance with Chapter 6.
R614.3.3 Gable connection. The connection of the wood frame gable endwall to the concrete, masonry or ICF wall shall be in accordance with Figures R614.3(1), R614.3(2), or Figure R609.4.



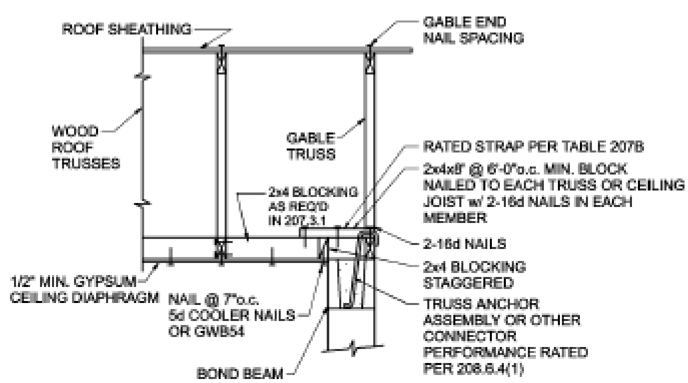
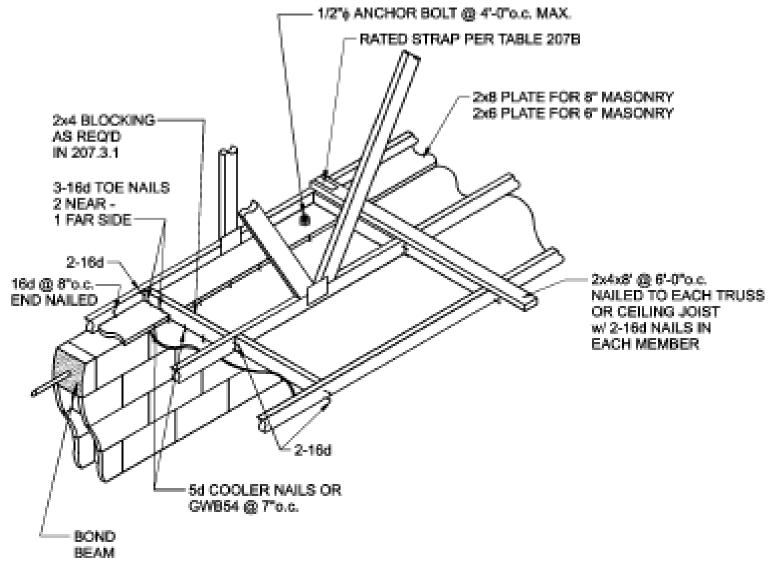


Figure R614.3(1)

Note: For Table 207B, Section 207.3.1, and Section 208.6.4(1), see the IBHS Guideline for Hurricane Resistant Residential Construction. Ceiling diaphragms where provided shall comply with IBHS section 207.2

Direct Truss to Concrete, Masonry, or ICF Wall Connection for Gypsum Board Ceiling Diaphragm



Note: For Table 207B and Section 207.3.1, see the IBHS Guideline for Hurricane Resistant Residential Construction. Ceiling diaphragms where provided shall comply with IBHS section 207.2

Figure R614.3(2)
Direct Truss to Concrete, Masonry, or ICF Wall for Gypsum Board Ceiling Diaphragm

CHAPTER 7
WALL COVERING

Section R702.3.5 Change text to read as follows:

R702.3.5 Application. Maximum spacing of supports and the size and spacing of fasteners used to attach gypsum board shall comply with Table R702.3.5. Gypsum sheathing shall be attached to exterior walls in accordance with Table R602.2(1) ~~R602.3(1).~~ Gypsum board shall be applied at right angles or parallel to framing members. All edges and ends of gypsum board shall occur on the framing members, except those edges and ends that are perpendicular to the framing members. Interior gypsum board shall not be installed where it is directly exposed to the weather or to water.

Section R703 Change text to read as shown:

R703.1 General. Exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall include flashing as described in Section R703.8. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer as required by Section R703.2. All exterior finishes shall be applied in accordance with the manufacturer's specifications or installation instructions.

R703.1.1 Load resistance. All exterior walls, wall coverings and soffits shall be capable of resisting the design pressures specified in Table R301.2(2) for walls.

R703.2 Weather-resistant sheathing paper. Asphalt saturated felt free from holes and breaks, weighing not less than 14 pounds per 100 square feet (0.683 kg/m2) and complying with ASTM D 226 or other approved weather-resistant material shall be applied over studs or sheathing of all exterior walls as required by Table R703.4. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm).

Exception: Such felt or material is permitted to be omitted in the following situations:
1. In detached accessory buildings.
~~2. Under panel siding with shiplap joints or battens.~~
2~~3~~. Under exterior wall finish materials as permitted in Table R703.4.
~~4. Under paperbacked stucco lath.~~

[**R703.2.1** Moved to 703.6.3]

R703.3 Wood, hardboard and wood structural panel siding.
R703.3.1 Panel siding. Joints in wood, hardboard or wood structural panel siding shall be made as follows unless otherwise approved. Vertical joints in panel siding shall occur over framing members, unless wood or wood structural panel sheathing is used, and shall be shiplapped or covered with a batten. Horizontal joints in panel siding shall be lapped a minimum of 1 inch (25.4 mm) or shall be shiplapped or shall be flashed with Z-flashing and occur over solid blocking, wood or wood structural panel sheathing.

R703.3.2 Horizontal siding. Horizontal lap siding shall be lapped a minimum of 1 inch (25.4 mm), or 0.5 inch (12.7 mm) if rabbeted, and shall have the ends caulked, covered with a batten, or sealed and installed over a strip of flashing.

R703.3.3 Attachment. Wood, hardboard and wood structural panel siding shall be attached in accordance with Tables R 703.3.3(1) and R703.3.3(2). Specific gravities, G for solid sawn lumber are specified in Table 703.3.3(3).

TABLE R703.3.3(1)
WOOD, HARDBOARD, AND WOOD STRUCTURAL PANEL SIDING ATTACHMENT
EXPOSURE CATEGORY B

	WIND SPEED (mph)	**100**		**110**		**120**		**130**		**140**		**150**	
		Structural Panel Siding											
		E	F	E	F	E	F	E	F	E	F	E	F
Siding Location	Stud Spacing (inches	Nail Spacing for 8d Common Nails or 10d Box nails (inches o.c.)											

	o.c.)												
Interior Zone	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12	6	12
	24	6	12	6	12	6	12	6	12[2]	6	12[2]	6	12[2]
Perimeter Edge Zone	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12	6	12[2]
	24	6	12	6	12	6	12[2]	6	12[2]	6	12[2]	6	12[2]
		Board or Lap Siding											
Siding Size	Stud Spacing (inches o.c.)	**Number of 8d Common Nails or 10d Box Nails Per Support**											
1x6 or 1x8 Siding	12-24	2		2		2		2		2		2	
1x10 or Larger Siding	12-24	3		3		3		3		3		3	

Notes:

E – Nail spacing at panel edges (inches)
F – Nail spacing at intermediate supports (inches)

1. For wall siding within 4 feet of any corner, the 4 foot perimeter edge zone attachment requirements shall be used.
2. Tabulated 12 inch o.c. nail spacing assumes siding attached to stud framing members with a specific gravity, G ≥ 0.49. For framing members with 0.42 ≤ G < 0.49, the nail spacings shall be reduced to 6 inches o.c.
3. For exterior panel siding, galvanized box nails shall be permitted to be substituted for common nails.

TABLE R703.3.3(2)
WOOD, HARDBOARD, AND WOOD STRUCTURAL PANEL SIDING ATTACHMENT
EXPOSURE CATEGORY C

	WIND SPEED (mph)	**100**		**110**		**120**		**130**		**140**		**150**	
		Structural Siding											
		E	F	E	F	E	F	E	F	E	F	E	F
Siding Location	Stud Spacing (inches o.c.)	Nail Spacing for 8d Common Nails or 10d Box nails (inches o.c.)											
Interior Zone	12	6	12	6	12	6	12	6	12	6	12	6	12
	16	6	12	6	12	6	12	6	12	6	12[2]	6	12[2]
	24	6	12	6	12[2]	6	12[2]	6	12[2]	6	6	6	6
Perimeter Edge Zone	12	6	12	6	12	6	12	6	12	6	12[2]	6	12[2]
	16	6	12	6	12	6	6	6	12[2]	6	12[2]	6	6
	24	6	12[2]	6	12[2]	6	6	6	6	6[3]	6[3]	6[3]	6[3]
		Board or Lap Siding											
Siding Size	Stud Spacing (inches o.c.)	Number of 8d Common Nails or 10d Box Nails Per Support											

1x6 or 1x8 Siding	12-24	2	2	2	2	2	2
1x10 or Larger Siding	12-24	3	3	3	3	3	3

Notes:

E – Nail spacing at panel edges (inches)
F – Nail spacing at intermediate supports (inches)

1. For wall siding within 4 feet of any corner, the 4 foot perimeter edge zone attachment requirements shall be used.
2. Tabulated 12 inch o.c. nail spacing assumes siding attached to stud framing members with a specific gravity, $G \geq 0.49$. For framing members with $0.42 \leq G < 0.49$, the nail spacings shall be reduced to 6 inches o.c.
3. Tabulated 6 inch o.c. nail spacing assumes siding attached to stud framing members with a specific gravity, $G \geq 0.49$. For framing members with $0.42 \leq G < 0.49$, the nail spacings shall be reduced to 4 inches o.c.
4. For exterior panel siding, galvanized box nails shall be permitted to be substituted for common nails.

TABLE R703.3.3(3)
SPECIFIC GRAVITIES OF SOLID SAWN LUMBER

Species Combination	Specific Gravity[1], G	Species Combination	Specific Gravity[1], G
Aspen	0.39	Mountain Hemlock	0.47
Balsam Fir	0.36	Northern Pine	0.42
Beech-Birch-Hickory	0.71	Northern Red Oak	0.68
Coast Sitka Spruce	0.39	Northern Species	0.35
Cottonwood	0.41	Northern White Cedar	0.31
Douglas Fir-Larch	0.50	Ponderosa Pine	0.43
Douglas Fir-Larch (North)	0.49	Red Maple	0.58
Douglas Fir-South	0.46	Red Oak	0.67
Eastern Hemlock	0.41	Red Pine	0.44
Eastern Hemlock-Balsam Fir	0.36	Redwood, close grain	0.44
Eastern Hemlock-Tamarack	0.41	Redwood, open grain	0.37
Eastern Hemlock-Tamarack (North)	0.47	Sitka Spruce	0.43
Eastern Softwoods	0.36		
Eastern Spruce	0.41	Southern Pine	0.55
Eastern White Pine	0.36	Spruce-Pine-Fir	0.42
Engelmann Spruce-Lodgepole Pine	0.38	Spruce-Pine-Fir (E > 2,000,000 psi MSR and MEL)	0.50
Engelmann Spruce-Lodgepole Pine[2] (MSR 1650f and higher grades)	0.46	Spruce-Pine-Fir (South)	0.36
Engelmann Spruce-Lodgepole Pine[2] (MSR 1500f and lower grades)	0.38	Western Cedars	0.36
		Western Cedars (North)	0.35
		Western Hemlock	0.47
Hem-Fir	0.43	Western Hemlock (North)	0.46
Hem-Fir (North)	0.46	Western White Pine	0.40
Mixed Maple	0.55	Western Woods	0.36
Mixed Oak	0.68	White Oak	0.73
Mixed Southern Pine	0.51	Yellow Poplar	0.43

1 Specific gravity based on weight and volume when oven-dry.
2 Applies only to Engelmann Spruce-Lodgepole Pine machine stress rated (MSR) structural lumber.

R703.3.4 Minimum thickness. Wood, hardboard and wood structural panel siding shall be of the minimum thickness specified in Tables R 703.3.4(1) and R703.3.4(2).

TABLE R703.3.4(1)
WOOD, HARDBOARD, AND WOOD STRUCTURAL PANEL SIDING MINIMUM THICKNESS
EXPOSURE CATEGORY B

WIND SPEED (mph)	**100**	**110**	**120**	**130**	**140**	**150**
	Wood Siding **Structural Panel and Hardboard Panel Siding** (Short dimension across studs)					
Stud Spacing (inches o.c.)	Minimum Panel Thickness (in.)					
12	3/8	3/8	3/8	3/8	3/8	3/8
16	3/8	3/8	3/8	7/16	15/32	15/32
24	15/32	15/32	19/32	19/32	19/32	23/32
	Board and Hardboard Lap Siding (diagonal across 3 or more supports)					
Stud Spacing (inches o.c.)	Minimum Panel Thickness (in.)					
12-16	7/16	7/16	7/16	7/16	7/16	7/16

TABLE R703.3.4(2)
WOOD, HARDBOARD, AND WOOD STRUCTURAL PANEL SIDING MINIMUM THICKNESS
EXPOSURE CATEGORY C

WIND SPEED (mph)	**100**	**110**	**120**	**130**	**140**	**150**
	Wood Structural Panel and Hardboard Panel Siding (Short dimension across studs)					
Stud Spacing (inches o.c.)	Minimum Panel Thickness (in.)					
12	3/8	3/8	3/8	3/8	3/8	7/16
16	3/8	7/16	15/32	15/32	15/32	19/32
24	19/32	19/32	19/32	23/32	23/32	-
	Board and Hardboard Lap Siding (diagonal across 3 or more supports)					
Stud Spacing (inches o.c.)	Minimum Panel Thickness (in.)					
12-16	7/16	7/16	7/16	7/16	7/16	7/16

R703.4 Attachments. Unless specified otherwise, all wall coverings shall be secured with ~~securely fastened in accordance with~~ ~~Table R703.4 or with other~~ approved aluminum, stainless steel, zinc-coated or other approved corrosion-resistive fasteners in accordance with the approved manufacturer's installation instructions. Where wind pressures determined in accordance with Table R301.2(2) do not exceed 30 psf, wall coverings are permitted to be installed in accordance with Table R703.4.

R703.5Wood shakes and shingles. Wood shakes and shingles shall conform to CSSB *Grading Rules for Wood Shakes and Shingles.*

R703.5.1 Application. Wood shakes or shingles shall be applied either single-course or double-course over nominal 1/2-inch (12.7 mm) wood-based sheathing or to furring strips over 1/2-inch (12.7 mm) nominal nonwood sheathing. A weather-resistant permeable membrane shall be provided over all sheathing, with horizontal overlaps in the membrane of not less than 2 inches (51 mm) and vertical overlaps of not less than 6 inches (152 mm). Where furring strips are used, they shall be 1 inch by 3 inches or 1 inch by 4 inches (25.4 mm by 76 mm or 25.4 mm by 102 mm) and shall be fastened horizontally to the studs with 7d or 8d box nails and shall be spaced a distance on center equal to the actual weather exposure of the shakes or shingles, not to exceed the maximum exposure specified in Table R703.5.2. The spacing between adjacent shingles to allow for expansion shall not exceed 1/4 inch (6.4 mm), and between adjacent shakes, it shall not exceed 1/2 inch (12.7 mm). The offset spacing between joints in adjacent courses shall be a minimum of 11/2 inches (38 mm).

R703.5.2 Weather exposure. The maximum weather exposure for shakes and shingles shall not exceed that specified in Table R703.5.2.

R703.5.3 Attachment. Wood shakes and shingles, and attachment and supports shall be capable of resisting the wind pressures determined in accordance with Table R301.2(2). Where wind pressures determined in accordance with Table R301.2(2) do not exceed 30 psf, ~~E~~each shake or shingle shall be held in place by two hot-dipped zinc-coated, stainless steel, or aluminum nails ~~or staples~~. The fasteners shall be long enough to penetrate the sheathing or furring strips by a minimum of 1/2 inch (12.7 mm) and shall not be overdriven. Where pressures determined in accordance with Table R301.2(2) exceed 30 psf, the attachment shall be designed to resist the prescribed wind pressures.

R703.5.3.1 Staple attachment. Reserved. ~~Staples shall not be less than 16 gage and shall have a crown width of not less than 7/16 inch (11.1 mm), and the crown of the staples shall be parallel with the butt of the shake or shingle. In single-course application, the fasteners shall be concealed by the course above and shall be driven approximately 1 inch (25.4 mm) above the butt line of the succeeding course and 3/4 inch (19.1 mm) from the edge. In double-course applications, the exposed shake or shingle shall be face-nailed with two casing nails, driven approximately 2 inches (51 mm) above the butt line and 3/4 inch (19.1 mm) from each edge. In all applications, staples shall be concealed by the course above. With shingles wider than 8 inches (203 mm) two additional nails shall be required and shall be nailed approximately 1 inch (25.4 mm) apart near the center of the shingle.~~

TABLE R703.4

WEATHER-RESISTANT SIDING ATTACHMENT AND MINIMUM THICKNESS

Siding Material		Nominal Thickness[a] (inches)	Joint Treatment	Sheathing Paper Required	Type of Supports for the Siding Material and Fasteners[b,c,d]					
					Wood or wood structural panel sheathing	Fiberboard sheathing into stud	Gypsum sheathing into stud	Foam plastic sheathing into stud	Direct to studs	Number or spacing of fasteners
Horizontal aluminum[c]	Without insulation	0.019[f]	Lap	No	0.120 nail 1 ½" long	0.120 nail 2" long	0.120 nail 2" long	0.120 nail[z]	Not allowed	Same as stud spacing
		0.024	Lap	No	0.120 nail 1 ½" long	0.120 nail 2" long	0.120 nail 2" long	0.120 nail[z]	Not allowed	
	With insulation	0.019	Lap	No	0.120 nail 1 ½" long	0.120 nail 2 ½" long	0.120 nail 2 ½" long	0.120 nail[z]	0.120 nail 1 ½" long	
Brick veneer Concrete masonry veneer		2 2	Section R703	Yes (Note m)	See Section R703 and Figure R703.7[h]					
Hardboard[l] Panel siding-vertical		~~7/16~~ See Section 703.3.4	Note g	See R703.2	~~Note o~~	~~Note o~~	~~Note o~~	~~Note o~~	~~Note o~~	~~6" panel edges 12" inter. sup.[p]~~
					See Section R703.3.3					
Hardboard[l] Lap-siding-horizontal		~~7/16~~ See Section 703.3.4	Note r	Yes	~~Note q~~	~~Note q~~	~~Note q~~	~~Note q~~	~~Note q~~	~~Same as stud spacing 2 per bearing~~
					See Section R703.3.3					
Steel[i]		29 ga.	Lap	No	0.113 nail 1 3/4" ~~Staple-1 3/4"~~	0.113 nail 2 3/4" ~~Staple-2 ½"~~	0.113 nail 2 ½"" ~~Staple-2 1/4"~~	0.113 nail[z] ~~Staple[z]~~	Not allowed	Same as stud spacing
Stone veneer		2	Section R703	Yes (Note m)	See Section R703 and Figure R703.7[h]					
~~Particleboard panels~~		~~3/8 - ½~~	~~Note g~~	~~Note g~~	~~6d box nail~~	~~6d box nail~~	~~6d box nail~~	~~box nail[z]~~	~~6d box nail, 3/8 not allowed~~	~~6" panel edge 12" inter. sup.~~
		~~5/8~~	~~Note g~~	~~Note g~~	~~6d box nail~~	~~8d box nail~~	~~8d box nail~~	~~box nail[z]~~	~~6d box nail~~	
Plywood panel[j] l (exterior grade)		3/8	Note g	Note g	0.099 nail-2"	0.113 nail-2 ½"	0.099 nail-2"	0.113 nail[z]	0.099 nail-2"	6" on edges
Vinyl Siding[n]		0.035	Lap	~~No~~ Yes	~~0.120 nail 1 ½" Staple-1 3/4"~~	~~0.120 nail 2" Staple-2 ½"~~	~~0.120 nail 2" Staple-2 ½"~~	~~0.120 nail[z] Staple[z]~~	~~Not allowed~~	~~Same as stud spacing~~
					See Section R703.11					
Wood[k] Rustic, drop		3/8 Min	Lap	No	Fastener penetration into stud-1"				0.113 nail-2 ½" ~~Staple-2"~~	Face nailing up to 6" widths, 1 nail per bearing; 8" widths and over, 2 nails per bearing
Shiplap		19/32 Average	Lap	No						
Bevel		7/16								
Butt tip		3/16	Lap	No						
Fiber cement panel siding[s]		5/16	Note t	Yes Note y	6d corrosion resistant nail[u]	6d corrosion resistant nail[u]	6d corrosion resistant nail[u]	----	4d corrosion resistant nail[v]	6" oc on edges, 12" oc on intermed. studs
				Yes	6d	6d	6d		Note x	

Fiber cement lap siding[s]	5/16	Note w	Note y	corrosion resistant nail[u]	corrosion resistant nail[u]	corrosion resistant nail[u]	----	~~6d corrosion resistant nail[x]~~	Note x

For SI: 1 inch = 25.4 mm

a. Based on stud spacing of 16 inches on center Where studs are spaced 24 inches, siding shall be applied to sheathing approved for that spacing.
b. Nail is a general description and shall be T-head, modified round head, or round head with smooth or deformed shanks.
c. Reserved ~~Staples shall have a minimum crown width of 7/16-inch outside diameter and be manufactured of minimum No. 16 gage wire.~~
d. Nails ~~or staples~~ shall be aluminum, galvanized, or rust-preventive coated and shall be driven into the studs for fiberboard or gypsum backing.
e. Aluminum nails shall be used to attach aluminum siding.
f. Aluminum (0.019 inch) shall be unbacked only when the maximum panel width is 10 inches and the maximum flat area is 8 inches. The tolerance for aluminum siding shall be +0.002 inch of the nominal dimension.
g. If boards or panels are applied over sheathing or a weather-resistant membrane, joints need not be treated. Otherwise, vertical joints shall occur at studs and be covered with battens or be lapped.
h. All attachments shall be coated with a corrosion-resistive coating.
i. Shall be of approved type.
j. Three-eighths-inch plywood shall not be applied directly to studs spaced greater than 16 inches on center when long dimension is parallel to studs. One-half-inch plywood shall not may be applied directly to studs spaced greater than 24 inches on center. The stud spacing shall not exceed the panel span rating provided by the manufacturer unless the panels are installed with the face grain perpendicular to studs or over sheathing approved for that stud spacing.
k. Woodboard sidings applied vertically shall be nailed to horizontal nailing strips or blocking set 24 inches on center Nails shall penetrate 1.5 inches into studs, studs and wood sheathing combined, or blocking. A weather-resistant membrane shall be installed weatherboard fashion under the vertical siding unless the siding boards are lapped or battens are used.
l. Hardboard siding shall comply with AHA A135.6.
m. For masonry veneer, a weather-resistant membrane or building paper is not required over water-repellent sheathing materials when a 1-inch air space is provided between the veneer and the sheathing. When the 1-inch space is filled with mortar, a weather-resistant membrane or building paper is required over studs or sheathing.
n. Vinyl siding shall comply with ASTM D 3679.
o. Reserved. ~~Minimum shank diameter of 0.092 inch, minimum head diameter of 0.225 inch, and nail length must accommodate sheathing and penetrate framing 1.5 inches.~~
p. When used to resist shear forces, the spacing must be 4 inches at panel edges and 8 inches on interior supports.
q. Reserved. ~~Minimum shank diameter of 0.099 inch, minimum head diameter of 0.240 inch, and nail length must accommodate sheathing and penetrate framing 1.5 inches.~~
r. Vertical end joints shall occur at studs and shall be covered with a joint cover or shall be caulked.
s. Fiber cement siding shall comply with the requirements of R703.10 ~~ASTM C 1186~~.
t. See R703.10.1.
u. ~~Minimum 0.102" smooth shank, 0.255" round head~~. Corrosion-resistant fasteners shall comply with ASTM F1667.
v. Reserved. ~~Minimum 0.099" smooth shank, 0.250" round head.~~
w See R703.10.2.

Note "x". Face nailing: one 6d common nail through the overlapping planks at each stud. ~~2 nails at each stud~~. Concealed nailing: one 11 gage roofing nail (0.120 inch shank, 0.371 inch head diameter, 1½ inch long) through the top edge of each plank at each stud. ~~1-1/2 galv. roofing nail (0.371" head diameter, 0.120" shank) or 6d galv. box nail at each stud.~~

~~x. Face nailing: 2 nails at each stud. Concealed nailing: one 11 gage 1-1/2 galv. roofing nail (0.371" head diameter, 0.120" shank) or 6d galv. box nail at each stud.~~
y. See R703.2 Exceptions.
z. Minimum nail length must accommodate sheathing and penetrate framing 1.5 inches.

R703.5.4 Bottom courses. The bottom courses shall be doubled.

R703.6 Exterior plaster.
R703.6.1 Exterior use of portland cement plaster shall comply with the application requirements of ASTM C 926.

R703.6.2 Installation of exterior lathing and framing shall comply with the application requirements of ASTM C 1063.

R703.6.3 Where cement plaster (stucco) is to be applied to lath over frame construction, measures shall be taken to prevent bonding between the cement plaster and the water resistive barrier. A bond break shall be provided between the water resistive barrier and the cement plaster (stucco) consisting of one of the following:

1. Two layers of an approved water resistant barrier material complying with Section R703.2, or
2. One layer of an approved water resistant barrier complying with Section R703.2 over an approved plastic house wrap, or
3. Other approved methods or materials applied in accordance with the manufacturer's installation instructions.

[Moved here from R703.2.1]

R703.6.4 ~~703.6.3~~ Pneumatically placed portland cement plaster.
R703.6.4.1 ~~703.6.3.1~~ Pneumatically placed portland cement plaster shall be a mixture of portland cement and aggregate conveyed by air through a pipe or flexible tube, and deposited by air pressure in its final position.

R703.6.4.2 ~~703.6.3.2~~ Rebound material may be screened and reused as aggregate in an amount not greater than 25 percent of the total sand in any batch.

R703.6.4.3 ~~703.6.3.3~~ Pneumatically placed portland cement plaster shall consist of a mixture of one part cement to not more than five parts of aggregate. Plasticity agents may be used as specified elsewhere in this chapter. Except when applied to concrete or masonry, such plaster shall be applied in not less than two coats to a minimum total thickness of 7/8 inch (22.2 mm)

R703.7 Stone and masonry veneer, general. All stone and masonry veneer shall be installed in accordance with this chapter, Table R703.4 and Figure R703.7. The provisions of this section are limited to areas where the wind speed is equal or less than 130 mph. ~~Such veneers installed over a backing of wood or cold-formed steel shall be limited to the first story above grade and shall not exceed 5 inches (127 mm) in thickness.~~

Exceptions: ~~Reserved~~ For detached one- and two- family dwellings, exterior masonry veneer with a backing of wood or cold-formed steel framing shall not exceed 30 feet (9144 mm) in height above the noncombustible foundation, with an additional 8 feet (2348 mm) permitted for gabled ends.

R703.7.1 Interior veneer support. Veneers used as interior wall finishes shall be permitted to be supported on wood or cold-formed steel floors that are designed to support the loads imposed.

R703.7.2 Exterior veneer support. Exterior masonry veneers having an installed weight of 40 pounds per square foot (195 kg/m2) or less shall be permitted to be supported on wood or cold-formed steel construction. When masonry veneer supported by wood or cold-formed steel construction adjoins masonry veneer supported by the foundation, there shall be a movement joint between the veneer supported by the wood or cold-formed steel construction and the veneer supported by the foundation. The wood or cold-formed steel construction supporting the masonry veneer shall be designed to limit the deflection to 1/600 of the span for the supporting members. The design of the wood or cold-formed steel construction shall consider the weight of the veneer and any other loads.

R703.7.2.1 Support by steel angle. A minimum 6 inches by 4 inches by 5/16 inch (152 mm by 102 mm by 8 mm) steel angle, with the long leg placed vertically, shall be anchored to double 2 inches by 4 inches (51 mm by 102 mm) wood studs at a maximum on center spacing of 16 inches (406 mm). Anchorage of the steel angle at every double stud spacing shall be a minimum of two 7/16 inch (11.1 mm) diameter by 4 inches (102 mm) lag screws. The steel angle shall have a minimum clearance to underlying construction of 1/16 inch (1.6 mm). A minimum of two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer wythe in accordance with Figure R703.7.1. The maximum height of masonry veneer above the steel angle support shall be 12 feet, 8 inches (3861 mm). The air space separating the masonry veneer from the wood backing shall be in accordance with R703.7.4 and R703.7.4.2. The method of support for the masonry veneer on wood construction shall be constructed in accordance with Figure R703.7.2.2.~~1~~

The maximum slope of the roof construction without stops shall be 7:12. Roof construction with slopes greater than 7:12 but not more than 12:12 shall have stops of a minimum 3 inches by 3 inches by 1/4 inch (76 mm by 76 mm by 6 mm) steel plate welded to the angle at 24 inches (610 mm) on center along the angle or as approved by the building official.

R703.7.2.2 Support by roof construction. A steel angle shall be placed directly on top of the roof construction. The roof supporting construction for the steel angle shall consist of a minimum of three 2-inch by 6-inch (51 mm by 152 mm) wood members. The wood member abutting the vertical wall stud construction shall be anchored with a minimum of three 5/8-inch (15.9 mm) diameter by 5-inch (127 mm) lag screws to every wood stud spacing. Each additional roof member shall be anchored by the use of two 10d nails at every wood stud spacing. A minimum of two-thirds the width of the masonry veneer thickness shall bear on the steel angle. Flashing and weep holes shall be located in the masonry veneer wythe in accordance with Figure R703.7.1. The maximum height of the masonry veneer above the steel angle support shall be 12 feet, 8 inches (3861 mm). The air space separating the masonry veneer from the wood backing shall be in accordance with R703.7.4 and R703.7.4.2. The method of support for the masonry veneer on wood construction shall be constructed in accordance with Figure R703.7.2.1.~~2~~.
The maximum slope of the roof construction without stops shall be 7:12. Roof construction with slopes greater than 7:12 but not more than 12:12 shall have stops of a minimum 3 inches by 3 inches by 1/4 inch (76 mm by 76 mm by 6 mm) steel plate welded to the angle at 24 inches (610 mm) on center along the angle or as approved by the building official.

R703.7.3 Lintels. Masonry veneer shall not support any vertical load other than the dead load of the veneer above. Veneer above openings shall be supported on lintels of non-combustible materials and the allowable span shall not exceed the values set forth in Table R703.7.3. The lintels shall have a length of bearing of not less than 4 inches (102 mm).

R703.7.4 Anchorage. Masonry veneer shall be anchored to the supporting wall with corrosion-resistant metal ties. Where veneer is anchored to wood backings through the use of corrugated sheet metal ties, the distance separating the veneer from the sheathing material shall be a maximum of 1 inch (25.4 mm). Where the veneer is anchored to wood backings through the use of metal strand wire ties, the distance separating the veneer from the sheathing material shall be a maximum of 41/2 inches (114 mm). Where the veneer is anchored to cold-formed steel backings, adjustable metal strand wire ties shall be used. Where veneer is anchored to cold-formed steel backings, the distance separating the veneer from the sheathing material shall be a maximum of 4.5 inches (114 mm).

R703.7.4.1 Size and spacing. Veneer ties, if strand wire, shall not be less in thickness than No. 9 U.S. gage wire and shall have a hood embedded in the mortar joint, or if sheet metal, shall be not less than No. 22 U.S. gage by 7/8 inch (22.3 mm) corrugated. Each tie shall be spaced not more than 24 inches (610mm)on center horizontally and vertically and shall support not more than 2.67 square feet (0.248 m2) of wall area.

Exception: Where the wind speed ~~pressure~~ determined in accordance with Figure R301.2(4) exceeds 110 mph (176.99 km/h) or is less than or equal to 130 mph (208 km/h) ~~30 pounds per square foot pressure (1.44kN/m^2)~~, each tie shall support not more than 1.8 ~~2~~ square feet (0.167 ~~0.186~~ m^2) of wall area and anchors shall be spaced at a maximum 18 inches (457 mm) horizontally and vertically.

R703.7.4.1.1 Veneer ties around wall openings. Veneer ties around wall openings. Additional metal ties shall be provided around all wall openings greater than 16 inches (406 mm) in either dimension. Metal ties around the perimeter of openings shall be spaced not more than 3 feet (9144 mm) on center and placed within 12 inches (305 mm) of the wall opening.

R703.7.4.2 Air space. The veneer shall be separated from the sheathing by an air space of a minimum of 1 inch (25.4 mm) but not more than 4.5 inches (114 mm). The weather-resistant membrane or asphalt-saturated felt required by Section R703.2 is not required over water-repellent sheathing materials.

Exception: Where the wind pressure determined in accordance with Table R301.2(2) exceeds 30 pounds per square foot pressure (1.44 kN/m2), the air space shall not exceed 2 inches (51 mm).

R703.7.4.3 Mortar or grout fill. As an alternate to the air space required by Section R703.7.4.2, mortar or grout shall be permitted to fill the air space. When the 1-inch (25.4 mm) space is filled with mortar, a weather-resistant membrane or building paper is required over studs or sheathing. When filling the air space, it is permitted to replace the sheathing and weather-resistant membrane or asphalt-saturated felt paper with a wire mesh and approved paper or an approved paper-backed reinforcement attached directly to the studs.

R703.7.5 Flashing. Flashing shall be located beneath the first course of masonry above finished ground level above the foundation wall or slab and at other points of support, including structural floors, shelf angles and lintels when masonry veneers are designed in accordance with Section R703.7. See Section R703.8 for additional requirements.

R703.7.6 Weepholes. Weepholes shall be provided in the outside wythe of masonry walls at a maximum spacing of 33 inches (838 mm) on center.Weepholes shall not be less than 3/16 inch (4.8 mm) in diameter. Weepholes shall be located immediately above the flashing.

Section R703.8 Change to read as follows:

R703.8 Flashing. Approved corrosion-resistive flashing shall be provided in the exterior wall envelope in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. The flashing shall extend to the surface of the exterior wall finish and shall be installed to prevent water from reentering the exterior wall envelope. Approved corrosion-resistant flashings shall be installed at, but not limited to, all of the following locations:

1. Flashing for windows and doors shall be in accordance with Section R613.8. ~~At top of all exterior window and door openings in such a manner as to be leakproof, except that self-flashing windows having a continuous lap of not less than 11/8 inches (28 mm) over the sheathing material around the perimeter of the opening, including corners, do not require additional flashing; jamb flashing may also be omitted when specifically approved by the building official.~~
2. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings.
3. Under and at the ends of masonry, wood or metal copings and sills.
4. Continuously above all projecting wood trim.
5. Where exterior porches, decks or stairs attach to a wall or floor assembly of wood-frame construction.
6. At wall and roof intersections.
7. At built-in gutters.

Section R703.9 Change text to read as shown:

R703.9 Exterior insulation finish systems, general. All Exterior Insulation Finish Systems (EIFS) shall be designed or tested to meet the wind pressures specified in Table R301.2(2) and installed in accordance with the manufacturer's approved installation instructions and the requirements of this section. Decorative trim shall not be face nailed through the EIFS. The EIFS shall terminate not less than 6 inches (152 mm) above the finished ground level.

R703.9.1 Weather-resistive barrier. All EIFS shall have a weather-resistive barrier applied between the underlying water-sensitive building components and the exterior insulation, and a means of draining water to the exterior of the veneer. A weather-resistive barrier shall be compliant with ASTM D 226 Type I asphalt saturated felt or equivalent, shall be applied horizontally with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and shall have all vertical joints lapped not less than 6 inches (152 mm).

R703.9.2 Flashing, general. Flashing of EIFS shall be provided in accordance with the requirements of Section R703.8.

R703.10 Fiber-cement siding. Fiber-cement siding complying with ASTM C1186, Type A, minimum Grade II, shall be permitted on exterior walls in accordance with the approved manufacturer's installation instructions.

R703.10.1 Fastening. Fiber-cement siding shall be securely fastened with aluminum, copper, zinc, zinc-coated or other approved corrosion-resistant fasteners in accordance with the manufacturer's approved installation instructions. Attachment and supports shall be capable of resisting the wind pressure determined in accordance with Table R301.2(2). Where the wind pressure determined in accordance with Table R301.2(2) does not exceed 30 pounds per square foot pressure (1.44kN/m2), fiber-cement siding is permitted to be attached in accordance with Table R703.4.

~~**R703.10.1 Panel siding.** Panels shall be installed with the long dimension parallel to framing. Vertical joints shall occur over framing members and shall be sealed with caulking or covered with battens. Horizontal joints shall be flashed with Z-flashing and blocked with solid wood framing.~~

R703.10.2 Panel Siding. Panels shall be installed with the long dimension either parallel or perpendicular to framing. Vertical and horizontal joints shall occur over framing members and shall be sealed with caulking or covered with battens. Panel siding shall be installed with fasteners according to Table R703.4 or approved manufacturer's installation instructions. ~~Horizontal joints shall be flashed with Z-flashing and blocked with solid wood framing.~~

~~**R703.10.32 Horizontal lap siding.** Lap siding shall be lapped a minimum of 11/4 inches (32 mm) and shall have the ends sealed with caulking, covered with an H-section joint cover, or located over a strip of flashing. Lap siding courses may be installed with the fastener heads exposed or concealed, according to approved manufacturers' installation instructions.~~

R703.10.3 Lap siding. Lap siding having a maximum width of 12 inches shall be lapped a minimum of 1¼ inches (32 mm) and shall have the ends sealed with caulking, covered with an H-section joint cover, or located over a strip of flashing. Lap siding courses may be installed with the fastener heads exposed or concealed, according to Table R703.4 or approved manufacturer's installation instructions.

R703.11 Vinyl Siding. Vinyl siding shall comply with ASTM D 3679 and is permitted to be used on exterior walls for in accordance with the manufacturer's approved installation instructions.

Section R703.11.1 Add new text to read as shown:

R703.11.1 Labeling. Vinyl Siding shall be labeled as conforming to the requirements of ASTM D 3679

Section R703.12 Add new text to read as shown:

R703.12 Metal veneers. Veneers of metal shall be fabricated from approved corrosion-resistant materials or shall be protected front and back with porcelain enamel, or otherwise be treated to render the metal resistant to corrosion. Such veneers shall not be less than specified in Table R703.13 mounted on wood or metal furring strips or approved sheathing on the wood construction.

R703.12.1 Attachment. Exterior metal veneer shall be securely attached to the supporting masonry or framing members with corrosion-resistant fastenings, metal ties or by other approved devices or methods capable of resisting the wind pressures specified in Table R301.2(2)., but in no case less than 20 psf (0.958 kg/m2). Where the wind pressure determined in accordance with Table R301.2(2) do not exceed 30 pounds per square foot pressure (1.44 kN/m2), metal veneers are permitted to be attached in accordance with Table R703.4.

R703.12.2 Weather protection. Metal supports for exterior metal veneer shall be protected by painting, galvanizing or by other equivalent coating or treatment. Wood studs, furring strips or other wood supports for exterior metal veneer shall be approved pressure-treated wood or protected as required in Section 1403.2 of the *Florida Building Code, Building*. Joints and edges exposed to the weather shall be caulked with approved durable waterproofing material or by other approved means to prevent penetration of moisture.

R703.12.3 Aluminum Siding. Aluminum siding shall conform to the requirements of AAMA 1402.

R703.13 Weather protection.
Exterior walls shall provide weather protection for the building. The materials of the minimum nominal thickness specified in Table R703.13 ~~R703.11~~ shall be acceptable as approved weather coverings.

TABLE R703.13
MINIMUM THICKNESS OF WEATHER COVERINGS

COVERING TYPE	MINIMUM THICKNESS (inches)
Adhered masonry veneer	0.25
Anchored masonry veneer	2.625
Aluminum siding	0.019
Asbestos-cement boards	0.125
Asbestos shingles	0.156
Cold-rolled copperd	0.0216 nominal
Copper shinglesd	0.0162 nominal
Exterior plywood (with sheathing)	0.313
Exterior plywood (without sheathing)	See Section 2304.6
Fiberboard siding	0.5
Fiber cement lap siding	0.25c
Fiber cement panel siding	0.25c
Glass-fiber reinforced concrete panels	0.375
Hardboard sidingc	0.25
High-yield copperd	0.0162 nominal
Lead-coated copperd	0.0216 nominal
Lead-coated high-yield copper	0.0162 nominal
Marble slabs	1
Particleboard (with sheathing)	See Section 2304.6
Particleboard (without sheathing)	See Section 2304.6
Precast stone facing	0.625
Steel (approved corrosion resistant)	0.0149
Stone (cast artificial)	1.5
Stone (natural)	2
Structural glass	0.344
Stucco or exterior Portland cement plaster	
Three-coat work over:	
Metal plaster base	0.875b nominal
Unit masonry	0.625b nominal
Cast-in-place or precast concrete	0.625b nominal
Two-coat work over:	
Unit masonry	0.5b nominal
Cast-in-place or precast concrete	0.375b nominal
Terra cotta (anchored)	1
Terra cotta (adhered)	0.25
Vinyl siding	0.035
Wood shingles	0.375
Wood siding (without sheathing)a	0.5

For SI: 1 inch = 25.4 mm.
a. Wood siding of thicknesses less than 0.5 inch shall be placed over sheathing that conforms to Section 2304.6.

b. Exclusive of texture.
c. As measured at the bottom of decorative grooves.
d. 16 ounces per square foot for cold-rolled copper and lead-coated copper, 12 ounces per square foot for copper shingles, high-yield copper and ounces per square foot for copper shingles, high-yield copper and lead-coated high-yield copper.

R703.14 Drained assembly wall over mass assembly wall. Where wood frame or other types of drained wall assemblies are constructed above mass wall assemblies, flashing or other approved drainage system shall be installed as required by R703.8.

CHAPTER 8
ROOF-CEILING CONSTRUCTION

Section R802.1 Change text to read as shown:

R802.1 General Requirements. Roof and ceiling framing of wood construction shall be designed and constructed in accordance with the provisions of this Section.

R802.1.1 ~~**R802.1**~~ **Identification.** Load-bearing dimension lumber for rafters, trusses and ceiling joists shall be identified by a grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certificate of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

R802.1.3 ~~**R802.1.2**~~**End-jointed lumber.** Approved end-jointed lumber identified by a grade mark conforming to Section R802.1.1 ~~R802.1~~ may be used interchangeably with solid-sawn members of the same species and grade.

R802.1.4 ~~**R802.1.3**~~ **Fire-retardant-treated wood.** Fire-retardant treated wood is any wood product which, when impregnated with chemicals by a pressure process or other means during manufacture, shall have, when tested in accordance with ASTM E84, a listed flame spread index of 25 or less and show no evidence of significant progressive combustion when the test is continued for an additional 20-minute period. In addition, the flame front shall not progress more than 10.5 feet (3200 mm) beyond the center line of the burners at any time during the test.

R802.1.4.1 ~~**R802.1.3.1**~~ **Labeling.** Fire-retardant-treated lumber and wood structural panels shall be labeled. The label shall contain:

1. The identification mark of an approved agency in accordance with Section 1703.5 of the *Florida Building Code, Building*.
2. Identification of the treating manufacturer.
3. The name of the fire-retardant treatment.
4. The species of wood treated.
5. Flame spread and smoke developed rating.
6. Method drying after treatment.
7. Conformance with appropriate standards in accordance with Sections R802.1.4.2 ~~R802.1.3.2~~ through R802.1.4.5 ~~R802.1.3.5~~.
8. For FRTW exposed to weather, damp or wet location, the words "No increase in the listed classification when subjected to the Standard Rain Test" (ASTM D2898).

R802.1.4.2 ~~**R802.1.3.2**~~ **Strength adjustments.** Design values for untreated lumber and wood structural panels as specified in Section R802.1.1, shall be adjusted for fire retardant treated wood. Adjustments to design values shall be based upon an approved method of investigation which takes into consideration the effects of the anticipated temperature and humidity to which the fire-retardant- treated wood will be subjected, the type of treatment and redrying procedures.

R802.1.4.2.1 ~~**R802.1.3.2.1**~~ **Wood structural panels.** The effect of treatment and the method of redrying after treatment, and exposure to high temperatures and high humidities on the flexure properties of fire-retardant- treated softwood plywood shall be determined in accordance with ASTM D 5516. The test data developed by ASTM D 5516 shall be used to develop adjustment factors, maximum loads and spans, or both for untreated plywood design values in accordance with ASTM D 6305. Each manufacturer shall publish the allowable maximum loads and spans for service as floor and roof sheathing for their treatment.

R802.1.4.2.2 ~~**R802.1.3.2.2**~~ **Lumber.** For each species of wood treated the effect of the treatment and the method of redrying after treatment and exposure to high temperatures and high humidities on the allowable design properties of fire-retardant-treated lumber shall be determined in accordance with ASTM D 5664. The test data developed by ASTM D 5664 shall be used to develop modification factors for use at or near room temperature and at elevated temperatures and humidity in accordance with an approved method of investigation.

Each manufacturer shall publish the modification factors for service at temperatures of not less than 80°F (26.7°C) and for roof framing. The roof framing modification factors shall take into consideration the climatological location.

R802.1.4.3 ~~**R802.1.3.3**~~ **Exposure to weather.** Where fire-retardant- treated wood is exposed to weather, or damp or wet locations, it shall be identified as "Exterior" to indicate there is no increase in the listed flame spread index as defined in Section R802.1.4~~3~~when subjected to ASTM D 2898.

R802.1.4.4 ~~**R802.1.3.4**~~ **Interior applications.** Interior fire retardant- treated wood shall have a moisture content of not over 28 percent when tested in accordance with ASTM D 3201 procedures at 92 percent relative humidity. Interior fire-retardant-treated wood shall be tested in accordance with Section R802.1.4~~3~~.2.1 or R802.1.4~~3~~.2.2. Interior fire-retardant-treated wood designated as Type A shall be tested in accordance with the provisions of this section.

R802.1.4.5 ~~**R802.1.3.5**~~ **Moisture content.** Fire-retardant-treated wood shall be dried to a moisture content of 19 percent or less for lumber and 15 percent or less for wood structural panels before use. For wood kiln dried after treatment (KDAT) the kiln temperatures shall not exceed those used in kiln drying the lumber and plywood submitted for the tests described in Section R802.1.4~~3~~.2.1 for plywood and R802.1.4~~3~~.2.2 for lumber.

R802.1.5 ~~**R802.1.4**~~ **Structural glued laminated timbers.** Glued laminated timbers shall be manufactured and identified as required in AITC A190.1 and ASTM D3737.

R802.1.6 ~~**R802.10**~~ **Wood trusses.**

R802.1.6.1 ~~**R802.10.1**~~ **Truss design drawings.** Truss design drawings, prepared in conformance with Section **R802.1.6.1** ~~R802.10.1~~, shall be provided to the building official and approved prior to installation. Truss design drawings shall include, at a minimum, the information specified below. Truss design drawing shall be provided with the shipment of trusses delivered to the jobsite.

1. Design wind speed and exposure category.

2 ~~1~~. Slope or depth, span and spacing.

3 ~~2~~. Location of all joints.

4 ~~3~~. Required bearing widths.

5 4. Design loads as applicable.

5 4.1 Top chord live load.

5 4.2 Top chord dead load.

5 4.3 Bottom chord live load.

5 4.4 Bottom chord dead load.

5 4.5 Concentrated loads and their points of application.

5 4.6 Controlling wind and earthquake loads.

6 ~~5.~~ Adjustments to lumber and joint connector design values for conditions of use.

7 ~~6~~. Each reaction force and direction.

8 ~~7~~. Joint connector type and description (e.g., size, thickness or gauge) and the dimensioned location of each joint connector except where symmetrically located relative to the joint interface.

9 ~~8~~. Lumber size, species and grade for each member.

10 ~~9~~. Connection requirements for:

10 ~~9~~.1 Truss to truss girder.

10 ~~9~~.2 Truss ply to ply.

10 ~~9~~.3 Field splices.

11 ~~10~~. Calculated deflection ratio and/or maximum description for live and total load.

12 ~~11~~. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss design drawing or on supplemental documents.

13 ~~12~~. Required permanent truss member bracing location.

R802.1.6.2 ~~R802.10.2~~ Design. Wood trusses shall be designed in accordance with accepted engineering practice. The design and manufacture of metal plate connected wood trusses shall comply with ANSI/TPI 1. The truss design drawings shall be prepared by a registered professional where required by the statutes of the jurisdiction in which the project is to be constructed in accordance with Section R106.1.

R802.1.6.3 ~~R802.10.3~~ Bracing. Trusses shall be braced to prevent rotation and provide lateral stability in accordance with the requirements specified in the construction documents for the building and on the individual truss design drawings. In the absence of specific bracing requirements, trusses shall be braced in accordance with TPI/WTCA BCSI 1 ~~TPI/HIB~~.

R802.1.6.4 ~~R802.10.4~~ Alterations to trusses. Truss members shall not be cut, notched, drilled, spliced or otherwise altered in any way without the approval of a registered design professional. Alterations resulting in the addition of load (e.g., HVAC equipment, water heater) that exceeds the design load for the truss shall not be permitted without verification that the truss is capable of supporting such additional loading.

R802.1.6.5 ~~R802.10.5~~ Truss to wall connection. Trusses shall be connected to wall plates by the use of approved connectors having a resistance to design uplift, lateral and shear forces, ~~but of not less than 175 pounds (79.45 kg.).~~ ~~and~~ Trusses shall be installed in accordance with the manufacturer's design and specifications. For roof assemblies subject to wind uplift pressures of 20 pounds per square foot (0.958 kN/m2) or greater, as established in Table R301.2(2), adjusted for height and exposure per Table R301.2(3), see section R802.2.9 ~~R802.11~~.

R802.2 Design and construction where wind speed is less than 100 mph. Roof-ceilings of conventional light-frame wood construction shall be designed and constructed in accordance with the provisions of this ~~chapter~~ Section ~~and Figures R606.10(1), R606.10(2) and R606.10(3)~~. ~~or~~ ~~in~~ Alternately, roof-ceilings may be designed and constructed in accordance with AF&PA"'s ~~/~~NDS or AF&PA's WFCM. Components of roof-ceilings shall be fastened in accordance with Table R602.2(1) ~~R602.3(1).~~

R802.2.1 ~~R802.3~~Framing details. Rafters shall be framed to ridge board or to each other with a gusset plate as a tie. Ridge board shall be at least 1-inch (25.4 mm) nominal thickness and not less in depth than the cut end of the rafter. At all valleys and hips there shall be a valley or hip rafter not less than 2-inch (51 mm) nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than three units vertical in 12 units horizontal (25-percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams.

R802.2.1.1 ~~R802.3.1~~Ceiling joist and rafter connections. Ceiling joists and rafters shall be nailed to each other in accordance with Tables R602.2(1) ~~R602.3(1)~~ and R802.2.3(9) ~~R802.5.1(9),~~ and the assembly shall be nailed to the top wall plate in accordance with Table R602.2(1) ~~R602.3(1)~~. Ceiling joists shall be continuous or securely joined where they meet over interior partitions and nailed to adjacent rafters to provide a continuous tie across the building when such joists are parallel to the rafters.

Where ceiling joists are not parallel to rafters, subflooring or metal straps attached to the ends of the rafters shall be installed in a manner to provide a continuous tie across the building, or rafters shall be tied to 1-inch by 4-inch (25.4 mm by 102 mm) (nominal) minimum-size crossties. The connections shall be in accordance with Table R602.2(1) ~~R602.3(1)~~ or connections of equivalent capacities shall be provided. Where ceiling joists or rafter ties are not provided at the top plate, the ridge formed by these rafters shall also be supported by a girder designed in accordance with accepted engineering practice. Rafter ties shall be spaced not more than 4 feet (1219mm) on center.

R802.2.1.2 ~~R802.3.2~~ Ceiling joists lapped. Ends of ceiling joists shall be lapped a minimum of 3 inches (76 mm) or butted over bearing partitions or beams and toe nailed to the bearing member. When ceiling joists are used to provide resistance to rafter thrust, lapped joists shall be nailed together in accordance with Table R602.2(1) ~~R602.3(1)~~ and butted joists shall be tied together in a manner to resist such thrust.

R802.2.2 ~~R802.4~~ Allowable ceiling joist spans. Spans for ceiling joists shall be in accordance with Tables R802.2(1) ~~R802.4(1)~~ and R802.2(2) ~~R802.4(2).~~ For other grades and species and for other loading conditions, refer to the AF&PA Span Tables for Joists and Rafters.

R802.2.3 ~~R802.5~~ Allowable rafter spans. Spans for rafters shall be in accordance with Tables R802.2.3(1) ~~R802.5.1(1)~~ through R802.2.3(2) ~~R802.5.1(8)~~. For other grades and species and for other loading conditions, refer to the AF&PA Span Tables for Joists and Rafters. The span of each rafter shall be measured along the horizontal projection of the rafter.

R802.2.3.1 ~~R802.5.1~~ Purlins. Purlins are permitted to be installed to reduce the span of rafters as shown in Figure R802.2.3.1 ~~R802.5.1~~. Purlins shall be sized no less than the required size of the rafters that they support. Purlins shall be continuous and shall be supported by 2-inch by 4-inch (51 mm by 102 mm) braces installed to bearing walls at a slope not less than 45 degrees from the horizontal. The braces shall be spaced not more than 4 feet (1219 mm) on center and the unbraced length of braces shall not exceed 8 feet (2438 mm).

R802.2.4 ~~**R802.6**~~ **Bearing.** The ends of each rafter or ceiling joist shall have not less than 11/2 inches (38 mm) of bearing on wood or metal and not less than 3 inches (76 mm) on masonry or concrete.

R802.2.5 ~~**R802.6.1**~~ **Finished ceiling material.** If the finished ceiling material is installed on the ceiling prior to the attachment of the ceiling to the walls, such as in construction at a factory, a compression strip of the same thickness as the finish ceiling material shall be installed directly above the top plate of bearing walls if the compressive strength of the finish ceiling material is less than the loads it will be required to withstand. The compression strip shall cover the entire length of such top plate and shall be at least one-half the width of the top plate. It shall be of material capable of transmitting the loads transferred through it.

R802.2.6 ~~**R802.7**~~ **Cutting and notching.** Structural roof members shall not be cut, bored or notched in excess of the limitations specified in this section.

R802.2.6.1 ~~**R802.7.1**~~ **Sawn lumber.** Notches in solid lumber joists, rafters and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches (102 mm) or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of the holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches (51 mm) to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

Exception: Notches on cantilevered portions of rafters are permitted provided the dimension of the remaining portion of the rafter is not less than 4-inch nominal (102 mm) and the length of the cantilever do not exceed 24 inches (610 mm).

R802.2.6.2 ~~**R802.7.2**~~ **Engineered wood products.** Cuts, notches and holes bored in laminated veneer lumber, glue-laminated members or I-joists are not permitted unless the effect of such penetrations are specifically considered in the design of the member.

R802.2.7 ~~**R802.8**~~ **Lateral support.** Rafters and ceiling joists having a depth-to-thickness ratio exceeding 5 to 1 based on nominal dimensions shall be provided with lateral support at points of bearing to prevent rotation.

R802.2.7.1 ~~**R802.8.1**~~ **Bridging.** Rafters and ceiling joists having a depth-to-thickness ratio exceeding 6 to 1 based on nominal dimensions shall be supported laterally by solid blocking, diagonal bridging (wood or metal) or a continuous 1-inch by 3-inch (25.4mmby 76 mm)wood strip nailed across the rafters or ceiling joists at intervals not exceeding 8 feet (2438 mm).

R802.2.8 ~~**R802.9**~~ **Framing of openings.** Openings in roof and ceiling framing shall be framed with header and trimmer joists. When the header joist span does not exceed 4 feet (1219 mm), the header joist may be a single member the same size as the ceiling joist or rafter. Single trimmer joists may be used to carry a single header joist that is located within 3 feet (914 mm) of the trimmer joist bearing. When the header joist span exceeds 4 feet (1219 mm), the trimmer joists and the header joist shall be doubled and of sufficient cross section to support the ceiling joists or rafter framing into the header. Approved hangers shall be used for the header joist to trimmer joist connections when the header joist span exceeds 6 feet (1829 mm). Tail joists over 12 feet (3658 mm) long shall be supported at the header by framing anchors or on ledger strips not less than 2 inches by 2 inches (51 mm by 51 mm).

R802.2.9 ~~R802.11~~ Roof tie-down.

R802.2.9.1 ~~R802.11.1~~ Uplift resistance. Roof assemblies which are subject to wind uplift pressures of 20 pounds per square foot (0.958 kN/m2) or greater shall have roof rafters or trusses attached to their supporting wall assemblies by connections capable of providing the resistance required in Table R802.2.9.1 ~~R802.11~~.Wind uplift pressures shall be determined using an effective wind area of 100 square feet (9.3m2) and Zone 1 in Table R301.2(2), as adjusted for height and exposure per Table R301.2(3).

A continuous load path shall be provided to transmit the uplift forces from the rafter or truss ties to the foundation. For rafter construction, straps and/or clips shall extend such that the top nail is within 1 inch of the top of the rafter, or shall be wrapped around the top of the rafter with one or more nails installed on the opposite side of the rafter.

R802.2.10 ~~R802.1.1~~ Blocking. Blocking shall be a minimum of utility grade lumber.

R802.3 Design and construction where wind speed is 100 mph or greater. Roof-ceilings of light-frame wood construction shall be designed and constructed in accordance with the provisions of Section R301.2.1.1 and Section R802.1.

(No changes to Tables or Figures except for renumbering).

Table R802.2.9.1 Change text to read as shown:

TABLE R802.2.9.1 ~~R802.11~~ A
~~REQUIRED STRENGTH OF TRUSS OR RAFTER CONNECTIONS TO RESIST~~ WIND UPLIFT FORCESa,b,c,e,f
~~(Note: Table is limited to areas where wind speed (mph) is less than 100, see Section R301.2.1.1(Pounds per connection)~~

~~BASIC WIND SPEED (3- second gust)~~	~~ROOF SPAN (feet)~~							~~OVERHANGSd (pounds/foot)~~
	~~12~~	~~20~~	~~24~~	~~28~~	~~32~~	~~36~~	~~40~~	
~~85~~	~~-72~~	~~-120~~	~~-145~~	~~-169~~	~~-193~~	~~-217~~	~~-241~~	~~-38.55~~
~~90~~	~~-91~~	~~-151~~	~~-181~~	~~-212~~	~~-242~~	~~-272~~	~~-302~~	~~-43.22~~
~~100~~	~~-131~~	~~-218~~	~~-262~~	~~-305~~	~~-349~~	~~-393~~	~~-436~~	~~-53.36~~
~~110~~	~~-175~~	~~-292~~	~~-351~~	~~-409~~	~~-467~~	~~-526~~	~~-584~~	~~-64.56~~

~~For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 mph = 1.61 km/hr, 1 pound/foot = 14.5939 N/m, 1 pound = 0.454 kg.~~
~~a. The uplift connection requirements are based on a 30 foot mean roof height located in Exposure B. For Exposures C and D and for other mean roof heights, multiply the above loads by the Adjustment Coefficients in Table R301.2(3).~~
~~b. The uplift connection requirements are based on the framing being spaced 24 inches on center. Multiply by 0.67 for framing spaced 16 inches on center and multiply by 0.5 for framing spaced 12 inches on center.~~
~~c. The uplift connection requirements include an allowance for 10 pounds of dead load.~~
~~d. The uplift connection requirements do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The~~

~~overhang loads are also based on framing spaced 24 inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.~~
~~e. The uplift connection requirements are based upon wind loading on end zones as defined in Section M1609.6 of the Florida Building Code, Building. Connection loads for connections located a distance of 20% of the least horizontal dimension of the building from the corner of the building are permitted to be reduced by multiplying the table connection value by 0.7 and multiplying the overhang load by 0.8.~~
~~f. For wall-to-wall and wall-to-foundation connections, the capacity of the uplift connector is permitted to be reduced by 100 pounds for each full wall above. (For example, if a 600-pound rated connector is used on the roof framing, a 500-pound rated connector is permitted at the next floor level down.)~~

TABLE R802.2.9.1

ROOF BEARING UPLIFT EXPOSURE B

Roof Angle	Basic Wind Speed	Roof Span (feet)							Over-hangs
		12	20	24	28	32	36	40	
End zone uplift for all roof angles	85	-39.50	-65.83	-79.00	-92.16	-105.33	-118.49	-131.66	-19.3
	90	-48.64	-81.07	-97.28	-113.50	-129.71	-145.92	-162.14	-21.6
	100	-68.50	-114.16	-136.99	-159.82	-182.66	-205.49	-228.32	-26.7
	110	-90.44	-150.73	-180.88	-211.03	-241.17	-271.32	-301.47	-32.3
	120	-114.47	-190.79	-228.95	-267.11	-305.26	-343.42	-381.58	-38.4
	130	-140.60	-234.33	-281.20	-328.06	-374.93	-421.79	-468.66	-45.1
	140	-168.81	-281.35	-337.62	-393.89	-450.16	-506.44	-562.71	-52.3
	150	-199.12	-331.86	-398.23	-464.60	-530.97	-597.35	-663.72	-60
	170	-265.99	-443.32	-531.99	-620.65	-709.31	-797.98	-886.64	-77.1
Interior zone uplift for 20° roof angle	85	-17.57	-29.28	-35.13	-40.99	-46.84	-52.70	-58.55	-19.3
	90	-24.05	-40.09	-48.11	-56.12	-64.14	-72.16	-80.18	-21.6
	100	-38.14	-63.57	-76.28	-88.99	-101.71	-114.42	-127.13	-26.7
	110	-53.71	-89.52	-107.42	-125.32	-143.22	-161.13	-179.03	-32.3
	120	-70.76	-117.94	-141.52	-165.11	-188.70	-212.28	-235.87	-38.4
	130	-89.30	-148.83	-178.59	-208.36	-238.12	-267.89	-297.65	-45.1
	140	-109.31	-182.19	-218.63	-255.07	-291.50	-327.94	-364.38	-52.3
	150	-130.81	-218.02	-261.63	-305.23	-348.84	-392.44	-436.05	-60
	170	-178.26	-297.11	-356.53	-415.95	-475.37	-534.79	-594.21	-77.1
Interior zone uplift for 30° roof angle	85	7.66	12.77	15.32	17.88	20.43	22.99	25.54	-4.52
	90	4.23	7.05	8.46	9.87	11.28	12.69	14.10	-5.06
	100	-3.22	-5.37	-6.44	-7.52	-8.59	-9.67	-10.74	-6.25
	110	-11.46	-19.10	-22.92	-26.74	-30.56	-34.38	-38.20	-7.56
	120	-20.48	-34.13	-40.96	-47.79	-54.61	-61.44	-68.27	-9
	130	-30.29	-50.48	-60.57	-70.67	-80.76	-90.86	-100.95	-10.6
	140	-40.88	-68.13	-81.75	-95.38	-109.00	-122.63	-136.25	-12.3
	150	-52.25	-87.08	-104.50	-121.92	-139.33	-156.75	-174.17	-14.1
	170	-77.35	-128.92	-154.71	-180.49	-206.27	-232.06	-257.84	-18.1

TABLE R802.2.9.1 (Continued)

ROOF BEARING UPLIFT EXPOSURE C

Roof Angle	Basic Wind Speed	Roof Span (feet)							Over-hangs
		12	20	24	28	32	36	40	
End zone uplift for all roof angles	85	-69.85	-116.42	-139.70	-162.99	-186.27	-209.55	-232.84	-27
	90	-82.67	-137.78	-165.34	-192.90	-220.45	-248.01	-275.57	-30.3
	100	-110.51	-184.18	-221.01	-257.85	-294.68	-331.52	-368.36	-37.4
	110	-141.27	-235.45	-282.55	-329.64	-376.73	-423.82	-470.91	-45.3
	120	-174.97	-291.62	-349.94	-408.26	-466.59	-524.91	-583.23	-53.9
	130	-211.60	-352.66	-423.19	-493.72	-564.26	-634.79	-705.32	-63.2
	140	-251.15	-418.59	-502.31	-586.02	-669.74	-753.46	-837.18	-73.3
	150	-293.64	-489.40	-587.28	-685.16	-783.04	-880.92	-978.80	-84.2
	170	-387.40	-645.67	-774.81	-903.94	-1033.08	-1162.21	-1291.35	-108
Interior zone uplift for 20° roof angle	85	-39.10	-65.17	-78.20	-91.24	-104.27	-117.30	-130.34	-27
	90	-48.20	-80.33	-96.39	-112.46	-128.52	-144.59	-160.66	-30.3
	100	-67.95	-113.24	-135.89	-158.54	-181.19	-203.84	-226.49	-37.4
	110	-89.78	-149.63	-179.55	-209.48	-239.40	-269.33	-299.25	-45.3
	120	-113.68	-189.47	-227.37	-265.26	-303.16	-341.05	-378.94	-53.9
	130	-139.67	-232.78	-279.34	-325.90	-372.45	-419.01	-465.57	-63.2
	140	-167.74	-279.56	-335.47	-391.38	-447.29	-503.21	-559.12	-73.3
	150	-197.88	-329.80	-395.76	-461.72	-527.68	-593.64	-659.60	-84.2
	170	-264.41	-440.68	-528.81	-616.95	-705.08	-793.22	-881.35	-108
Interior zone uplift for 30° roof angle	85	-3.73	-6.22	-7.46	-8.71	-9.95	-11.19	-12.44	-6.33
	90	-8.54	-14.24	-17.09	-19.93	-22.78	-25.63	-28.48	-7.1
	100	-18.99	-31.65	-37.98	-44.31	-50.64	-56.97	-63.30	-8.76
	110	-30.54	-50.90	-61.08	-71.26	-81.44	-91.62	-101.80	-10.6
	120	-43.19	-71.98	-86.37	-100.77	-115.17	-129.56	-143.96	-12.6
	130	-56.93	-94.89	-113.87	-132.85	-151.83	-170.80	-189.78	-14.8
	140	-71.78	-119.64	-143.57	-167.49	-191.42	-215.35	-239.28	-17.2
	150	-87.73	-146.22	-175.46	-204.70	-233.95	-263.19	-292.43	-19.7
	170	-122.92	-204.87	-245.85	-286.82	-327.80	-368.77	-409.75	-25.3

Notes:
1. The uplift loads are pounds per lineal foot of building length. For roof uplift connections use the tables for 20 degrees and multiply by 1.33 for framing spaced 16 inches on center and multiply by 2 for framing spaced 24 inches on center.
2. The uplift loads include an allowance for 10 pounds of dead load.
3. The uplift loads do not account for the effects of overhangs. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also

based on framing spaced 12 inches on center. The overhang loads given shall be multiplied by the overhang projection and added to the roof uplift value in the table.
4. Values may be interpolated between 20° and 30°.
5. Use value for 30° for slopes up to 45°
6. Negative values indicate uplift.
7. Use value for 20° for slopes of 20° and less.

Section R803.2.3 Change text to read as shown:

R803.2.3 Installation. Wood structural panels used as roof sheathing shall be installed with joints staggered ~~or nonstaggered~~ in accordance with Section R803.2.3.1 ~~Table R602.3(1), or APA E30~~ for wood roof framing or with Table R804.3 for steel roof framing in accordance with the applicability limits established in Section R804.1.1.

R803.2.3.1 Sheathing fastenings. Wood structural panel sheathing shall be fastened to roof framing with 8d ring-shank nails at 6 inches on center at edges and 6 inches on center at intermediate framing. Ring-shank nails shall have the following minimum dimensions:

1. 0.113 inch nominal shank diameter
2. Ring diameter of 0.012 over shank diameter
3. 16 to 20 rings per inch
4. 0.280 inch full round head diameter
5. 2 inch nail length

Where roof framing with a specific gravity, $0.42 \leq G < 0.49$ is used, spacing of ring-shank fasteners shall be 4 inches on center in nailing zone 3 for 130 mph or greater design wind speeds in accordance with Figure R803.2.3.1.

Exceptions:
1. Where roof framing with a specific gravity, $0.42 \leq G < 0.49$ is used, spacing of ring-shank fasteners shall be permitted at 12 inches on center at intermediate framing in nailing zone 1 for any design wind speed and in nailing zone 2 for 110 mph or lower design wind speeds in accordance with Figure R803.2.3.1.
2. Where roof framing with a specific gravity, $G \geq 0.49$ is used, spacing of ring-shank fasteners shall be permitted at 12 inches on center at intermediate framing in nailing zone 1 for any design wind speed and in nailing zone 2 for 120 mph or lower design wind speeds in accordance with Figure R803.2.3.1.
3. Where roof framing with a specific gravity, $G \geq 0.49$ is used, 8d common or 8d hot dipped galvanized box nails at 6 inches on center at edges and 6 inches on center at intermediate framing shall be permitted for 100 mph or lower design wind speeds in accordance with Figure R803.2.3.1.
4. Where roof diaphragm requirements necessitate a closer fastener spacing.

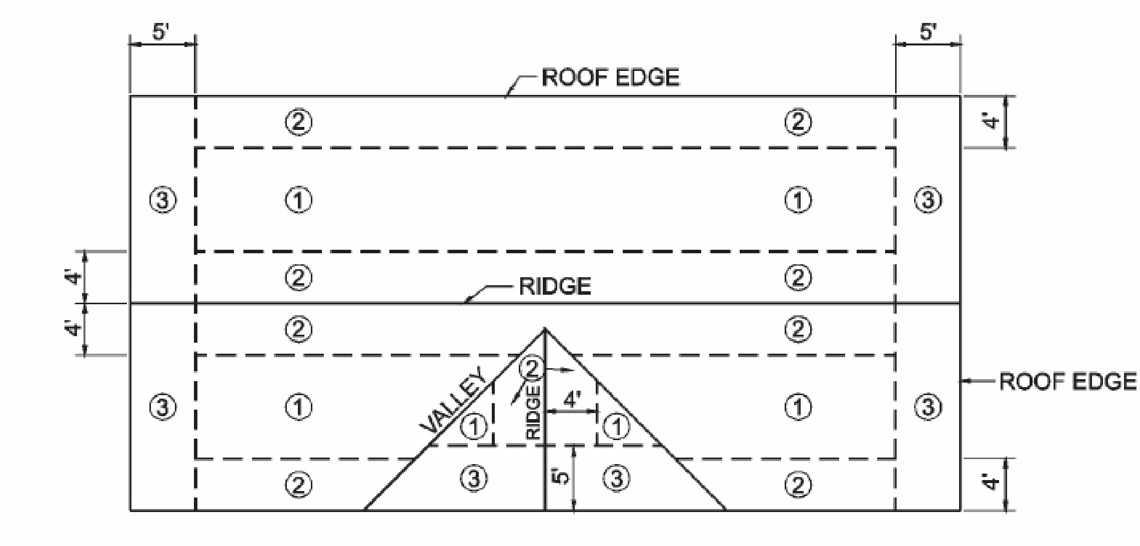


FIGURE R803.2.3.1
ROOF SHEATHING NAILING ZONES

Section R804.4 Change to read as follows:

R804.4 Roof tie-down. Roof assemblies subject to wind uplift pressures of 20 pounds per square foot (0.96 kN/m2) or greater, as established in Table R301.2(2), shall have rafter-to-bearing wall ties provided in accordance with Table R802.2.9.1 ~~R802.11~~.

CHAPTER 9
ROOF ASSEMBLIES

Section R903.2.2 Change text to read as shown:

R903.2.2 Membrane flashings. All membrane flashing shall be installed according to the roof assembly manufacturer's published literature.

Section R903.3 Change text to read as shown:

R903.3 Coping. Parapet walls shall be properly coped or sealed with noncombustible, weatherproof materials of a width no less than the thickness of the parapet wall. Metal coping shall comply with ANSI/SPRI ES-1 or RAS 111.

Section R904.4 Change text to read as shown:

R904.4. Fasteners.
R904.4.1. Nails. Nails shall be corrosion resistant nails conforming to ASTM F 1667. The corrosion resistance shall meet ASTM A 641, Class I or an equal corrosion resistance by coating, electro galvanization, mechanical galvanization, hot dipped galvanization, stainless steel, nonferrous metal and alloys or other suitable corrosion-resistant material.

R904.4.2. Screws. Wood screws shall be corrosion resistant screws conforming to ANSI/ASME B 18.6.1. The corrosion resistance shall meet ASTM A 641, Class 1 or an equal corrosion resistance by coating, electro galvanization, mechanical galvanization, stainless steel, nonferrous metal or other suitable corrosion resistant material.

R904.4.3. Clips. Clips shall be corrosion resistant clips. The corrosion resistance shall meet 1.50 oz per sq ft (0.458 kg/m²) according to ASTM A 153 or an equal corrosion resistance by coating, electro galvanization, mechanical galvanization, hot dipped galvanization, stainless steel, nonferrous metals and alloys or other suitable corrosion resistant material. Stainless steel clips shall conform to ASTM A 167, Type 304.

~~R904.4~~ R904.5. Product identification. [No change to text.]

Section R905.2.2 Change text to read as shown:

R905.2.2 Asphalt shingles shall only be used on roof slopes of two units vertical in 12 units horizontal (2:12) or greater. For roof slopes from two units vertical in 12 units horizontal (2:12) up to four units vertical in 12 units horizontal (4:12), two layers of underlayment complying with ASTM D226 Type I or Type II, ASTM D 4869 Type I or Type II or ASTM D6757 ~~double underlayment application~~ is required in accordance with Section R905.2.7.

R905.2.3 Underlayment. Unless otherwise noted, required underlayment shall conform with D226 Type I or Type II, ASTM D 4869 Type I or Type II, or ASTM D6757. Self-adhering polymer modified bitumen sheet shall comply with ASTM D 1970.

Section R905.2.5 Change text to read as shown:

R905.2.5 Fasteners. Fasteners for asphalt shingles shall be galvanized steel, stainless steel, aluminum or copper roofing nails, minimum 12 gage [0.105 inch (2.67 mm)] shank with a minimum 3/8-inch (9.5 mm) diameter head, ASTM F 1667, of a length to penetrate through the roofing materials and a minimum of ¾ inch (19.1 mm) into the roof sheathing. Where the roof sheathing is less than ¾ inch (19.1 mm) thick, the fasteners shall penetrate through the sheathing. Fasteners shall comply with ASTM F 1667.

Exception: If the architectural appearance is to be preserved from below, an alternate method of attachment complying with the wind load requirements of Chapter 16 of the *Florida Building Code, Building* may be proposed unless otherwise addressed in Chapter 9. The alternative attachment shall be prepared, signed and sealed by a Florida-registered architect or a Florida-registered engineer, which architect or engineer shall be proficient in structural design.

[Remaining text unchanged.]

Section R905.2.6 Change text to read as shown:

R905.2.6 Attachment. ~~Asphalt shingles shall have the minimum number of fasteners required by the manufacturer. For normal application, asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 20 units vertical in 12 units horizontal (20:12), special methods of fastening are required. For roofs located where the basic wind speed per Figure R301.2(4) is 110 mph (177 km/h) or greater, special methods of fastening are required. Special fastening methods shall be tested in accordance with ASTM D 3161, modified to use a wind speed of 110 mph (177 km/h), or TAS107.~~

~~Shingles classified using ASTM D 3161 are acceptable for use in wind zones less than 110 mph. Shingles classified using ASTM D 3161 or TAS107 modified to use a wind speed of 110 mph or TAS107 are acceptable for use in all cases where special fastening is required.~~

Asphalt shingles shall have the minimum number of fasteners required by the manufacturer, but not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope, exceeds 21 units vertical in 12 units horizontal (21:12), shingles shall be installed as required by the manufacturer.

R905.2.6.1 Wind Resistance of Asphalt Shingles. Asphalt Shingles shall be classified in accordance with ASTM D3161, TAS 107 or ASTM D7158 to resist the basic wind speed per Figure R301.2 (4). Shingles classified as ASTM D 3161 Class D or classified as ASTM D 7158 Class G are acceptable for use in the 100-mph wind zone. Shingles classified as ASTM D3161 Class F, TAS107 or ASTM D 7158 Class H are acceptable for use in all wind zones. Asphalt shingle wrappers shall indicate compliance with one of the required classifications as shown in Table R905.2.6.1.

Table R905.2.6.1
Wind Resistance of Asphalt Shingles

Maximum Basic Wind Speed MPH (per Figure R301.2 (4)	Classification
100	ASTM D3161Class D or ASTM D 7158 Class G or TAS 107
110	ASTM D3161Class F or ASTM D 7158 Class G or TAS 107
120	ASTM D3161Class F or ASTM D 7158 Class G or TAS 107
130	ASTM D3161Class F or ASTM D 7158 Class H or TAS 107
140	ASTM D3161Class F or ASTM D 7158 Class H or TAS 107
150	ASTM D3161Class F or ASTM D 7158 Class H or TAS 107

Section R905.2.7 Change text to read as shown:

R905.2.7 Underlayment application. For roof slopes from two units vertical in 12 units horizontal (17-percent slope), up to four units vertical in 12 units horizontal (33-percent slope), two layers of underlayment complying with ASTM D226 Type I or Type II, ASTM D 4869 Type I or Type II, or ASTM D6757 shall be applied in the following manner:

1. Apply a minimum 19-inch-wide (483 mm) strip of underlayment felt parallel with and starting at the eaves.

2. Starting at the eave, apply 36-inch-wide (914 mm) sheets of underlayment overlapping successive sheets 19 inches (483 mm).
3. End laps shall be offset by 6 feet (1829 mm)
4. Corrosion resistant fasteners are to be applied along the overlap at a maximum spacing of 36 inches (914 mm) on center.

~~underlayment shall be two layers applied in the following manner. Apply a 19-inch (483 mm) strip of underlayment felt parallel with and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply 36-inch-wide (914 mm) sheets of underlayment, overlapping successive sheets 19 inches (483 mm), and fastened sufficiently to hold in place.~~

For roof slopes of four units vertical in 12 units horizontal (33-percent slope) or greater, one layer of underlayment complying with ASTM D226 Type I or Type II, ASTM D 4869 Type I or Type II, or ASTM D6757 shall be applied in the following manner:

1. Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 2 inches (51 mm).
2. End laps shall be offset by 6 feet (1829 mm)
3. Corrosion resistant fasteners are to be applied along the overlap at a maximum spacing of 36 inches (914 mm) on center.

~~underlayment shall be one layer applied in the following manner. Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 2 inches (51 mm), fastened sufficiently to hold in place. End laps shall be offset by 6 feet (1829 mm).~~

R905.2.7.1. Ice protection. Reserved.

R905.2.7.2. Underlayment and high wind. Reserved.
~~Underlayment applied in areas subject to high winds [greater than 110 mph (177km/h) per Figure R301.2(4)] shall be applied with corrosion-resistant fasteners in accordance with manufacturer's installation instructions. Fasteners are to be applied along the overlap not farther apart than 36 inches (914 mm) on center.~~

Section R905.2.8.1 Change text to read as shown:

R905.2.8.1. Base and counter flashing. Base and counter flashing shall be installed as follows:
1. In accordance with manufacturer's installation instructions, or
2. A continuous metal minimum 4 inch by 4 inch "L" flashing shall be set in approved flashing cement and set flush to base of wall and over the underlayment. Both horizontal and vertical metal flanges shall be fastened 6 inches (152 mm) on center with approved fasteners. All laps shall be a minimum of 4 inches (102 mm) fully sealed in approved flashing cement. Flashing shall start at the lower portion of roof to insure water-shedding capabilities of all metal laps. The entire edge of the horizontal flange shall be sealed covering all nail penetrations with approved flashing cement and membrane. Shingles will overlap the horizontal flange and shall be set in approved flashing cement.

[Remaining text unchanged.]

Section R905.2.8.2 Change to read as shown:

R905.2.8.2 Valleys. Valley linings shall be installed in accordance with manufacturer's installation instructions before applying shingles. Valley linings of the following types shall be permitted:

1. For open valley ~~(valley lining exposed)~~ lined with metal, the valley lining shall be at least 16 ~~24~~ inches (406 ~~610~~ mm) wide and of any of the corrosion-resistant metals in Table R903.1.
2. For open valleys, valley lining of two plies of mineral surface roll roofing, complying with ASTM D 6380 Class M or ASTM D 3909 ~~249~~, shall be permitted. The bottom layer shall be 18 inches (457 mm) and the top layer a minimum of 36 inches (914 mm) wide.
3. For closed valleys ~~(valley covered with shingles)~~, valley lining of one ply of smooth roll roofing complying with ASTM D 6380 Class S ~~224 Type II or Type III~~ and at least 36 inches (914 mm) wide or valley lining as described in Items 1 or ~~and~~ 2 above shall be permitted. Specialty underlayment complying with ASTM D 1970 may be used in lieu of the lining material.

Section R905.2.8.6 Change text to read as shown:

R905.2.8.6 Drip edge. ~~Drip edge shall be provided at eaves and gables of shingle roofs, and overlapped a minimum of 2 inches (51 mm). Eave drip edges shall extend ¼ inch (6.4 mm) below sheathing and extend back on the roof a minimum of 2 inches (51 mm). Drip edge shall be mechanically fastened a maximum of 12 inches (305 mm) on center~~. Provide drip edge at eaves and gables of shingle roofs. Overlap to be a minimum of 3 inches (76 mm). Eave drip edges shall extend ½ inch (13 mm) below sheathing and extend back on the roof a minimum of 2 inches (51 mm). Drip edge at eaves shall be permitted to be installed either over or under the underlayment. If installed over the underlayment, there shall be a minimum 4 ~~2~~ inch (51 mm) width of roof cement installed over the drip edge flange. Drip edge shall be mechanically fastened a maximum of 12 inches (305 mm) on center. Where the basic wind speed per Figure R301.2(4) is 110 mph (177 km/h) or greater or the mean roof height exceeds 33 feet (10 058 mm), drip edges shall be mechanically fastened a maximum of 4 inches (102 mm) on center,

Section R905.3 Change text to read as shown:

R905.3 Clay and concrete tile. ~~The installation of clay and concrete shall comply with the provisions of this section. Clay roof tile shall comply with ASTM C1167.~~ The installation of clay and concrete shall be in accordance with recommendations of FRSA/TRI 07320 Manual.
[Remaining text unchanged.]

Section R905.3.3 Change to read as shown:

R905.3.3. Underlayment. ~~Unless otherwise noted,~~ required underlayment shall conform with ASTM D 226, Type II; ASTM D 2626; ASTM D 1970 or ASTM D 6380 mineral surfaced roll roofing and shall be installed in accordance with FRSA/TRI 07320 Manual.

[Remaining text unchanged.]

Section R905.3.3.2 Change to read as shown:

R905.3.3.2. High slope roofs. For roof slopes of four units vertical in 12 units horizontal (4:12) or greater, underlayment shall be a minimum of one layer of underlayment felt applied shingle fashion, parallel to and starting from the eaves and lapped 2 inches (51 mm), fastened ~~sufficiently~~ only as necessary to hold in place.

Section R905.3.4 Change text to read as shown:

R905.3.4. Clay Tile. Clay roof tile shall comply with ASTM C 1167.

Section R905.3.7.1 Add text to read as shown:

R905.3.7.1. Hip and ridge tiles. Hip and ridge tiles shall be installed in accordance with FRSA/TRI 07320 Manual.

Section R905.4.3 Change text to read as shown:

R905.4.3. Underlayment. Underlayment shall comply with ASTM D 226, Type I or Type II or ASTM D 1970. Underlayment shall be installed in accordance with the manufacturer's installation instructions.

Exception: Detached accessory structures that contain no conditioned floor area.

Section R905.4.4 Change text to read as shown:

R905.4.4 Material standards. ~~Metal roof shingle roof coverings of galvanized steel shall be 0.013 inch (0.378 mm) minimum thickness. Metal roof shingle roof coverings of aluminum shall be of 0.024 inch (0.610 mm) minimum thickness.~~

Metal roof shingle roof coverings shall comply with Table R905.4.4.

Table R905.4.4 Add new table to read as shown:

TABLE R905.4.4
METAL ROOF Coverings

ROOF COVERING TYPE	STANDARD	APPLICATION RATE/THICKNESS
Aluminum	**ASTM B 209**	**0.024 inch minimum thickness for roll-formed panels 0.019 inch minimum thickness for press-formed shingles.**
Aluminum-zinc	**ASTM A 792**	**0.013 inch minimum thickness, AZ 50 (coated minimum**

coated steel		application rate)
Copper	ASTM B 370	16 oz./sq. ft. for metal-sheet roof-covering systems; 12 oz./sq. ft. for preformed metal shingle systems,
Galvanized steel	ASTM A 653	G-90 zinc-coated, 0.013-inch-thick minimum
Lead-coated copper	ASTM B 101	
Hard lead		2 lbs./sq. ft.
Soft lead		3 lbs./sq. ft.
Prepainted steel	ASTM A 755	0.013 inch minimum thickness
Terne (tin) and terne-coated stainless		Terne coating of 40 lbs. per double base box, field painted where applicable in accordance with manufacturer's installation instructions.

For SI: 1 ounce per square foot = 0.0026 kg/m^2,
1 pound per square foot = 4.882 kg/m^2,
1 inch = 25.4 mm, 1 pound = 0.454 kg.

Section R905.4.6 Change text to read as shown:

R905.4.6. Flashing. Roof valley flashing shall be ~~provided of~~ corrosion-resistant metal of the same material as the roof covering or shall comply with the standards in Table R905.4.4. The valley flashing shall extend at least 8 inches (203 mm) from the center line each way and shall have a splash diverter rib not less than ¾ inch (19.1 mm) high at the flow line formed as part of the flashing. Sections of flashing shall have an end lap of not less than 4 inches (102 mm). The metal valley flashing shall have a 36-inch-wide (914 mm) underlayment directly under it consisting of one layer of underlayment running the full length of the valley, in addition to underlayment required for metal roof shingles.

Section R905.5.4 Change text to read as shown:

R905.5.4. Material standards. Mineral-surfaced roll roofing shall conform to ASTM D 6380 Class M or Class WS ~~224~~, ~~D 249~~, ~~D 371~~ or D 3909.

Section R905.6.3 Change text to read as shown:

R905.6.3 Underlayment. Underlayment shall comply with ASTM D 226, Type II. Underlayment shall be installed in accordance with the manufacturer's installation instructions.

Table R905.6.5 Change text to read as shown:

TABLE R905.6.5
SLATE SHINGLE HEADLAP

SLOPE	HEADLAP (inches)
4:12 ≤ slope < 8:12	4
8:12 ≤ slope < 20:12	3
Slope ≥ ~~≤~~ 20:12	2

For SI: 1 inch = 25.4 mm.

Section R905.6.6 Change text to read as shown:

R905.6.6 Flashing. Flashing and counter flashing shall be made with sheet metal. Valley flashing shall be a minimum of 16 ~~15~~ inches (406 mm ~~381 mm~~) wide. Valley and flashing metal shall be a minimum thickness as provided in Table R903.1 nonferrous metal or stainless steel.

Section R905.7.5 Change text to read as shown:

R905.7.5 ~~Application~~ Attachment. ~~Wood shingles shall be installed according to this chapter and the manufacturer's installation instructions. Wood shingles shall be laid with a side lap not less than 1½ inches (38 mm) between joints in courses, and no two joints in any three adjacent courses shall be in direct alignment. Spacing between shingles shall not be less than ¼ inch to 3/8 inch (6.4 mm to 9.5 mm). Weather exposure for wood shingles shall not exceed those set in Table R905.7.5. Fasteners for wood shingles shall be corrosion-resistant with a minimum penetration of ½ inch (12.7 mm) into the sheathing. For sheathing less than ½ inch (12.7 mm) in thickness, the fasteners shall extend through the sheathing. Wood shingles shall be attached to the roof with two fasteners per shingle, positioned no more than 3/4 inch (19.1 mm) from each edge and no more than 1 inch (25.4 mm) above the exposure line.~~

Attachment in accordance with Table R905.7.5 shall be used for roofs with a mean roof height of 40 feet or less and in regions with a basic wind speed of 100 mph or less.

Table R905.7.5 Add new table to read as shown:

TABLE R905.7.5
WOOD SHINGLE AND SHAKE INSTALLATION

ROOF ITEM	WOOD SHINGLES	WOOD SHAKES
1. Deck Requirements	Shingles shall be applied to roofs with solid or spaced sheathing. Where spaced sheathing is used, sheathing boards shall not be 4 less than 1" × 4" nominal dimensions and shall be spaced on center equal to the weather exposure to coincide with the placement of fasteners.	Shakes shall be applied to roofs with solid or spaced sheathing. Where spaced sheathing is used, sheathing boards shall not be less than 1" × 4" nominal dimensions and shall be spaced on center equal to the weather exposure to coincide with the placement of fasteners. When 1" × 4" spaced sheathing is installed at 10 inches, boards must be installed between the sheathing boards.
2. Interlayment	No requirements.	Interlayment shall comply with ASTM D 226, Type 1.
3. Underlayment	Underlayment shall comply with ASTM D 226, Type 1.	No requirements.
4. Application	—	—
Attachment	Fasteners for wood shingles shall be corrosion resistant with a minimum penetration of ¾ inch into the sheathing. For sheathing less than ½ inch thick, the fasteners shall extend through the sheathing a minimum of ⅜ inch.	Fasteners for wood shakes shall be corrosion resistant with a minimum penetration of ¾ inch into the sheathing. For sheathing less than ½ inch thick, the fasteners shall extend through the sheathing a minimum of ⅜ inch.
No. of fasteners	Wood shingles shall be attached to the roof with two fasteners per shingle, positioned no more than 3/4 inch (19.1 mm) from each edge and no more than 1 ½ inch (38.1 mm) above the exposure line.	Wood shakes shall be attached to the roof with two fasteners per shake, positioned no more than 1 inch (25.4 mm) from each edge and no more than 1 ½ inches (38.1 mm) above the exposure line.

For SI: 1 inch = 25.4 mm

Section R905.7.6 Change text to read as shown:

R905.7.6 Attachment for wind speed greater than 100 mph. Wood shingles installed in accordance with Table R905.7.5 and the requirements of R905.7.6 has an allowable uplift resistance of 45 psf. The installation of wood shingles shall be limited to roofs where the allowable uplift resistance is equal to or greater than the design uplift pressure for the roof listed in Table R301.2(2).

R905.7.6.1 Fasteners.

R905.7.6.1.1 Nails. Nails to attach the wood shakes shall be 3d stainless steel ring shank nails. The nails shall have sufficient length to penetrate through the wood shakes and shall penetrate through the sheathing.

R905.7.6.1.2 Screws. Screws to attach the battens to the framing shall be No. 8 by 2-½ inches (64 mm) long corrosion resistant wood screws. Wood screws shall be corrosion resistant screws conforming to ANSI/ASME B 18.6.1. The corrosion resistance shall meet ASTM A 641, Class 1 or an equal corrosion resistance by coating, electro galvanization, mechanical galvanization, stainless steel, nonferrous metal or other suitable corrosion resistant material.

R905.7.6.1.3 Wood battens. 1 x 4 wood battens shall be attached to the wood joists with 2 screws per joist. The first batten shall be located 6 inches (152 mm) from the outer edge of the wood joist. Second batten shall be spaced 1-¼ inches (32 mm) from the first batten. The remaining battens shall be spaced a maximum 2 inches (51 mm) apart, except the last one which shall be spaced no greater than ¾ inches (19 mm) from the previous batten.

R905.7.6.1.4 Shingles. Shingles shall be attached to the battens with 2 nails for each shingle placed 1 1/2 inch (38 mm) above the exposure line. The nails shall be ¾ to 1 inch (19 to 25 mm) from the shingle edges.

Section R905.7.7 Change text to read as shown:

R905.7.7 ~~**R905.7.5**~~ **Application.** Wood shingles shall be installed according to this chapter and the manufacturer's installation instructions. ~~Wood shingles shall be laid with a side lap not less than 1½ inches (38 mm) between joints in courses, and no two joints in any three adjacent courses shall be in direct alignment. Spacing between shingles shall not be less than ¼ inch to 3/8 inch (6.4 mm to 9.5 mm).~~ Weather exposure for wood shingles shall not exceed those set in Table R905.7.7 ~~Table R905.7.5. Fasteners for wood shingles shall be corrosion-resistant with a minimum penetration of ½ inch (12.7 mm) into the sheathing. For sheathing less than ½ inch (12.7 mm) in thickness, the fasteners shall extend through the sheathing. Wood shingles shall be attached to the roof with two fasteners per shingle, positioned no more than 3/4 inch (19.1 mm) from each edge and no more than 1 inch (25.4 mm) above the exposure line.~~

TABLE R905.7.~~5~~.7
WOOD SHINGLE WEATHER EXPOSURE AND ROOF SLOPE

ROOFING MATERIAL	LENGTH (inches)	GRADE	EXPOSURE (inches)	
			3:12 pitch to < 4:12	4:12 pitch or steeper
Shingles of naturally durable wood	16	No. 1	3¾	5
		No. 2	3½	4
		No. 3	3	3½
	18	No. 1	4¼	5½
		No. 2	4	4½
		No. 3	3½	4
	24	No. 1	5¾	7½
		No. 2	5½	6½
		No. 3	5	5½

For SI: 1 inch = 25.4 mm.

Section R905.7.6 Change text to read as shown:

R905.7.8 Flashing. At the juncture of the roof and vertical surfaces, flashing and counter flashing shall be provided in accordance with the manufacturer's installation instructions, and where of metal, shall not be less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal.

R905.7.8.1 ~~R905.7.6~~ Valley flashing Roof flashing shall be not less than No. 26 gage [0.019 inches (0.48 mm)] corrosion-resistant sheet metal and shall extend 10 inches (254 mm) from the centerline each way for roofs having slopes less than 12 units vertical in 12 units horizontal (100-percent slope), and 7 inches (178 mm) from the centerline each way for slopes of 12 units vertical in 12 units horizontal and greater. Sections of flashing shall have an end lap of not less than 4 inches (102 mm).

R905.7.8.1.1 ~~R905.7.7~~ Label required. Each bundle of shingles shall be identified by a label of an approved grading or inspection bureau or agency.

Section R905.8.2 Change text to read as shown:

R905.8.2 Deck slope. Wood shakes shall only be used on slopes of ~~three~~ four (4) units vertical in twelve (12) units horizontal (33-percent slope) or greater.

R905.8.3 Underlayment. Reserved.

Section R905.8.4 Change text to read as shown:

R905.8.4 Attachment. Attachment in accordance with Table R905.7.5 shall be used for roofs with a mean roof height of 40 feet or less and in regions with a basic wind speed of 100 mph or less. ~~**Interlayment.** Interlayment shall comply with ASTM D 226, Type I.~~

Section R905.8.7 Change text to read as shown:

R905.8.7 Attachment for wind speed greater than 100 mph. Wood shakes installed in accordance with Table R905.7.5 and the requirements of R905.8.7 have an allowable uplift resistance of 90 psf. The installation of wood shakes shall be limited to roofs where the allowable uplift resistance is equal to or greater than the design uplift pressure for the roof listed in Table R301.2(2)

R905.8.7.1 Fasteners.

R905.8.7.1.1 Nails. Nails to attach the wood shakes shall be 6d stainless steel ring shank nails. The nails shall have sufficient length to penetrate through the wood shakes and shall penetrate through the sheathing.

R905.8.7.1.2 Screws. Screws to attach the battens to the framing shall be No. 8 by 2-½ inches long corrosion resistant wood screws. Wood screws shall be corrosion resistant screws conforming to ANSI/ASME B 18.6.1. The corrosion resistance shall meet ASTM A 641, Class 1 or an equal corrosion resistance by coating, electro galvanization, mechanical galvanization, stainless steel, nonferrous metal or other suitable corrosion resistant material.

R905.8.7.1.3 Wood battens. 1 x 6 wood battens shall be attached to the wood joists with 2 screws per joist. The first batten was located 6 inches from the outer edge of the wood joist. Second batten shall be spaced 1-¼ inches from the first batten. The remaining battens shall be spaced a maximum 2 inches apart, except the last one which shall be spaced no greater than ¾ inches from the previous batten.

R905.8.7.1.4 Shakes. Shakes shall be attached to the battens with 2 nails for each shake placed 1½ inch above the exposure line. The nails shall be ¾ to 1 inch from the shake edges.

Section R905.8.8 Change text to read as shown:

R905.8.6 Application. Reserved.

R905.8.8 ~~**R905.8.6**~~ **Application.** Wood shakes shall be installed according to this chapter and the manufacturer's installation instructions. Wood shakes shall be laid with a side lap not less than 1½ inch (38 mm) between joints in adjacent courses. Spacing between shakes in the same course shall be 1/8 inch to 5/8 inch (3.2 mm to 15.9 mm) for shakes and tapersawn shakes of naturally durable wood and shall be ¼ inch to 3/8 inch (6.4 mm to 9.5 mm) for preservative tapersawn shakes. Weather exposure for wood shakes shall not exceed those set forth in Table R905.8.8

Section R905.8.10 Change text to read as shown:

R905.8.10 Flashing At the juncture of the roof and vertical surfaces, flashing and counter flashing shall be provided in accordance with the manufacturer's installation instructions, and where of metal, shall not be less than 0.019-inch (0.48 mm) (No. 26 galvanized sheet gage) corrosion-resistant metal.

R905.8.10.1 Valley flashing. Valley flashing shall extend at least 11 inches (279 mm) from the centerline each way and have a splash diverter rib not less than 1 inch (25 mm) high at the flow line formed as part of the flashing. Sections of flashing shall have an end lap of not less than 4 inches (102 mm). For roof slopes of four (4) units vertical in twelve (12) units horizontal (33-percent slope) and over, the valley flashing shall have a 36-inch-wide (914 mm) underlayment of one layer of ASTM D 226 Type I underlayment running the full length of the valley, in addition to other required underlayment per Table 903.1 Valley flashing and flashing metal shall be a minimum thickness as provided in Table R903.1 for nonferrous metal or stainless steel.

Section R905.10.3 Change text to read as shown:

R905.10.3 Material standards. Metal-sheet roof covering systems that incorporate supporting structural members shall be designed in accordance with the *Florida Building Code, Building*. Metal-sheet roof coverings installed over structural decking shall comply with Table R905.4.4 ~~Table R905.10.3~~.

Table R905.10.3 Change text to read as shown:

TABLE R905.10.3 Reserved.
~~METAL ROOF COVERINGS STANDARDS AND INSTALLATION~~

~~ROOF COVERING TYPE~~	~~STANDARD APPLICATION RATE/THICKNESS~~
~~Aluminum~~	~~ASTM B 209, 0.024 inch minimum thickness for roll-formed panels, 0.019 inch minimum thickness for press-formed shingles.~~
~~Aluminum-zinc coated steel~~	~~ASTM A 792, AZ 50 (coated minimum application rate)~~
~~Copper~~	~~ASTM B 370, 16 oz./sq. ft. for metal-sheet roof-covering systems; 12 oz./sq. ft. for preformed metal shingle systems, CDA 4115~~
~~Galvanized steel~~	~~ASTM A 653, G-90 zinc-coated, 0.013-inch-thick minimum~~
~~Hard lead~~	~~2 lbs./sq. ft.~~
~~Lead-coated copper~~	~~ASTM B 101,~~
~~Prepainted steel~~	~~ASTM A 755, 0.013 inch minimum thickness~~
~~Soft lead~~	~~3 lbs./sq. ft.~~
~~Terne (tin) and terne-coated stainless~~	~~Terne coating of 40 lbs. per double base box, field painted where applicable in accordance with manufacturer's installation instructions.~~

~~For SI: 1 ounce per square foot = 0.0026 kg/m², 1 pound per square foot = 4.882 kg/m², 1 inch = 25.4 mm, 1 pound = 0.454 kg.~~

Section R905.10.4 Change text to read as shown:

R905.10.4 Attachment.
Metal roofing shall be installed in accordance with this chapter and the manufacturer's installation instructions. Metal roofing fastened directly to steel framing shall be attached by approved fasteners. The following fasteners shall be used:

1. Galvanized fasteners shall be used for galvanized roofs.
2. Hard copper or copper alloy or ~~three hundred~~ 300 series stainless steel fasteners shall be used for copper roofs.
3. Aluminum-zinc coated fasteners are acceptable for aluminum-zinc coated roofs.
4. Stainless steel fasteners are acceptable for metal roofs.

Section R905.10.5 Add text to read as shown:

R905.10.5 Application. Metal roof panels shall be installed in accordance with this chapter and the manufacturer's installation instructions. The installations instruction shall state the allowable uplift resistance for the attachment system. The installation of metal roof panels shall be limited to roofs where the allowable uplift resistance is equal to or greater than the design uplift pressure for the roof listed in Table R301.2(2).

Section R905.10.6 Add text to read as shown:

R905.10.6 Underlayment. Underlayment shall be installed as per manufacturer's installation guidelines.

Section R905.11.3 Change text to read as shown:

R905.11.3 Application. Modified bitumen roof shall be installed according to this chapter and the manufacturer's installation instructions. The approved allowable uplift resistance for the modified bitumen roof shall be equal to or greater than the uplift resistance for the roof based on Table R301.2(2).

Section R905.12.3 Change text to read as shown:

R905.12.3 Application. Thermoset single-ply roof shall be installed according to this chapter and the manufacturer's installation instructions. The approved allowable uplift resistance for the thermoset single-ply membrane roof shall be equal to or greater than the uplift resistance for the roof based on Table R301.2(2).

Section R905.13.3 Change text to read as shown:

R905.13.3 Application. Thermoplastic single-ply roof shall be installed according to this chapter and the manufacturer's installation instructions. The approved allowable uplift resistance for the thermoplastic single-ply roof shall be equal to or greater than the uplift resistance for the roof based on Table R301.2(2).

Section R905.14.3 Change text to read as shown:

R905.14.3 Application. Foamed in place roof insulation shall be installed in accordance with this chapter and the manufacturer's installation instructions. A liquid-applied protective coating that complies with Section R905.15 shall be applied no less than 2 hours nor more than 72 hours following the application of the foam. The approved allowable uplift resistance for the sprayed polyurethane foam roofing shall be equal to or greater than the uplift resistance for the roof based on Table R301.2(2).

Section R905.15.3 Change text to read as shown:

R905.15.3 Application. Liquid-applied roof coatings shall be installed according to this chapter and the manufacturer's installation instructions. The approved allowable uplift resistance for the liquid-applied coatings shall be equal to or greater than the uplift resistance for the roof based on Table R301.2(2).

Section R907.1 Add text to read as shown:

R907.1 General. Reroofing shall be done in accordance with the *Florida Existing Building Code*.

CHAPTER 10 CHIMNEYS AND FIREPLACES

Section R1003.13 Change text to read as follows:

R1003.13 Fireplace fireblocking. Fireplace fireblocking shall comply with the provisions of Section R602.1.2 ~~R602.~~8.

CHAPTER 13 GENERAL MECHANICAL SYSTEM REQUIREMENTS

Section M1308 Change text to read as follows:

M1308.1 Drilling and notching. Wood-framed structural members shall be drilled, notched or altered in accordance with the provisions of Sections R502.2.7 ~~R502.8~~, R602.2.7 ~~R602.6~~, R602.2.7.1 ~~R602.6.1~~ and R802.2.6 ~~R802.7~~. Holes in cold-formed, steel-framed, load-bearing members shall only be permitted in accordance with Sections R505.2, R603.2 and R804.2. In accordance with the provisions of Sections R505.3.5, R603.3.4 and R804.3.5, cutting and notching of flanges and lips of cold-formed, steel-framed, load-bearing members shall not be permitted.

CHAPTER 18 CHIMNEYS AND VENTS

Section M1801.9 Change text to read as shown:

M1801.9 Fireblocking. Vent and chimney installations shall be fireblocked in accordance with Section R602.1.2 ~~R602.8~~.

CHAPTER 21 HYDRONIC PIPING

Section M2101.6 Change text to read as follows:

M2101.6 Drilling and notching. Wood-framed structural members shall be drilled, notched or altered in accordance with the provisions of Sections R502.2.5 ~~R502.6~~, R602.2.7 ~~R602.6~~, R602.2.7.1 ~~R602.6.1~~ and R802.2.4 ~~R802.6~~. Holes in cold-formed, steel-framed, load-bearing members shall only be permitted in accordance with Sections R506.2, R603.2 and R804.2. In accordance with the provisions of Sections R505.3.5, R603.3.4 and R804.3.5, cutting and notching of flanges and lips of cold-formed, steel-framed, load-bearing members shall not be permitted.

CHAPTER 24 FUEL GAS

Section G2404.10 Add text to read as shown.

G2404.10 (301.7) Fuel types. Fuel-fired appliances shall be designed for use with the type of fuel gas to which they will be connected and the altitude at which they are installed. Appliances that comprise parts of the installation shall not be converted for the usage of a different fuel, except where approved and converted in accordance with the manufacturer's instructions or the serving gas supplier. The fuel gas input rate shall not be increased or decreased beyond the limit rating for the altitude at which the appliance is installed.

Section G2422 Add text to read as shown:

G2422.1.4 (411.1.4) Outdoor appliance connectors. Outdoor gas hose connectors are permitted to connect portable outdoor gas-fired equipment. An equipment shutoff valve, a listed quick-disconnect device, or a listed gas convenience outlet shall be installed where the connector is attached to the supply piping and in such a manner as to prevent the accumulation of foreign matter. Lengths shall not exceed 12 feet (3658 mm) and the connection shall only be made in the outdoor area where the equipment is to be used

CHAPTER 25 PLUMBING ADMINISTRATION

Section P2503.7.2 Change text to read as shown:

P2503.7.2 Testing. Reduced pressure principle backflow preventers, double check valve assemblies, double-detector check valve assemblies and pressure vacuum breaker assemblies shall be tested at the time of installation, immediately after repairs or relocation ~~and at least once every three years~~.

CHAPTER 26 GENERAL PLUMBING REQUIREMENTS

Section P2603.2 Change text to read as follows:

P2603.2 Drilling and notching. Wood-framed structural members shall not be drilled, notched or altered in any manner except as provided in Sections R502.2.5 ~~R502.6~~, R602.1.3.1 ~~R602.5~~, R602.2.7 ~~R602.6~~, R802.2.6 ~~R802.7~~ and R802.2.6.1 ~~R802.7.1~~. Holes in cold-formed steel-framed load-bearing members shall only be permitted in accordance with Sections R506.2, R603.2 and R804.2. In accordance with the provisions of Sections R603.3.4 and R804.3.5 cutting and notching of flanges and lips of cold-formed steel-framed load-bearing members shall not be permitted.

CHAPTER 33 GENERAL REQUIREMENTS

Section E3302 Change text to read as shown:

E3302. ~~Reserved.~~ Bonding Metal Framing Members
E3302.1 Metal framing members. Metal framing members shall be bonded to the equipment grounding conductor for the circuit that may energize the framing and be sized in accordance with the National Electric Code Table 250.122. For the purpose of this section, a grounded metal outlet box attached to the framing shall be permitted.

Section E3303~~1~~ Change to read as follows:

E3303 Cross References

E3303.1 See Table E3303, Cross References Defining Electrical Requirements of the Florida Building Code.

Table E3303~~1~~

Cross references Defining Electrical Requirements of the Florida Building Code.

Florida Building Code 2004

Chapter 27

Electrical Systems

Cross Reference
Florida Building Code – Building

***This table is provided only as a tool to assist the construction industry as a general guide. User should review all sections of the code in order to determine specific applicable electrical requirements.**

Section	**Section**

Chapter 1	Administration
101	General
102	Applicability
105	Permits
106	Construction Documents
107	Temporary Structures and Uses
108	Fees
109	Inspections
111	Service Utilities
Chapter 2	Definitions
202	Definitions
Chapter 3	Use and Occupancy Classification
302	Classification
306	Factory Group F
307	High -Hazard Group H
311	Storage Group S
Chapter 4	Special Detailed Requirement Based on Use and Occupancy
402	Covered Mall Buildings
403	High-Rise Buildings
404	Atriums
405	Underground Buildings
406	Motor-Vehicle-Related Occupancies
407	Group I-2
408	Group I-3
409	Motion Picture Projection Rooms
412	Aircraft-Related Occupancies
414	Hazardous Materials
415	Groups H-1, H-2, H-3, H-4 and H-5
419	Hospitals
420	Nursing Homes
421	Ambulatory Surgical Centers
423	State Requirements for Educational Facilities
424	Swimming Pools and Bathing Places (Public and Private)
425	Public Lodging Establishments
426	Public Food Service Establishments
427	Mental Health Programs
428	Manufactured Buildings
431	Transient Public lodging Establishments
435	Control of Radiation Hazards
436	Day Care Occupancies

Chapter 7	Fire-Resistance-Rated Construction
712	Penetrations
714	Fire-Resistance Rating of Structural Members
715	Opening Protective
716	Ducts and Air Transfer Openings
Chapter 9	Fire Protection Systems
901	General
902	Definitions
903	Automatic Sprinkler Systems
904	Alternative Automatic Fire-Extinguishing Systems
907	Fire Alarm and Detection Systems
908	Emergency Alarm Systems
909	Smoke Control Systems
910	Smoke and Heat Vents
911	Fire Command Center
Chapter 10	Means of Egress
1006	Means of Egress Illumination and Signs
1008	Doors, Gates and Turnstiles
1033	Day Care
Chapter 11	Florida Accessibility Code For Building Construction
	Part A
11-3	Miscellaneous Instructions and Definitions
11-4	Accessible Elements and Spaces: Scope and Technical Requirements
11-9	Accessible Transient Lodging
	Part B
5	Guidelines
Chapter 12	
1205	Lighting
Chapter 13	Energy Efficiency
13-101	Scope
Subchapter	
13-2	Definitions
13-3	Referenced Standards and Organizations
13-4	Commercial Building Compliance Methods
13-6	Residential Building Compliance Methods
Appendix 13-B	Supplemental Information for Subchapter 13-4
Chapter 26	Plastic
2606	Light-Transmitting Plastics

Chapter 27

Electrical Systems
Cross Reference
Florida Building Code - Building Continued

Section	
Chapter 26 Continued	Plastic
2611	Light-Transmitting Plastic Interior Signs
2612	High-Velocity Hurricane Zones-Plastics
Chapter 27	Electrical
2701	General
2702	Emergency and Standby Power Systems
Chapter 30	Elevators and Conveying Systems
3003	Emergency Operations
3005	Conveying Systems

Section	
3006	Machine Rooms
3011	Alterations to Electric and Hydraulic Elevators and Escalators
Chapter 31	Special Construction
3102	Membrane Structures
3108	Radio and Television Towers
3112	Lighting, Mirrors, Landscaping
Chapter 33	
3306	Protection of Pedestrians
3310	Exits
Chapter 35	Referenced Standards

Florida Building Code 2004
Residential

Chapter 3	Building Planning
R303	Light, Ventilation and Heating
R313	Smoke Alarms
R317	Dwelling Unit Separation
Chapter 8	Roof -Ceiling Construction
R808	Insulation Clearance
Chapter 13	General Mechanical System Requirements
M1303	Labeling of Equipment
M1305	Appliance Access

Chapter 24	Fuel Gas
G2403(202)	General Definitions
G2410(309)	Electrical
G2411(310)	Electrical Bonding
G2440(615)	Sauna Heaters
Chapter 33	General Requirements Electrical
E3301	General Requirements Electrical
Chapter 43	Referenced Standards

Florida Building Code 2004

Florida Building Code - Existing Building

Chapter 3	
305	Alteration-Level 3
Chapter 4	Repairs
401	General
408	Electrical
Chapter 5	Alterations Level 1
508	Electrical
Chapter 6	Alterations Level 2
608	Electrical
Chapter 8	Change of Occupancy
808	Electrical
811	Other Requirements

Chapter 11	Relocated or Moved Buildings
1102	Requirements
Chapter 12	Compliance Alternatives
1201	General
Chapter 14	Referenced Standards
Appendix B	Standard for Rehabilitation

Chapter 9	Additions
901	General
904	Smoke Alarms in Occupancy Groups R-3 and R-4

Page 2 of 3

Florida Building Code 2004
Electrical Systems
Cross Reference

Florida Building Code - Mechanical

Section		**Section**	
		912	Infrared Radiant Heaters
Chapter 3	General Regulations	917	Cooking Appliances
301	General	918	Forced-Air Warm-Air Furnaces
		924	Stationary Fuel Cell Power Plants
306	Access and Service Space	927	Residential Electric Duct Heaters
		928	Vented Residential Floor Furnaces
Chapter 5	Exhaust Systems		
502	Required Systems	Chapter 10	Boilers, Water Heaters and Pressure Vessels
503	Motors and Fans		
504	Clothes Dryer Exhaust	1001	General
509	Fire Suppression Systems	1004	Boilers
513	Smoke Control Systems	1006	Safety and Pressure Relief Valves And Controls
Chapter 6	Duct Systems		
601	General	Chapter 11	
602	Plenums	1104	System Application Requirements
606	Smoke Detection System Control	1105	Machinery Room, General Requirements
607	Ducts and Air Transfer Openings	1106	Machinery Room, Special Requirements
Chapter 8	Chimneys and Vents	Chapter 15	Referenced Standards
801	General		
804	Direct-Vent, Integral Vent and Mechanical Draft System		

Florida Building Code 2004

Florida Building Code - Plumbing

Chapter 6	Water Supply and Distribution	Part II	Design Criteria
601	General	I.	Control Valves
612	Well Pumps and Tanks used for Private Potable Water Systems		
		Part IV	Materials
		H.	Low Voltage Wiring
Chapter 11	Storm Drainage	I.	Irrigation Controllers
1113	Sumps and Pumping Systems	J.	Pumps and Wells
Chapter 13	Referenced Standards	Part V.	Installation
		E.	Low Voltage Wire Installation
Appendix F	Proposed Construction Building Codes For Turf and Landscape Irrigation Systems	F.	Hydraulic Control Tubing

Florida Building Code 2004

Florida Building Code - Fuel Gas

Page 3 of 3

Sections ~~E3302~~ E3304 through E3307 Reserved.

CHAPTER 43 REFERENCED STANDARDS

AAMA

Change text to read as shown:

Standard reference number	Title	Referenced in code section number
AAMA/NPEA/NSA 2100-02	Voluntary Specifications for Sunrooms	R301.2.1.1.2

101/I.S2—97 Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors ~~Table R613.1,~~ R613.~~3~~.3.1, R613.~~3~~.3.2, R4410.2.3.2.1

101/I.S2/NAFS—02 Voluntary Performance Specification for Windows, Skylights and Glass Doors R613.~~3~~.3.1, R613.3.2, R4410.2.3.2.1

AAMA/WDMA/CSA 101/I.S. 2/A440-05 Specifications for Windows, Doors and Unit Skylights. R613.3.1, R613.3.2, and R4410.2.3.2.1

AAMA 450- 06 Voluntary Performance Rating Method for Mulled Fenestration Assemblies. R613.7.1, R613.7.1.2, R613.7.1.3.

AAMA 506-06 Voluntary Specifications for Hurricane Impact and Cycle Testing of Fenestration Products. R301.2.1.2

1402—86 Standard Specifications for Aluminum Siding, Soffit and Fascia R703.12.3

ACI

Change to read as follows:

Standard reference number	Title	Referenced in code section number
530/530.1-~~02~~05	Building Code Requirements for Masonry Structures and Specifications for Masonry Structures & Commentaries	

AFPA

AFPA—93 Span Tables for Joists and Rafters R502.2.2, ~~R502.3~~, R802.2.2 ~~R802.4~~, R802.2.3 ~~R802.5~~, R4409.1.4.7, R4409.4.1.1

WFCM—01 Wood Frame Construction Manual for One- and Two-family Dwellings R301.2.1.1, R404.1.4, R614.2.5, R614.3.1, R802.2, R4409.1.4.7

NDS—01 National Design Specification (NDS) for Wood Construction with 2001 Supplement R404.2.2, R502.2, Table R503.1, R602.3, R802.2, R4404.7.1.8.1, R4409.1.4.7, R4409.2.4.1, R4409.6.17.2.1.3, R4409.6.17.2.1.5

AHA

A135.4—95 Basic Hardboard Table R602.2(1) ~~R602.3(1),~~ R4409.1.4.1
A194.1—85 Cellulosic Fiber Board Table R602.2(1) ~~R602.3(1),~~ R4409.1.4.1, R4409.2.1.4

Add to read as follows:

AISI

Standard reference number	Title	Referenced in code section number
AISI/COFS/PM–2001, AISI/COFS/PM SUPPLEMENT–2004	Standard for Cold-Formed Steel Framing—Prescriptive Method for One- and Two-family Dwellings,	R301.1,R301.2.1.1, R404.1.4, R404.1.4.2

AITC

AITC A 190.1—92 Structural Glued Laminated Timber ~~R502.1.5~~, R502.1.1.5, R602.1.1.2, ~~R602.1.2~~, R802.1.5 ~~R802.1.4~~, R4409.1.4.2, R4409.2.11

ASCE

5—02 Building Code Requirements for Masonry Structures R404.1, R606.1, R606.1.1, R606.2.2 ~~R606.2.4~~, R606.11.1, R606.11.2.2.1, R606.11.2.2.2, R606.11.3.1, R4403.7.8

7—02 Minimum Design Loads for Buildings and Other Structures
Figure 301.2(4), R301.2.1.1, R301.2.1.1.2, R301.2.1.4, R611.3(1), Table R611.7.4, R4402.3.4, R4403.1.3, R4403.4.1, R4403.4.2, R4403.7.3.8, R4403.7.8, R4403.8, R4403.9, R4403.10, R4403.12, Table R4403.15.4, R4403.16.1

ASME

Standard Referenced

reference number | Title | in code section number

ANSI/ASME B 18.6.1 – 1981 Wood Screws (INCH SERIES) R904.4.2, R905.7.6.1.2, R905.8.7.1.2

ASTM

Standard reference number | Title | Referenced in code section number

A 36/A 36M—01 Specification for Carbon Structural Steel R606.9.10 ~~R606.14~~

A 82—02 Specification for Steel Wire, Plain for Concrete Reinforcement R606.9.10 ~~R606.14~~

A 153-01a [No change.] R904.4.3, Table R606.9.10.1 ~~Table R606.14.1~~

A 167 [No change.] R904.4.3, R606.9.10, Table R606.9.10.1 ~~R606.14, Table R606.14.1~~

A 510M—00 Specification for General Requirements for Wire Rods and Coarse Round Wire, Carbon Steel Metric R606.9.10 ~~R606.14~~

A 525 87 Specification for Steel Sheet Zinc coated (Galvanized) Steel Wire Table R606.9.10.1 ~~R606.14.1~~, R4405.12.4.4, R4408.1.3, R4411.4.2, R4411.4.5.1, R4411.4.5.4, M1601.1.1

A 641/A 0641M—98 Specification for Zinc coated (Galvanized) Carbon Steel Wire R904.4.1, R904.4.2, R905.2.5.1 Table R606.9.10.1 ~~R606.14.1~~, R905.7.6.1.2, R905.8.7.1.2

A 653/A 653M—00 Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc Iron Alloy Coated (Galvanized) by the Hot Dip Process R505.2.1, R505.2.3, R603.2.1, R603.2.3, R804.2.1, R804.2.3, Table R905.4.4, Table R905.10.3, R4409.6.17.2.2.7

A 755M—99 Specification for Steel Sheet, Metallic Coated by the Hot dip Process and Prepainted by the Coil coating Process for Exterior Exposed Building Products R905.4.4, Table R905.10.3

A 792M—99 Specification for Steel Sheet, 55% Aluminum zinc Alloy coated by the Hot dip Process R505.2.1, R505.2.3, R603.2.1, R603.2.3, R804.2.1, R804.2.3, Table R905.4.4, Table R905.10.3

A 951—00 Specification for Masonry Joint Reinforcement R606.9.10 ~~R606.14~~

B 101—01 Specification for Lead coated Copper Sheet and Strip for Building Construction Table R905.4.4, Table R905.10.3

B 209—96 Specification for Aluminum and Aluminum alloy Sheet and Plate Table R905.4.4, Table 905.10.3

B 227—98 Specification for Hard drawn Copper clad Steel Wire R606.9.10 ~~R606.14~~

B 370—98 Specification for Copper Sheet and Strip for Building Construction Table R905.4.4, Table R905.10.3, Table P2701.1

C 79—01 Specification for Treated Core and Nontreated Core Gypsum Sheathing Board Table R602.2(1) ~~R602.3(1),~~ R702.3.1

C 90—01 Specification for Load Bearing Concrete Masonry Units Table R301.2(1), R606.4, R4407.2.7.2

C 208—95(2001) Specification for Cellulosic Fiber Insulating Board Table R602.2(1) ~~R602.3(1)~~

C 476—01 Specification for Grout for Masonry R609.1.4, ~~R609.1.1~~

C 1186—99 Specification for Flat Nonasbestos Fiber Cement Sheets R703.4, R703.10

D 226—97a Specification for Asphalt saturated (Organic Felt) Used in Roofing and Waterproofing R703.2, R703.9.1, R905.2.2, R905.2.3, R905.2.7, R905.4.3, R905.5.3, R905.6.3, Table R905.7.5, R905.8.4, R905.8.10.1, Table 905.9.2, R4402.7.4

D 2898—94(1999) Test Methods for Accelerated Weathering of Fire retardant treated Wood for Fire Testing R802.1.4.1 ~~R802.1.3.1~~, R802.1.4.3 ~~R802.1.3.3~~, R902.2, R4409.1.4.4, R4409.14.4, R4409.16.1

D 3161-99a [No change.] R905.2.6.1, Table R905.2.6.1

D 3201—94(1998)el Test Method for Hygroscopic Properties of Fire retardant Wood and Wood base Products R802.1.4.4 ~~R802.1.3.4~~, R4409.1.4.4, R4409.14.5

D 3679-~~01e~~05 Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding . . . . Table R703.4, R703.11, R703.11.1

D 3737—01b Practice for Establishing Allowable Properties for Structural Glued Laminated Timber (Glulam) R502.1.1.5, ~~R502.1.5~~, R602.1.1.2, ~~R602.1.2~~, R802.1.5 ~~R802.1.4~~

D 3909-97b [No change.] R905.2.8.2

D 4869—88(1993)e1 Specification for Asphalt saturated (Organic Felt) Underlayment Used in Steep Slope Roofing R905.2.2, R905.2.3, R905.2.7

D 5055—00 Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists R502.1.1.4, ~~R502.1.4~~

D 5516—99a Test Method for Evaluating the Flexural Properties of Fire retardant treated Softwood Plywood Exposed to the Elevated Temperatures R802.1.4.2.1 ~~R802.1.3.2.1~~

D 5664—01 Test Methods For Evaluating the Effects of Fire retardant Treatments and Elevated Temperatures on Strength Properties of Fire retardant treated Lumber R802.1.4.2.2 ~~R802.1.3.2.2~~

D 6305—99e1 Practice for Calculating Bending Strength Design Adjustment Factors for Fire Retardant–Treated Plywood Roof Sheathing R802.1.4.2.1 ~~R802.1.3.2.1~~

D 6380-03 Standard Specification for Asphalt Roll Roofing (Organic Felt) R905.2.8.2, R905.3.3

E 84—01 Test Method for Surface Burning Characteristics of Building Materials
R202, ~~R3141.1, R3142.6, R314.2.7~~, R314.3, R314.5.10, R315.3, R315.4, R314.5.8, R316.1, R316.2, R802.1.4 ~~R802.1.3~~, R4409.1.4.4, R4409.14.1, R4412.1.2, R4412.1.3.1.1, R4412.1.3.1.4, R4412.1.3.2.4.5, M1601.16, M1601.3.7

E 119-00a [No change.] R314.4

E 330—02 Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference R613.3, R613.4.1, R4410.6.4, R4410.6.6.1

E 1886-02 or 05[No change.]
E 1996-00 or 05[No change.]

F 1667 [No change.] R904.4.1, Table R703.4

Add to read as follows:

D 6757-05 Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing R905.2.2, R905.2.3, R905.2.7

Add to read as follows:

D 6841-03 Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-Retardant-Treated-Lumber. R802.1.3.2.2

Add to read as follows:

D 7158-05 Standard Test Method for Wind Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method) R905.2.6.1, Table R905.2.6.1

Change to read as follows:

AWPA
C20—99 Structural Lumber—Fire retardant Treatment by Pressure Processes
~~R802.1.3.2~~, R4409.1.4.5

Change to read as follows:

DASMA

Standard reference number	Title	Referenced in code section number
108—02	Standard Method for Testing Garage Doors	R613.4.1, R613.4.2

Change to read as shown:

ANSI/DASMA 115-05 Standard Method for Testing Garage Doors and Rolling R301.2.1.2

Doors: Determination of Structural Performance Under Missile Impact and Cyclic Wind Pressure

DOC/NIST

PS 20—99 American Softwood Lumber Standard R404.2.1, Table R404.2.3, R502.1.1, R503.2.1, R602.1.1, R604.1, R802.1.1 ~~R802.1~~, R803.2.1, R4409.1.4.6, R4409.2.1.8

Florida Codes

RAS 111 Standard Requirements for Attachment of Perimeter Wood Blocking and Metal Flashing R903.3, R4402.3.2, R4402.3.3, R4402.3.4.1.1, R4402.6.6.1, R4402.6.6.2.1, R4402.6.6.2.3, R4402.6.6.2.5, R4402.7.5.2, R4402.7.6.2, R4402.7.7.3.4, R4402.7.9.5, R4402.8.8, R4402.8.10, R4402.8.13

TAS 107 Test Procedure for Wind Resistance Testing of Nonrigid, Discontinuous Roof System Assemblies R905.2.6, R905.2.6.1, Table R905.6.2.1, R4402.12.6.5.1

TAS 202 Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components Using Uniform static Air Pressure R301.2.1.2, R613.3.1, R613.4, R613.4.1, R613.4.2, R4410.2.3.2, R4410.2.3.2.1, R4410.2.3.2.1.1

FM

4880—(2001) 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
~~R314.3,~~ R314.4, R314.6, R4412.1.3.1.4

FRSA

FRSA/TRI 07320/8—05 Concrete and Clay Roof Tile Installation Manual, Fourth Edition
R905.3, R905.3.2, R905.3.3, R905.3.7, R905.3.7.1, R905.3.8

GA

GA 253—99 Recommended Standard Specification for the Application of Gypsum Sheathing Table R602.2(1) ~~R602.3(1)~~

ICC

~~SBCCI SSTD 10—99~~ IBHS Guideline ~~Standard~~ for Hurricane Resistant Residential Construction 2005 with errata for the first printing. R301.2.1.1

NFPA

Standard reference number	Title	Referenced in code section number
NFPA 70A ~~02~~ 05	National Electrical Code (NEC) for One-and Two-Family Dwellings	
NFPA 70—~~02~~ 05	National Electrical Code (NEC)	E3301.1

259—03 Standard Test Method for Potential Heat of Building Materials ~~R314.2.5,~~ R314.5.7, R4412.1.3.2.4.4

286—00 Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth ~~R314.3,~~ R314.4, R314.6, R315.4, R4412.1.3.1.4

SDI
ANSI A250.13—03 Testing and Rating of Severe Windstorm Resistant Components for Swinging Door Assemblies R613.4.3.1, R613.4.4.1

SPRI Single-Ply Roofing Institute
77 Rumford Ave., Suite 3-B, Walthem, MA 02453

Standard reference number	Title	Referenced in code section number
ES-1—98	Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems ………………………………..	R903.3

TPI
Change text to read as shown:

Truss Plate Institute
~~583 D'Onofrio Drive, Suite 200~~ 218 N. Lee Street, Suite 312
~~Madison, WI 53719~~ Alexandria, VA 22314

Standard reference number	Title	Referenced in code section number
~~HIB—91~~	~~Commentary and recommendations for Handling, Installing and Bracing Metal Plate Connected Wood Trusses (excluding Chapter 13.2~~	
BCSI 1-03	Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses [A joint publication with the Wood Truss Council of America (WTCA)].	R502.1.3.2, R4409.1.4.9, R4409.6.17.2.4.1, R4409.6.17.2.4.3, R501.11.2, R802.1.6.3 ~~R802.10.3~~
TPI 1—02	National Design Standard for Metal-plate-connected Wood Truss Construction	R502.1.3.1, ~~R502.11.1~~, R502.1.3.2, ~~R502.11.2~~, R802.1.6.2 ~~R802.10.2~~, R802.2.9.1 ~~R802.11.1~~, R4409.1.4.9, R4409.6.17.2.1.1,R4409.6.17.2.2.8

UL
1040—96 Fire Test of Insulated Wall Construction—with Revisions through June 2001 ~~R314.3,~~ R314.4, R314.6, R4412.1.3.1.4

1715—97 Fire Test of Interior Finish Material ~~R314.3,~~ R314.4, R314.6, R4412.1.3.1.4

CHAPTER 44 HIGH VELOCITY HURRICANE ZONE

Section R4402.7.8.10 Change text to read as shown:

R4402.7.8.10 Mortar or adhesive set tiles applied at an incline from ~~4½~~ 6:12 up to and including 7:12 shall have the first course of tile (this applies to pan only on two-piece barrel tile) mechanically fastened with not less than one fastener per tile. As an alternate, the first course of tile shall be applied in mortar over a single layer of minimum 20 gauge galvanized wire mesh with openings of not less than ½ inch (12.7 mm) or greater than 1½ inches (38 mm) with minimum exposure of 12 inches (305 mm) which is mechanically attached to the deck through the underlayment with approved fasteners and tin-cap when back nailing the cap sheet. Additionally, for roof inclines of 6:12 up to and including 7:12, every third tile of every fifth course, shall be mechanically fastened with not less than one fastener per tile. For roof inclines above 7:12, in addition to the mortar or adhesive, all tiles shall be mechanically fastened with not less than one fastener per tile. Apply approved flashing cement to seal all tile fastener penetrations, for all roof inclines.

Section R4402.8.16 Add text to read as shown:

R4402.8.16 Waterproofing

Waterproofing systems may be installed in lieu of an approved roof system over sloped or horizontal decks specifically designed for pedestrian and/or vehicular traffic, whether the deck is above occupied or unoccupied space. In new construction the minimum deck slope shall be ¼ : 12.

R4402.8.16.1 The waterproofing system must possess a current and valid product approval.

R4402.8.16.2 If an overburden or wearing surface is not to be installed, the waterproofing system must be approved by the manufacturer for use in vehicular and/or pedestrian traffic locations.

R4402.8.16.3 The waterproofing assembly must possess a Class A, Class B, or Class C fire rating as required herein.

R4402.8.16.4 If any portion of the waterproofing membrane is to remain exposed, the waterproofing system shall be ultra-violet resistant.

R4402.8.16.5 Flashings must be installed according to the waterproofing manufacturer’s published specifications and in compliance with the material and attachment standards of RAS 111.

R4402.8.16.6 The waterproofing system shall be flood tested in accordance with ASTM D 5957.

R4402.8.16.6.1 The flood test shall take place after installation of the waterproofing membrane and prior to the installation of any above membrane components, wearing surface or overburden.

R4402.8.16.6.2

An approved testing lab shall provide written verification to the Building Official confirming that the flood test was performed along with the results, prior to final inspection.

Section R4402.10.11 Change text to read as shown:

R4402.10.11 If the recover roofing assembly is mechanically attached through either a base sheet or insulation layer, the attachment assembly shall be field tested for fastener withdrawal resistance, in compliance with TAS 105, and laboratory tested for pull-over resistance to insure compliance with wind uplift requirements set forth in Section R4403 of this code. Test results shall be submitted with the uniform roofing permit application. Recover roofing assembly anchor sheet or base sheet shall not be mechanically fastened directly to existing gravel roof unless all gravel is completely removed.

Section R4403.7.3.6.2 Change text to read as shown:

~~**R4403.7.36.2**~~ **R4403.7.3.6.2** Intermediate rails, balusters and panel fillers shall be designed for a uniform horizontal load of not less than 25 pounds per square foot (1197 Pa) over the gross area of the guard, including the area of any openings in the guard, of which they are a part without restriction by deflection. Reactions resulting from this loading need not be added to the loading specified ~~in R4403.7.4.6.1~~ **R4403.3.6.1** in designing the main supporting members of guards.

Section R4403.7.3.7 Change text to read as follows:

~~**R4403.7.4.7**~~ **R4403.7.3.7** Areas in all occupancies from which the public is excluded requiring such protection may be provided with vertical barriers having a single rail midway between a top rail and the walking surface.

Section R4403.7.3.8 Change text to read as follows:

~~**R4403.7.4.8**~~ **R4403.7.3.8** The last sentence of the first paragraph in Section 4.4.2 of ASCE 7 is hereby deleted.

Section R4403.7.8 Change text to read as shown:

R4403.7.8 Load Combination. The safety of structures shall be checked using provisions of 2.3 and 2.4 of ASCE 7 with commentary.
Exception: Increases in allowable stress shall be permitted in accordance with ACI 530/ASCE 5/TMS 402 provided the load reduction factor of 0.75 of combinations 4 and 6 of ASCE 7 Section 2.4.~~3~~ 1 shall not be applied.

Section R4403.9.3 Change text to read as shown:

R4403.9.3 All buildings and structures shall be considered to be in Exposure Category C as defined in Section 6.5.6.~~1~~3 of ASCE 7.

Section R4407.5.1 Change text to read as shown:

R4407.5.1 Standards. The provisions of ACI 530- ~~95~~ 02 and 530.1- ~~02~~/ASCE 5-~~95~~ 02 and 6-~~02~~, *Building Code Requirements and Specification for Masonry Structures* and the commentary~~y~~ies on *Building Code Requirements and Specification* for Masonry Structures, are hereby adopted as a minimum; however requirements of the standards shall not supersede the specific requirements of this section.

Section R4409.1.4.9 Change text to read as shown:

R4409.1.4.9 Truss Plate Institute
~~583 D'Onofio Drive, Madison, WI 53719 TPI~~ 218 N. Lee Street, Suite 312, Alexandria, VA 22314
1. National Design Standard for Metal Plate Connected Wood Truss Construction (Excluding Chapter 2) ~~2002~~.
2. ~~Commentary and Recommendations for Handling, Installing and Bracing Metal Plate Connected Wood Trusses. (Excluding Chapter 13.2) HIB-91~~ Building Component Safety Information (BCSI 1-03) Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses [A joint publication with the Wood Truss Council of America (WTCA)]

Section R4409.2.5.2 Change text to read as shown:

R440~~8.~~9.9.2.5.2 Nails at gable ends shall be hand driven 8d ring shank or power driven 8d ring shank nails of the following minimum dimensions: (a) 0.113 inch (2.9 mm) nominal shank diameter, (b) ring diameter of 0.012 inch (0.3 mm) over shank diameter, (c) 16 to 20 rings per inch, (d) 0.280 inch (7.1 mm) full round head diameter, (e) 23/8 inch (60.3 mm) nail length or as an alternative hand driven 10d common nails [(0.148 inch (3.8 mm) diameter by 3 inches (76 mm) long with 0.312 inch (7.9 mm) diameter full round head)] or power driven 10d nails of the same dimensions [0.148 inch (3.8 mm) diameter by 3 inches (76 mm) long with 0.312 inch (8 mm) diameter full round head]. Nails of a smaller diameter or length may be used only when approved by an architect or professional engineer and only when the spacing is reduced accordingly. Other products with unique fastening methods may be substituted for these nailing requirements as approved by the building official and verified by testing.

Section R4409.2.5.3 Change text to read as shown:

R440~~8.~~9.9.2.5.3 Other products with unique fastening methods may be substituted for these nailing requirements as approved by the building official and verified by testing**.**

Section R4409.6.17.2.4.1 Change text to read as shown:

R4409.6.17.2.4.1 All trusses shall be erected in accordance with ~~Truss Plate Institute *Manual Commentary and Recommendations for Handling & Bracing Metal Plate Connected Wood Trusses* (HIB-91)~~ TPI/WTCA BCSI 1-~~03~~ in addition to any requirements indicated on the approved permit document

Section R4409.6.17.2.4.3 Change to read as follows:

R4409.6.17.2.4.3 Temporary bracing shall be required during the erection of roof trusses to keep the trusses in a true plumb position and to prevent toppling of the trusses during erection, until the roof sheathing is applied. The provisions for temporary bracing shown in ~~HIB-91~~ TPI/WTCA BCSI 1-~~03~~ shall be used for this bracing or a professional engineer or architect shall design the temporary bracing system. The ultimate responsibility to see this bracing is installed properly during the erection process lies with the permit holder. This bracing is extremely important for the protection of life and property during the erection process. Temporary truss bracing shall always be required.

Section R4410.2.3.2.1 Change text to read as shown:

R4410.2.3.2.1 Operative windows and door assemblies shall be tested in accordance with TAS 202 and ANSI/AAMA/MWWDA/NWWDA 101/I.S. 2-~~97~~, or 101/I.S. 2/NAFS or AAMA/WDMA/CSA 101/I.S. 2/A440 or TAS 202 and the forced entry prevention requirements of the Architectural Manufacturers Association (AAMA), 1302.5 and 1303.5.
[Remaining text unchanged.]

Section R4410.2.4.1 Change text to read as shown:

R4410.2.4.1 Where there is a drop of 4 feet (1219 mm) or more on the far side of fixed glazed panel 24 inches (610 mm) or more in width, the bottom of which is less than 36 inches (914 mm) above the near side walking surface, safeguards as set forth in Section ~~R4403.7.4~~ R4403.7.3 shall be provided.

Section R4410.2.5.1 Change text to read as follows:

R4410.2.5.1 Where there is a drop of more than 4 feet (1219 mm) on the far side of such windows and the sill is less than 36 inch (914 mm) above the near side walking surface, safeguards shall be provided to prevent the fall of persons when such windows are open as set forth in Section ~~R4403.7.4~~. R4403.7.3

Exceptions:

1. Where the vent openings are 12 inches (305 mm) or less in least dimension and are restricted in operation to reject objects as required for safeguard in Section ~~R4403.7.4~~. R4403.7.3

2. Slats or grille work constructed to comply with Standard OSHA-1910, set forth in Section ~~R4403.7.4~~ R4403.7.3 of this code, or other construction approved by the building official, may be provided in lieu of other safeguards.

Section R4412.1.3.1.4 Change text to read as follows:

R4412.1.3.1.4 Foam plastic not meeting the requirements of this section may be specifically approved on the basis of approved tests such as, but not limited to, ~~a tunnel test in accordance with ASTM E 84,~~ FM procedure 4880, UL Subject 1040, ~~ASTM E 152 or the room test procedure described in SPI Bulletin PPICC 401~~ NFPA 286, or UL 1715, or fire tests related to actual end-use configuration and shall be performed on the finished foam plastic assembly in the maximum thickness intended for use. Assemblies tested shall included seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use. ~~. The specific approval may be based on the end use, quantity, location and similar considerations where such tests would not be applicable or practical.~~

Florida Building Code, Mechanical

TABLE OF CONTENTS

Appendix A

CHAPTER 2 DEFINITIONS

202 Definitions. Change to read as follows:

MANUFACTURED BUILDING. Means a ~~A~~ closed structure, building assembly, or system of subassemblies, which may include structural, electrical, plumbing, heating, ventilating or other service systems manufactured ~~in manufacturing facilities~~ for installation or erection, with or without other specified components, as a finished building or as part of a finished building, which shall include, but not be limited to, residential, commercial, institutional, storage, and industrial structures. ~~This part does not apply to mobile (manufactured) homes. Manufactured building may also mean, at the option of the manufacturer, any building of open construction made or assembled in manufactured facilities away from the building site, for installation, or assembly and installation, on the building site. (Reference Chapter 13, Section 13-101.2.4 of the Florida Building Code, Building).~~

CHAPTER 3 GENERAL REGULATIONS

Section 301.13 Change to read as shown:

301.13 Wind resistance.
Mechanical equipment, appliances and supports that are exposed to wind shall be designed and installed to resist the wind pressures on the equipment and the supports as determined in accordance with the *Florida Building Code, Building*. This may be accomplished by design or by application of Section 301.13.1. Roof mounted mechanical units and supports shall be secured to the structure. The use of wood “sleepers” shall not be permitted.
[Remaining text unchanged.]

Section 307.2.3 Change subparagraph 2 to read as shown:

307.2.3 Auxiliary and secondary drain systems. In addition to the requirements of Section 307.2.1, a secondary drain or auxiliary drain pan shall be required for each cooling or evaporator coil where damage to any building components will occur as a result of overflow from the equipment drain pan or stoppage in the condensate drain piping. One of the following methods shall be used:

1. No change.
2. A separate overflow drain line shall be connected to the drain pan provided with the equipment. Such overflow drain shall discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line shall connect to the drain pan at a higher level than the primary drain connection.

As an alternative to a separate drain line, a water-level detection device that will shut off the equipment served prior to overflow of the pan shall be provided. The water level detection device shall connect to the drain pan at a higher level than the primary drain connection.

3. No change.

CHAPTER 7 COMBUSTION AIR

Chapter 7 is replaced in its entirety to read as follows:

SECTION 701
GENERAL

701.1 Scope. The provisions of this chapter shall govern the requirements for combustion and dilution air for fuel-burning appliances other than gas-fired appliances. The requirements for combustion and dilution air for gas-fired appliances shall be in accordance with the *Florida Building Code, Fuel Gas*

701.2 Combustion and dilution air required. Every room or space containing fuel-burning appliances shall be provided with combustion and dilution air as required by this code. Combustion and dilution air shall be provided in accordance with Section 702, 703, 704, 705, 706 or 707 or shall be provided by an approved engineered system. Direct vent appliances or equipment that do not draw combustion air from inside of the building are not required to be considered in the determination of the combustion and dilution air requirements. Combustion air requirements shall be determined based on the simultaneous operation of all fuel-burning appliances drawing combustion and dilution air from the room or space.

701.3 Circulation of air. The equipment and appliances within every room containing fuel-burning appliances shall be installed so as to allow free circulation of air. Provisions shall be made to allow for the simultaneous operation of mechanical exhaust systems, fireplaces or other equipment and appliances operating in the same room or space from which combustion and dilution air is being drawn. Such provisions shall prevent the operation of such appliances, equipment and systems from affecting the supply of combustion and dilution air.

701.4 Crawl space and attic space. For the purposes of this chapter, an opening to a naturally ventilated crawl space or attic space shall be considered equivalent to an opening to the outdoors.

701.4.1 Crawl space. Where lower combustion air openings connect with crawl spaces, such spaces shall have unobstructed openings to the outdoors at least twice that required for the combustion air openings. The height of the crawl space shall comply with the requirements of the *Florida Building Code* and shall be without obstruction to the free flow of air.

701.4.2 Attic space. Where combustion air is obtained from an attic area, the attic ventilating openings shall not be subject to ice or snow blockage, and the attic shall have not less than 30 inches (762 mm) vertical clear height at its maximum point. Attic ventilation openings shall be sufficient to provide the required volume of combustion air and the attic ventilation required by the *Florida Building Code*. The combustion air openings shall be provided with a sleeve of not less than 0.019-inch (0.5 mm) (No. 26 Gage) galvanized steel or other approved material extending from the appliance enclosure to at least 6 inches (152 mm) above the top of the ceiling joists and insulation.

701.5 Prohibited sources. Openings and ducts shall not connect appliance enclosures with a space in which the operation of a fan will adversely affect the flow of the combustion air. Combustion air shall not be obtained from a hazardous location, except where the fuel-fired appliances are located within the hazardous location and are installed in accordance with this code. Combustion air shall not be taken from a refrigeration machinery room, except where a refrigerant vapor detector system is installed to automatically shut off the combustion process in the event of refrigerant leakage. Combustion air shall not be obtained from any location below the design flood elevation.

SECTION 702
INSIDE AIR

702.1 All air from indoors. Combustion and dilution air shall be permitted to be obtained entirely from the indoors in buildings that are not of unusually tight construction. In buildings of unusually tight construction, combustion air shall be obtained from the outdoors in accordance with Section 703, 705, 706 or 707.

702.2 Air from the same room or space. The room or space containing fuel-burning appliances shall be an unconfined space as defined in Section 202.

702.3 Air from adjacent spaces. Where the volume of the room in which the fuel-burning appliances are located does not comply with Section 702.2, additional inside combustion and dilution air shall be obtained by opening the room to adjacent spaces so that the combined volume of all communicating spaces meets the volumetric requirement of Section 702.2. Openings connecting the spaces shall comply with Sections 702.3.1 and 702.3.2.

702.3.1 Number and location of openings. Two openings shall be provided, one within 1 foot (305 mm) of the ceiling of the room and one within 1 foot (305 mm) of the floor.

702.3.2 Size of openings. The net free area of each opening, calculated in accordance with Section 708, shall be a minimum of 1 square inch per 1,000 Btu/h (2201 mm^2/kW) of input rating of the fuel-burning appliances drawing combustion and dilution air from the communicating spaces and shall be not less than 100 square inches (64 516 mm^2).

SECTION 703
OUTDOOR AIR

703.1 All air from the outdoors. Where all combustion and dilution air is to be provided by outdoor air, the required combustion and dilution air shall be obtained by opening the room to the outdoors. Openings connecting the room to the outdoor air shall comply with Sections 703.1.1 through 703.1.4.

703.1.1 Number and location of openings. Two openings shall be provided, one within 1 foot (305 mm) of the ceiling of the room and one within 1 foot (305 mm) of the floor.

703.1.2 Size of direct openings. The net free area of each direct opening to the outdoors, calculated in accordance with Section 709, shall be a minimum of 1 square inch per 4,000 Btu/h (550 mm2/kW) of combined input rating of the fuel-burning appliances drawing combustion and dilution air from the room.

703.1.3 Size of horizontal openings. The net free area of each opening, calculated in accordance with Section 709 and connected to the outdoors through a horizontal duct, shall be a minimum of 1 square inch per 2,000 Btu/h (1100 mm^2/kW) of combined input rating of the fuel-burning appliances drawing combustion and dilution air from the room. The cross-sectional area of the duct shall be equal to or greater than the required size of the opening.

703.1.4 Size of vertical openings. The net free area of each opening, calculated in accordance with Section 709 and connected to the outdoors through a vertical duct, shall be a minimum of 1 square inch per 4,000 Btu/h (550 mm^2/kW) of combined input rating of the fuel-burning appliances drawing combustion and dilution air from the room. The cross-sectional area of the duct shall be equal to or greater than the required size of the opening.

SECTION 704
COMBINED USE OF INSIDE AND OUTDOORAIR (CONDITION 1)

704.1 Combination of air from inside and outdoors. This section shall apply only to appliances located in confined spaces in buildings not of unusually tight construction. Where the volumes of rooms and spaces are combined for the purpose of providing indoor combustion air, such rooms and spaces shall communicate through permanent openings in compliance with Sections 702.3.1 and 702.3.2. The required combustion and dilution air shall be obtained by opening the room to the outdoors using a combination of inside and outdoor air, prorated in accordance with Section 704.1.6. The ratio of interior spaces shall comply with Section 704.1.5. The number, location and ratios of openings connecting the space with the outdoor air shall comply with Sections 704.1.1 through 704.1.4.

704.1.1 Number and location of openings. At least two openings shall be provided, one within 1 foot (305 mm) of the ceiling of the room and one within 1 foot (305 mm) of the floor.

704.1.2 Ratio of direct openings. Where direct openings to the outdoors are provided in accordance with Section 703.1, the ratio of direct openings shall be the sum of the net free areas of both direct openings to the outdoors, divided by the sum of the required areas for both such openings as determined in accordance with Section 703.1.2.

704.1.3 Ratio of horizontal openings. Where openings connected to the outdoors through horizontal ducts are provided in accordance with Section 703.1, the ratio of horizontal openings shall be the sum of the net free areas of both such openings, divided by the sum of the required areas for both such openings as determined in accordance with Section 703.1.3.

704.1.4 Ratio of vertical openings. Where openings connected to the outdoors through vertical ducts are provided in accordance with Section 703.1, the ratio of vertical openings shall be the sum of the net free areas of both such openings, divided by the sum of the required areas for both such openings as determined in accordance with Section 703.1.4.

704.1.5 Ratio of interior spaces. The ratio of interior spaces shall be the available volume of all communicating spaces, divided by the required volume as determined in accordance with Sections 702.2 and 702.3.

704.1.6 Prorating of inside and outdoor air. In spaces that utilize a combination of inside and outdoor air, the sum of the ratios of all direct openings, horizontal openings, vertical openings and interior spaces shall equal or exceed 1.

SECTION 705
COMBINED USE OF INSIDE AND OUTDOORAIR (CONDITION 2)

705.1 General. This section shall apply only to appliances located in unconfined spaces in buildings of unusually tight construction. Combustion air supplied by a combined use of indoor and outdoor air shall be supplied through openings and ducts extending to the appliance room or to the vicinity of the appliance.

705.1.1 Openings and supply ducts. Openings shall be provided, located and sized in accordance with Sections 702.3.1 and 702.3.2; additionally, there shall be one opening to the outdoors having a free area of at least 1 square inch per 5,000 Btu/h (440 mm2/kW) of total input of all appliances in the space.

SECTION 706
FORCED COMBUSTION AIR SUPPLY

706.1 General. Where all combustion air and dilution air is provided by a mechanical forced-air system, the combustion air and dilution air shall be supplied at the minimum rate of 1 cfm per 2,400 Btu/h [0.00067 $m^3/(s \cdot kW)$] of combined input rating of all the fuel-burning appliances served. Each of the appliances served shall be electrically interlocked to the mechanical forced-air system so as to prevent operation of the appliances when the mechanical system is not in operation. Where combustion air and dilution air is provided by the building's mechanical ventilation system, the system shall provide the specified combustion/dilution air rate in addition to the required ventilation air.

SECTION 707
DIRECT CONNECTION

707.1 General. Fuel-burning appliances that are listed and labeled for direct combustion air connection to the outdoors shall be installed in accordance with the manufacturer's installation instructions.

SECTION 708
COMBUSTION AIR DUCTS

708.1 General. Combustion air ducts shall:

1. Be of galvanized steel complying with Chapter 6 or of equivalent corrosion-resistant material approved for this application.
   Exception: Within dwelling units, unobstructed stud and joist spaces shall not be prohibited from conveying combustion air, provided that not more than one required fireblock is removed.
2. Have a minimum cross-sectional dimension of 3 inches (76 mm).
3. Terminate in an unobstructed space allowing free movement of combustion air to the appliances.
4. Have the same cross-sectional areas as the free area of the openings to which they connect.
5. Serve a single appliance enclosure.
6. Not serve both upper and lower combustion air openings where both such openings are used. The separation between ducts serving upper and lower combustion air openings shall be maintained to the source of combustion air.
7. Not be screened where terminating in an attic space.
8. Not slope downward toward the source of combustion air, where serving the upper required combustion air opening.

SECTION 709
OPENING OBSTRUCTIONS

709.1 General. The required size of openings for combustion and dilution air shall be based on the net free area of each opening. The net free area of an opening shall be that specified by the manufacturer of the opening covering. In the absence of such information, openings covered with metal louvers shall be deemed to have a net free area of 75 percent of the area of the opening, and openings covered with wood louvers shall be deemed to have a net free area of 25 percent of the area of the opening. Louvers and grills shall be fixed in the open position.

Exception: Louvers interlocked with the appliance so that they are proven to be in the full open position prior to main burner ignition and during main burner operation. Means shall be provided to prevent the main burner from igniting if the louvers fail to open during burner startup and to shut down the main burner if the louvers close during operation.

709.2 Dampered openings. Where the combustion air openings are provided with volume, smoke or fire dampers, the dampers shall be electrically interlocked with the firing cycle of the appliances served, so as to prevent operation of any appliance that draws combustion and dilution air from the room when any of the dampers are closed. Manually operated dampers shall not be installed in combustion air openings.

SECTION 710
OPENING LOCATION AND PROTECTION

710.1 General. Combustion air openings to the outdoors shall comply with the location and protection provisions of Sections 401.5 and 401.6 applicable to outside air intake openings.

Add the following to the Mechanical Volume:

APPENDIX A
COMBUSTION AIR OPENINGS AND CHIMNEY CONNECTOR PASS-THROUGHS

Figures A-1 through A-4 are illustrations of appliances located in confined spaces.

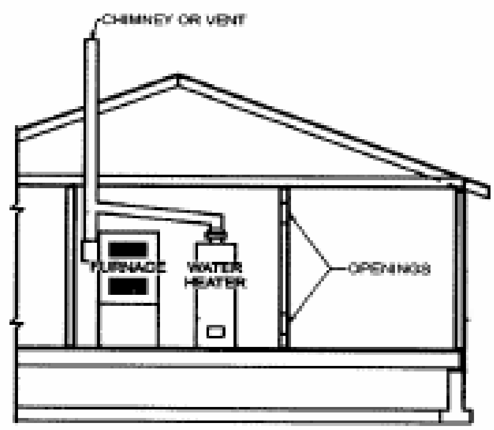


FIGURE A-1. ALL AIR FROM INSIDE THE BUILDING

NOTE: Each opening shall have a free area of not less than 1 square inch per 1,000 Btu per hour of the total input rating of all appliances in the enclosure and not less than 100 square inches.

For SI: 1 square inch = 645 mm^2, 1 British thermal unit per hour = 0.2931 W.

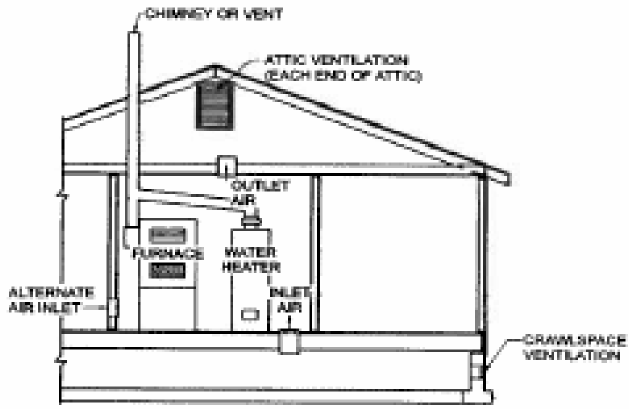


FIGURE A-2. ALL AIR FROM OUTDOORS – INLET AIR FROM VENTILATED CRAWL SPACE AND OUTLET AIR TO VENTILATED ATTIC

NOTE: The inlet and outlet air openings shall each have a free area of not less than 1 square inch per 4,000 Btu per hour of the total input rating of all appliances in the enclosure.

For SI: 1 square inch = 645 mm^2, 1 British thermal unit per hour = 0.2931 W.

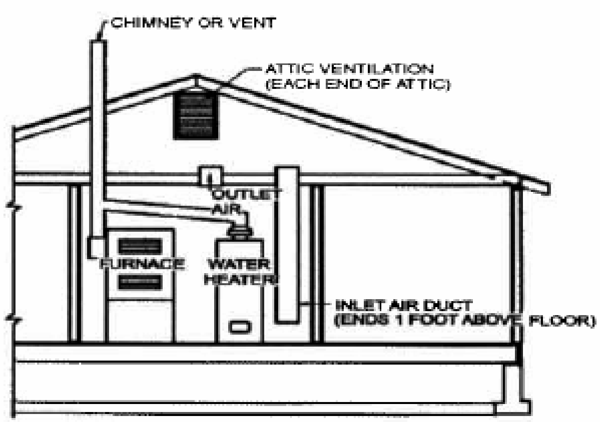


FIGURE A-3. ALL AIR FROM OUTDOORS THROUGH VENTILATED ATTIC

NOTE: The inlet and outlet air openings shall each have a free area of not less than 2 square inch per 4,000 Btu per hour of the total input rating of all appliances in the enclosure.

For SI: 1 foot = 304.8 mm, 1 square inch = 645 mm^2, 1 British thermal unit per hour = 0.2931 W.

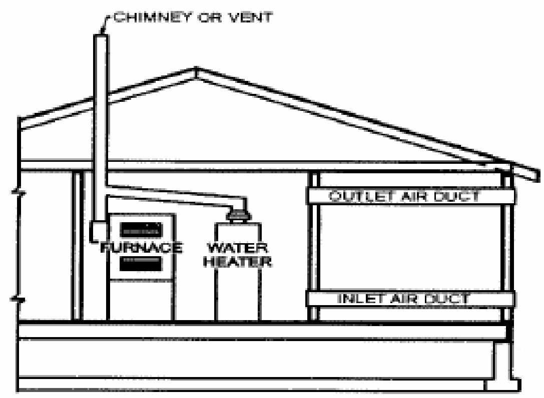


FIGURE A-4. ALL AIR FROM OUTDOORS THROUGH HORIZONTAL DUCTS OR DIRECT OPENINGS

NOTE: Each air duct opening shall have a free area of not less than 1 square inch per 2,000 Btu per hour of the total rating of all appliances in the enclosure. If the appliance room is located against an outside wall and the air openings communicate directly with all the outdoors, each opening shall have a free area of not less than 1 square inch per 4,000 Btu per hour or the total input rating of all appliances in the enclosure.

For SI: 1 foot = 304.8 mm, 1 square inch = 645 mm^2, 1 British thermal unit per hour = 0.2931 W.

Add FIGURE A-5 from the International Mechanical Code to this appendix:

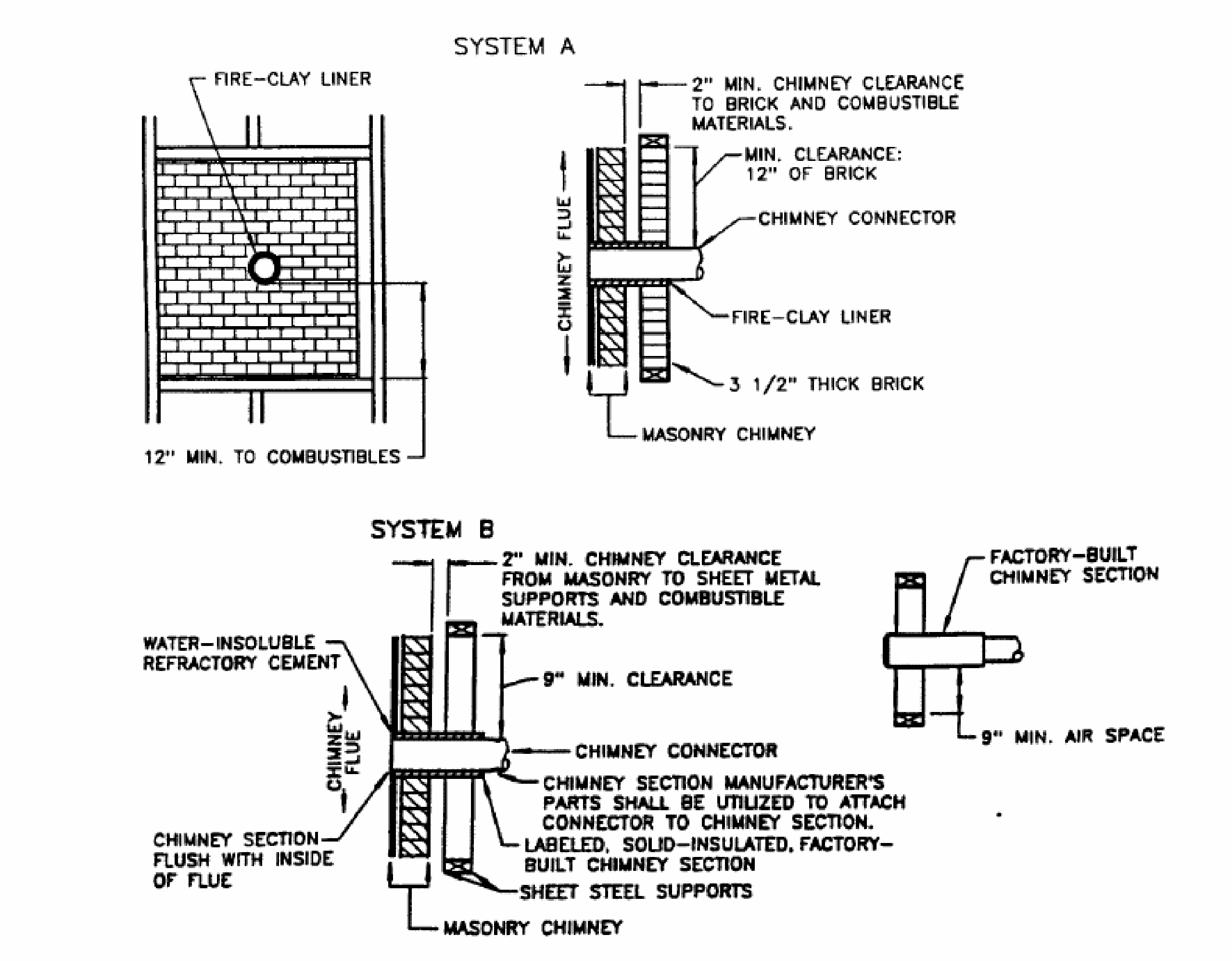


FIGURE A-5 CHIMNEY CONNECTOR SYSTEMS

For SI: 1 inch = 25.4 mm.

CHAPTER 15, REFERENCED STANDARDS

ASHRAE Change to read as shown:

Standard Reference Number	Title	Referenced in code section number
62.1-2004 ~~01~~	Ventilation for Acceptable Indoor Air Quality.	430.4~~5~~

Florida Building Code, Plumbing

CHAPTER 3 GENERAL REGULATIONS

Section 312.9 Change text to read as shown:

312.9.1 Inspections.
Inspections shall be made of all backflow prevention assemblies and air gaps ~~once every three years~~ to determine whether they are operable.

312.9.2 Testing.
Reduced pressure principle backflow preventer assemblies, double check-valve assemblies, pressure vacuum breaker assemblies, reduced pressure detector fire protection backflow prevention assemblies, double check detector fire protection backflow prevention assemblies, hose connection backflow preventers, and spill-proof vacuum breakers shall be tested at the time of installation~~,~~ and immediately after repairs or relocation ~~and at least annually~~. The testing procedure shall be performed in accordance with one of the following standards:
ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ASSE 5052, ASSE 5056, CAN/CSA B64.10

CHAPTER 4 FIXTURES, FAUCETS AND FIXTURE FITTINGS

Table 403.8 Correct formatting issue within the table as shown:

TABLE 403.8
PUBLIC SWIMMING POOL FIXTURES REQUIRED

SIZE	MEN'S RESTROOMS			WOMEN'S RESTROOMS	
	URINALS	WC	LAVATORY	WC	LAVATORY
0 - 2500 sq ft	1	1	1	1	1
2501 - 5000 sq ft	2	1	1	5	1
5001 - 7500 sq ft	2	2	2	6	2
7501 - 10,000 sq ft	3	3	3	9	3

For SI: 1 square foot = .0929 m^2.

Florida Building Code, Existing Building

CHAPTER 2 DEFINITIONS

Section 202 Change text to read as shown:

<u>**ROOF SECTION.** A separation or division of a roof area by existing expansion joints, parapet walls, flashing (excluding valley), difference of elevation (excluding hips and ridges), roof type or legal description; not including the roof area required for a proper tie-off with an existing system.</u>

CHAPTER 5 ALTERATIONS - LEVEL 1

Section 511.1.2 Change to read as shown:

511.1.2 Not more than 25% of the total roof area or roof section of any existing building or structure shall be repaired, replaced or recovered in any 12 month period unless the entire roofing system or roof section conforms to requirements of this code.