

# SUMMARY OF RESIDENTIAL CODE

## GENERAL PROVISIONS

### 2004 Florida Building Code

The base document for the *Florida Building Code, Residential*, is the 2003 International Residential Code. Many Florida-specific modifications have been retained. Large portions of conventional construction requirements of the book are non-applicable to homes built where design wind speeds are 100 mph or more.

•Format is similar to 1998 One- and Two-Family Dwelling Code.

- ✓ Building (Chapters 1 - 10)
- ✓ Energy ( Chapter 11 references Chapter 13 of the *FBC, Building*)
- ✓ Mechanical (Chapters 12-23) Extracted from *FBC, Mechanical*Fuel Gas (Chapter 24) Extracted from *FBC, Fuel Gas*
- ✓ Plumbing (Chapters 25 - 32) Extracted from *FBC, Plumbing*Electrical (Chapter 33) NFPA 70A
- ✓ Swimming Pool (Chapter 41)
- ✓ High Velocity Hurricane Zone – (Chapter 44)
- ✓ Appendices

**R101.2 Scope.** Applies to:

- ✓ the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structuresone-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.
- ✓ Buildings and structures located within the High Velocity Hurricane Zone (**HVHZ**; Miami-Dade and Broward Counties) shall comply only with Sections R302 to R324, inclusive and the provisions of Chapter R44.
- ✓ Florida Existing Building Code is permitted to be used for repair, alteration, movement, addition, etc. of existing building.

**R202 Definitions**

- ✓ **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.
- ✓ **Exposure C.** Means (except in the High-Velocity Hurricane Zone) **that area which lies within 1,500 feet (457 mm) of the coastal construction control line, or within 1,500 feet (457 mm) of the mean high tide line**, whichever is less. On barrier islands, Exposure C shall be applicable in the coastal building zone set forth in Section 161.55(4), *Florida Statutes*.
- ✓ **Wind-borne debris region**Areas within one mile of the coastal mean high water line where the basic wind speed is 110 mph or greater
  - Areas where the basic wind speed is 120 mph or greater except from the eastern border of Franklin County to the Florida-Alabama line where the region includes areas only within one mile of the coast.
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## R301 Design Criteria

**301.1.1 Alternative provisions.** As an alternative to the requirements in Section R301.1 the following standards are permitted subject to **the limitations of this code** and the limitations therein. **Where engineered design is used in** conjunction with these standards the design shall comply with the *Florida Building Code, Building*.

- ✓ American Forest and Paper Association (AF&PA) *Wood Frame Construction Manual* (WFCM). **85-150 mph** American Iron and Steel Institute (AISI), *Standard for Cold-Formed Steel Framing – Prescriptive Method for One- and Two-Family Dwellings* (COFS/PM). Up to 130 mph.
- ✓ **R301.1.2 Construction systems.** The requirements of this code are **based on platform and balloon-frame construction for light-frame buildings**. The requirements for concrete and masonry buildings are based on a balloon framing system. Other framing systems must have equivalent detailing to ensure force transfer, continuity and compatible deformations.

### R301.1.3 Engineered design.

- ✓ Structural elements exceeding the limits of Section R301 or otherwise, not conforming to this code, shall be designed in accordance with accepted engineering practice.
- ✓ The extent of such design need only demonstrate compliance of non-conventional elements with other applicable provisions and shall be compatible with the performance of the conventional framed system.
- ✓ Structural engineered design in accordance with the *Florida Building Code* is permitted for all buildings and structures, and parts thereof.

### R301.2 Climate and geographic design criteria

- ✓ Construction in regions where the **basic wind speeds** from Figure R301.2(4) **equal or exceed 100 miles per hour** (177.1 km/h) shall 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*
  4. Concrete construction shall be designed in accordance with the provisions of this code.
  5. SBCCI SSTD 10 for wind speeds 130 mph or less in Exposure B (110 in Exp. C)
  6. FC&PA *Guide to Concrete Masonry Residential Construction in High Wind Areas*
  7. WPPC *Guide to Wood Construction in High Wind Areas* may be used for wood-frame for basic wind speeds of  $\geq 130$  mph in Exposure B (110 mph in Exp. C)
- ✓ **Foundation design**
  - Alternatives 1, 3, 6, and 7 provide no foundation design.
  - Alternative 5, SSTD 10, provides for foundation design.
- ✓ **Wind speed maps** provided on the [www.floridabuilding.org](http://www.floridabuilding.org) web site were developed to provide **local landmarks for wind contour lines** based on Figure R301.2(4). Some of the county maps provide information that is outside the parameters of Section R301.2.1.5. For this reason, there is **no assurance that the information on the maps, including**

**wind speeds given, is warranted.** Figure R301.2(4) remains the determining factor for code compliance.

#### **R301.2.1.2 Wind-borne debris region requirements**

- ✓ 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*.
- ✓ **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 to cover the glazed openings with attachment hardware provided. Attachments shall be provided in accordance with **Table R301.2.1.2** or shall be designed to resist the components and cladding loads determined in accordance with the provisions of 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, or TAS 201, 202 and 203** as referenced by the code.
- ✓ Opening in **sunrooms, balconies** or enclosed porches constructed under existing roofs or decks are not required to be protected provided the spaces are separated from the building interior by a wall and all openings in the separating wall are protected in accordance with this section. Such space shall be permitted to be designed as either partially enclosed or enclosed structures.
- ✓ **Storage sheds** that are not designed for human habitation and that have a floor area of 720 square feet or less are not required to comply with the mandatory windborne debris impact standards of this code.

#### **R302.1 Exterior Walls.**

- ✓ 1 hour fire resistance from both sides is required when the fire separation distance (fsd) is less than 6 feet. Projections shall not extend to a point closer than 2 feet from the line used to determine the fsd.
  - **Exception:** Detached garages accessory to a dwelling locate within 2 feet of a lot line may have roof eave projections not exceeding 4 inches.

#### **R302.2 Openings.**

- ✓ No opening shall be permitted if exterior wall where fire separation distance (fsd) is less than 3 feet. This distance shall be measured perpendicular to the line used to determine the fsd.
  - Exceptions:**
    1. Openings shall be permitted in walls that are perpendicular to the line.
    - 2. Foundation vents installed in compliance with this code are permitted.

#### **R302.3 Penetrations.**

- ✓ Penetrations located in the exterior wall of a dwelling with a fire separation distance less than 3 feet shall be protected in accordance with Section R317.3.
  - Exception:** Penetrations shall be permitted in walls that are perpendicular to the line used to determine the fire separation distance.

#### **R303.1 Habitable rooms [Light, ventilation, heating].**

- ✓ Glazing of not less than 8% of floor area. (through windows, doors, louvers or other approved openings to the outside). Openable area of not less than 4% of floor area for ventilation.
  - Exceptions:**

- 1. Mechanical ventilation at a rate of 0.35 air changes per hour or whole house ventilation system providing outdoor air at a rate of 15 cfm per occupant.
- 2. Glaze area need not be provided in rooms where Exception 1 is satisfied.

#### **R305.1 Minimum height.**

- ✓ Habitable rooms, hallways, corridors, bathrooms, toilet rooms, laundry rooms and basements shall have a ceiling height of not less than 7 feet. The required height shall be measure from the finish floor to the lowest projection from the ceiling. Exceptions.

#### **R306.3 Stairway illumination**

- ✓ **Interior stairways** shall be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs the artificial light sources shall be capable of illuminating treads and landings to levels not less than 1 foot-candles (11 lux) measured at the center of treads and landings.
- ✓ **Exterior stairways** shall be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. Exterior stairways providing access to a basement from the outside grade level shall be provided with an artificial light source located in the immediate vicinity of the bottom landing of the stairway.

**Exception:** An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section.

#### **R309.2 Separation required [garages & carports].**

- ✓ The garage shall be separated from the residence and its attic area by not less than ½-inch gypsum board applied to the garage side.
- ✓ Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8-inch Type X gypsum board or equivalent.
- ✓ Where the separation is a floor-ceiling assembly, the structure supporting the separation shall also be protected by not less than ½-inch gypsum board or equivalent.

#### **R310.1 Emergency escape and rescue required.**

- ✓ Basements with habitable space and every sleeping room shall have at least one openable emergency escape and rescue opening. The emergency escape and rescue opening shall be permitted to open into a screen enclosure, open to the atmosphere, where a screen door is provided leading away from the residence.
- ✓ Measurements: Sill height of 44 inches; Area: 5.7 square feet (exception grade floor openings 5.0 square feet); Opening height: 24 inches; Opening width: 20 inches

#### **R310.4 Bars, grills, covers and screens.**

- ✓ The temporary installation or closure of storm shutters, panels, and other approved hurricane protection devices is permitted during the threat of a storm.
- ✓ Such devices shall not be required to comply with the operational constraints of this section. 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.
- ✓ 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.

## **R311 Means of egress**

### **R311.4 Doors**

- ✓ **R311.4.1 Exit Door Required.** At least one door from all portions of the habitable portions of the dwelling to the exterior shall be provided.
- ✓ **R311.4.2 Door Type and Size.** Required exit door shall be a side-hinged door not less than 3 feet in width and 6 feet 8 inches in height.

### **R311.4.3 •Landings**

- ✓ There shall be a floor or landing on each side of each exterior door.
- ✓ A landing is not required on the exterior side of a door where the stairway is  $\leq 2$  risers on the exterior side.

### **R311.5 Stairway**

- ✓ Stairways: Maximum rise – 7  $\frac{3}{4}$  inches;
- ✓ Minimum tread depth exclusive of nosing -- 9 inches. Treads and risers permitted to be proportioned so the sum of two risers and a tread, exclusive of projection of nosing is  $\geq 24$ " and  $\leq 25$ "
- ✓

### **R313 •Smoke alarms**

- ✓ Must be *interconnected, hard-wired, provided with battery back-up in* accordance with NFPA 72 and located as follows:
  - In each sleeping room,
  - Outside each separate sleeping area in the immediate vicinity of the bedrooms,
  - On each story of the dwelling, including the basement.
  - On each additional story of the dwelling, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

### **314 Foam plastics**

- ✓ Foam plastic, except where otherwise noted, shall be separated from the interior of a building by minimum  $\frac{1}{2}$ -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. Within attics and crawlspaces where entry is made only for service of utilities, foam plastics shall be protected against ignition by  $1\frac{1}{2}$ -inch-thick (38 mm) mineral fiber insulation,  $\frac{1}{4}$ -inch-thick (6.4 mm) wood structural panels,  $\frac{3}{8}$ -inch (9.5 mm) particleboard,  $\frac{1}{4}$ -inch (6.4 mm) hardboard,  $\frac{3}{8}$ -inch (9.5 mm) gypsum board, or corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm). 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.

### **R317.2 Townhouse.**

- ✓ Individual exterior walls meeting the requirements of R302 (1 hour) or a common 2-hour fire-rated wall *with zero clearance from property lines.*

### **R320.1 Termite protection**

- ✓ Shall be provided by registered termiticides, including soil applied pesticides, baiting systems, and pesticides applied to wood, or other approved methods of termite protection

labeled for use as a preventative treatment to new construction. See Section 202, REGISTERED TERMITICIDE. Upon completion of the application of the termite protective treatment, a Certificate of Compliance shall be issued to the building department by the licensed pest control company that contains the following statement: “The building has received a complete treatment for the prevention of subterranean termites. Treatment is in accordance with rules and laws established by the Florida Department of Agriculture and Consumer Services.”

### **R703 Exterior Covering**

- ✓ All exterior finishes shall be applied in accordance with the manufacturer’s specifications or installation instructions.
- ✓ Where stucco is applied to lath over frame construction, take measures to prevent bonding between cement plaster and water resistive barrier. Provide a bond break between water resistive barrier and stucco by:
  - Two lays of approved water resistant barrier material or
  - One layer of approved water resistant barrier over approved plastic house wrap or
  - Other approved methods or material applied in accordance with the manufacturer’s installation instructions.
- ✓ R703.11 Weather protection. Exterior walls shall provide weather protection for the building. See nominal thickness of materials specified in Table R703.11.R703.12 Drained assembly (wood frame or other) walls above mass assembly walls shall have flashing or other approved drainage system..

**R806.4 (R4409.13.3.2.5) Conditioned attic assemblies.** As an alternative to conventional vented attics, unvented conditioned attic assemblies are permitted under the following conditions:

- ✓ No interior vapor retarders are installed on the ceiling side of the unvented attic assembly
- ✓ An air-impermeable (per ASTM E 283) insulation is applied in direct contact to the underside/interior of the structural roof deck
- ✓ Shingles are to be installed as follows:
  - Asphalt roofing shingles: a  $\leq 1$ -perm vapor retarder placed on exterior of the structural roof deck (above roof structural sheathing).
  - Wood shingles and shakes: a minimum continuous ¼” vented air space separates the shingles/shakes and the roofing felt placed over the structural sheathing.

*See code change lists for Energy, Mechanical, Fuel Gas, and Plumbing for more details on these subcodes.*