A Roofing Perspective on the New FBC Corrosion Resistance Requirements

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As promised, I'm back with another update in a series of Florida Building Code (FBC) 9th Edition (2026) roofing-related code change articles. The new code will go into effect on December 31, 2026. As you're reading this article, please note that new code language is underscored.

Among the most discussed code changes is one dealing with the corrosion resistance of fasteners used on structures that are within 3,000 feet of the "coastal shoreline," which also has additional requirements when the structure is within 300 feet of the same line. We will discuss the location of this "coastal shoreline" a little later.

The change we'll focus on here was made to Building, Chapter 17 – Special Inspections and Test, which created a new Section 1711 Corrosion Resistance-Saltwater Environments. The same information was added to Residential, Chapter 3 – Building Planning by creating Section R332. We will refer to the sections from Building here. Much of the change is covered in the referenced Table 1711.1 and its footnotes, as well as several related code sections that describe the different levels of corrosion resistance required.

To assist in explaining these changes, we have recreated the table below and then created three additional tables using color coding to help track the requirements. In the first three tables we added highlighting to the Exposure Descriptions in the columns on the left. We also color-coded the level of corrosion resistance required in red or green text. See Table 1711.1 below.

The code sections that bring 1711 into Chapter 15 – Roof Assemblies and Roof Top Structure are in Section 1505 Materials in the following locations:

- 1506.5 Nails
- 1506.6 Screws
- 1506.7 Clips

"Connectors and Metal Plates" are not referenced, so that column should not apply to roofing fasteners but may apply to roof-to-wall connectors.

Table 2 (page 40) indicates the "exposure" definition in the footnotes from Table 1711.1 that correlates to each of the Exposure Categories.

The column on the right side of Table 3 (page 40) correlates to each roof covering type in Chapter 15 and which fasteners are appropriate for the Exposure Description.

We applied an appropriate analysis to assign specific fasteners in each of the appropriate exposures, which included reviewing not only the new code language but also the ICC 600 Document that the FBC changes were based upon (shown in the inset on page 44). They are also color-coded in the same manner as the other tables. The standard adds some additional

TABLE 1711.1
CORROSION RESISTANCE OF FASTENERS AND CONNECTORS

Exposure Description	BUILDING LOCATION			
	Less than or equal to 300 feet from coastal shoreline		Greater than 300 feet and up to 3000 feet from coastal shoreline	
	Screws, bolts, lag screws (including nuts and washers), nails and glulam rivets	Connectors and Metal Plates	Screws, bolts, lag screws (including nuts and washers), nails and glulam rivets	Connectors and Metal Plates
Exterior-Partially Sheltered and Exterior-Open Exposed	Stainless Steel in accordance with Section 1711.1.1.1	Stainless Steel in accordance with Section 1711.1.2.1	Galvanized in accordance with Section 1711.1.1.2	Enhanced Galvanized in accordance with Section 1711.1.2.2
Unconditioned Interior-Vented Enclosed	Galvanized in accordance with Section 1711.1.1.2	Enhanced Galvanized in accordance with Section 1711.1.2.2	Galvanized in accordance with Section 1711.1.1.2	Enhanced Galvanized in accordance with Section 1711.1.2.2
Unconditioned Interior-Unvented Enclosed	Galvanized in accordance with Section 1711.1.1.2	Standard Galvanized in accordance with Section 1711.1.2.3	Galvanized in accordance with Section 1711.1.1.2	Standard Galvanized in accordance with Section 1711.1.2.3

information on how to apply the exposure description. So how did we apply them?

Referencing Table 3, Exterior-Partially Sheltered and Exterior-Open Exposed (yellow), we looked primarily at the term exposed. Exposed means not concealed, displayed for viewing. Clearly, fasteners in through fastened metal panels and trim or other visible roof fasteners fit this description. Some examples of additional types of fasteners where this exposure would apply are exposed fasteners in coping, metal edge, counter flashing and vents.

For Unconditioned Interior-Vented Enclosed (green), we looked at fasteners that are inside a part of the building (the roof covering), that also vent to the outside environment. So, fasteners that are under the roof covering but not encapsulated within moisture impervious roof membrane (referred to as "Sealed Overlay" in Table 3), such as concealed screws for metal panels and fasteners for attaching tile, clearly fit here. Shingle nails also fit this exposure category but the degree of corrosion resistance required is more complex and we'll address this later.

For Unconditioned Interior-Unvented Enclosed (lavender), we looked at locations that are inside the building under the roof covering but are unvented and incapsulated within two layers of material with the upper being an exterior facing moisture impervious membrane.

TABLE 2

Exposure Description	Exposure Definitions From Table 1711.1 Footnotes
Exterior-Partially Sheltered and Exterior-Open Exposed	**Exterior-Partially Sheltered:** Locations are areas where fasteners and connectors are exposed to salt air but not exposed to fresh rainwater to remove accumulated salt. **Exterior-Open Exposed:** Locations are areas where fasteners and connectors are exposed to salt air, but also exposed to rainwater to allow rinsing of the accumulated salt, and also more likely to dry after rain
Unconditioned Interior-Vented Enclosed	**Unconditioned Interior-Vented Enclosed:** Locations are those where fasteners and connectors inside a part of the building that also has vents to the outside environment that would allow salt air to enter
Unconditioned Interior-Unvented Enclosed	**Unconditioned Interior-Unvented Enclosed:** Locations are those that are inside the building, but not in the conditioned space

TABLE 3

Exposure Description	Exposure Appropriate Roof Covering and Roof System Fasteners
Exterior-Partially Sheltered and Exterior-Open Exposed	Metal Panel Fasteners – Through Fastened Other Exposed Fasteners
Unconditioned Interior-Vented Enclosed	Underlayment (Without Sealed Overlay) Asphalt Shingle Nails Clay and Concrete Tile Fasteners Metal Panel Fasteners and Clips Metal Shingle Fasteners Slate Fasteners Wood Shake and Shingle Fasteners Photovoltaic Module and Shingle Fasteners Roof-To-Wall Connectors in Unsealed Attics and Concealed Spaces with Vents
Unconditioned Interior-Unvented Enclosed	Underlayment (with Sealed Overlay) Clay and Concrete Tile Anchor Sheet and Backnailing Built-Up Fasteners Modified Bitumen Fasteners Single Ply Fasteners Roof-To-Wall Connectors in Sealed Attics and Concealed Spaces without Vents

TABLE 4

From: Table 1711.1 Corrosion Resistance of Fasteners and Connectors	Corrosion Resistance Requirements From: 1711.1.1.1 and 1711.1.1.2
Screws, bolts, lag screws (including nuts and washers), nails and glulam rivets	1711.1.1 Screws, bolts and nails. Screws, bolts and nails shall be corrosion resistant by composition (stainless steel or nonferrous metal) or by coating or galvanization as specified in this section and Table 1711.1.
Stainless Steel in accordance with Section 1711.1.1.1	1711.1.1.1 Stainless steel. Where required by Table 1711.1 fasteners shall be manufactured from ASTM A240 Type 304, Type A305 or Type 316 stainless steel.
Galvanized in accordance with Section 1711.1.1.2	1711.1.1.2 Galvanized. Where required by Table 1711.1, fasteners shall be in accordance with the following: 1. For fasteners with diameters greater than 3/8 inch (9.5 mm), the minimum corrosion resistance shall comply with or be equivalent to ASTM A153, Class C. 2. For fasteners with diameters 3/8 inch (9.5 mm) and less, the minimum corrosion resistance shall comply with or be equivalent to one of the following methods: 2.1. ASTM A153, Class D. 2.2. ASTM A641, Class 3S. 2.3. Corrosion resistance exhibiting not more than 5 percent red rust after 1,000 hours of exposure in accordance with ASTM B117. 2.4. Corrosion resistance exhibiting not more the 5 percent red rust after 280 hours of exposure for nails, 1000 hours of exposure for roof tile fasteners or 360 hours of exposure for other carbon steel fasteners in accordance with ASTM G85, Annex 5.

Table 4 (above) links the two types of fasteners described (in red and green text) to the corrosion-resistance requirements. The color of the text correlates with the colored text in Table 1711.1 on page 38. Note: A code modification through the glitch cycle may add "or Type 410" to the types of acceptable stainless steel.

These new code sections do not address nonferrous (e.g. copper, bronze, aluminum) or plastic fasteners, which are often referenced in the code, referenced standards, product approvals or in manufacturers installation instructions. The changes do create a minimum standard for ferrous fasteners used on structurers that fit the requirement's parameters.

What becomes clear in looking at this information is that the FBC's existing corrosion resistance requirements for roofing fasteners are very robust and these new requirements will only change the fasteners needed in very few situations, primarily when buildings are in extremely close proximity to coastal saltwater locations. When your project is in these locations, in order to comply, make sure your selected fastener meets the appropriate requirements in 1711.1.1.1 or 1711.1.1.2; not every roofing fastener will.

Many galvanized shingle fasteners that are available to contractors for use beyond the 3,000-foot line may not meet these requirements. Until you can establish which specific fasteners comply, I suggest that your purchase order for these projects clearly reflect that the galvanized fasteners comply with one of the methods shown in 1711.1.1.2, specifically parts 2.1 through 2.4. If not, then use stainless steel fasteners complying with 1711.1.1.1.

When reference standards like the FRSA-TRI Florida High Wind Concrete and Clay Tile Installation Manual 7th Edition have more specific and stringent requirements such as "fasteners shall be corrosion resistant meeting a minimum ASTM A641 Class 1 and/or corrosion resistance equal (according to ASTM B117)" those will apply. Similarly, when the code contains a more specific and stringent requirement like this one from a High Velocity Hurricane Zone RAS, it will still apply:

ROOFING APPLICATION STANDARD (RAS) No. 120-20
MORTAR AND ADHESIVE SET TILE APPLICATION
PART II—MATERIALS
2.01 Fasteners:
A. Tile Fasteners:
1. All roof tile nails or fasteners, except those made of copper, monel, aluminum, or stainless steel, shall be tested for corrosion in compliance with TAS 114 Appendix E, Section 2 (ASTM G85), for salt spray for 1000 hours. Tile fasteners used within 1,500 feet landward of the reach of the mean high tide shall be copper, monel, aluminum, or stainless steel."

The information contained in this article is provided as a reference for those who are attempting to understand these new requirements. It was compiled with input from many industry stakeholders including the code modification proponent. The final decision on how these requirements will be interpreted will, of course, be made by the building official having jurisdiction based on the project's location. The requirements may also be the subject of possible non-binding and/or binding interpretations as well as the subject of possible declaratory statements. One declaratory statement that may already be under consideration asks the following question: *When considering the application of Section 1711 within 0-3000 feet of a "…saltwater coastline, or other areas subject to salt corrosion," does this mean the 0-3000 feet distance include distances from saltwater and brackish inland rivers and canals which originate from the coastline?* As some of you know, we have been asking for a way to define this and similar lines referenced in the code for some time. If the code expects us to measure from something like a "coastal shoreline," shouldn't the code define where it is?

This is an evolving issue so please continue to read this column for updates. Despite some of the complexities that come with these changes, one should keep in mind that they were meant to address a real issue: the corrosion of important critical structural components in our coastal environment. If properly implemented, this can be accomplished without the degree of disruption that some are concerned about.

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ICC 600-2026
Standard for Residential Construction in High-Wind Regions
American National Standard
Commentary:

Fasteners and connectors can corrode and lose load-carrying capacity where installed in corrosive environments or where installed in contact with corrosive materials. Salt spray from breaking waves and onshore winds significantly accelerates the rate of corrosion of metal connectors and fasteners. Corrosion resistance of fasteners and connectors can be increased by either using a corrosion-resistant material, such as stainless steel, or by applying a coating, which is usually galvanizing, but can also be a proprietary coating. Specific provisions are given in Table 504.3(1) for structures within 3,000 feet of a coastal shoreline. In other areas subject to salt corrosion, the requirements of Table 504.3(1) are applicable where similar salt corrosion hazard exists.

In some areas, based on climatic conditions, enhancement of corrosion protection beyond that required by Table 504.3(1) may be appropriate in areas between 300 and 3,000 feet of the shoreline. Further, corrosion of metal fasteners and connectors is not always limited to areas within 3,000 feet of the coastal shoreline. Research and field observations have shown that metal fasteners and connectors in some areas are subjected to increased rates of corrosion due to environmental, climatic or industrial conditions beyond just salt air. In these areas, materials with enhanced corrosion performance should be considered and may be required at the direction of the local building department.

Within a structure, different exposures can have different susceptibility to corrosion. These installation exposures are shown in Table 504.3(1). The installation exposures are broken down by their exposure to salt spray and their exposure to freshwater rain, which can rinse salt spray off the steel and reduce corrosion rates.

Exterior-Partially Sheltered exposures are areas where the steel is exposed to salt spray, but not exposed to fresh rainwater to remove accumulated salt. Examples of partially sheltered exterior exposures are open, under-house storage; parking areas below piling-, column- or post-supported buildings; and areas under roof overhangs, decks, screened-in porches and walkways.

Exterior-Open Exposed locations are areas where steel is exposed to salt spray, but also exposed to rainwater to allow rinsing of the accumulated salt, and also more likely to dry after rain. Examples of this exposure include exterior walls and some deck connections.

Unconditioned Interior-Vented Enclosed locations are those where the steel is inside a part of the building that also has vents to the outside environment that would allow salt spray to enter. Examples of interior vented enclosed exposures are ventilated attics, and rafter and floor cavities if vents are installed.

Unconditioned Interior-Unvented Enclosed locations are those that are inside the building, but not in the conditioned space. Examples of interior unvented enclosed exposures are enclosed areas such as wall cavities in exterior walls, enclosures surrounded by breakaway walls under elevated buildings and floor framing cavities created when finishes are installed on the underside of floor joists.

Due to the many variables present in coastal environments, the exact life span of steel fasteners and connectors cannot be easily predicted, so some program of routine inspection should be performed, with replacement of corroded elements if necessary. Further, enhanced corrosion resistance should be considered for fasteners and connectors that cannot be easily inspected or readily replaced in the future.