



Corrosion-Resistant Fasteners

New Documentation Requirements

Technical Bulletin FH 2018-01

First Release:

March 20, 2018

Prepared by:

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FORTIFIED Building Programs

Applicable Standards:

FORTIFIED Home™–Hurricane

Applicable Designation Level:



Abstract

Metals exposed to salt and moisture in the air in coastal areas are highly susceptible to accelerated corrosion. The intent of this bulletin is to highlight the requirement for metal structural connections and materials fasteners used to retrofit or construct FORTIFIED buildings less than 3,000 ft from saltwater to be suitably protected from corrosion. The corrosion resistance outlined in the FORTIFIED standards is not new; however, there are new documentation requirements.

Introduction

The minimum fastener and connector corrosion-protection retrofit requirements for FORTIFIED Home are outlined in Appendix D (page 132) of the FORTIFIED Home–Hurricane standards at fortifiedhome.org/wp-content/uploads/FORTIFIED-Home-Hurricane-Standards-2019.pdf.

Appendix D: FORTIFIED Corrosion Protection Requirements

FORTIFIED Fastener and Connector Corrosion Protection Requirements				
Fasteners/Connector	Structures within 300 ft of saltwater	Structures more than 300 ft but less than 1,000 ft from saltwater ¹	Structures more than 1,000 ft but less than 3,000 ft from saltwater	Structures more than 3,000 ft from saltwater
Roofing nails for shingles	Stainless steel	Stainless steel	Hot-dip galvanized ⁴	Corrosion resistant ⁵
Concrete and clay roof tile fasteners	Stainless steel	Stainless steel	Hot-dip galvanized ⁴	Corrosion resistant ⁵
Metal roof clips and fasteners (exposed)	Stainless steel	Stainless steel	Stainless steel	Corrosion resistant ⁵
Fasteners used for attachment of underlayment to roof deck	Hot-dip galvanized ⁴	Hot-dip galvanized ⁴	Hot-dip galvanized ⁴	Corrosion resistant ⁵
Aluminum soffits	Not allowed	Not allowed	Allowed	Allowed
Soffit and roof vent fasteners	Stainless steel	Stainless steel	Stainless steel	Corrosion resistant ⁵
Metal framing connectors, fasteners, anchors, and hangers in exposed areas ²	Stainless steel	Stainless steel	Stainless steel	Stainless steel or G185 galvanized
Metal framing connectors, fasteners, anchors, and hangers in vented enclosed areas ³	Stainless steel	Stainless steel or G185 galvanized coating	Stainless steel or G185 galvanized coating	Corrosion resistant ⁵



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¹Buildings on open, elevated foundations within 1,000 ft of saltwater shall follow the requirements of structures within 300 ft of saltwater.

²Examples of exposed areas include areas that are under roof overhangs, decks and covered walkways or in any location that is openly or partially exposed to saltwater air.

³Examples of vented enclosed areas include attics with vents.

⁴Hot-dip galvanized shall meet the requirements of ASTM A153, Class D for nails and screws.

⁵Corrosion-resistant nails and screws shall meet the requirements of ASTM A 641, Class 1, or an equal corrosion resistance by coating, galvanization, stainless steel, or other suitable corrosion-resistant material. Corrosion-resistant sheet metal connectors, anchors, and hangars shall meet the requirements of ASTM A653, G90.

FORTIFIED Home Evaluators Only: New Applications & Evaluation Form Input

When a new residential application is made, a notification will appear if the address is within a coastal zip code. You will be asked to select one of four approximate distances from a shoreline.

3. Property Address

*Address Line1 :

Address Line2 :

*City :

*State :

*ZIP / Postal Code :

*Country :

NOTE: This home is in a coastal region. If the home is within 3000 linear feet of a salt water shore, special corrosion resistant requirements apply for all designation levels. See [Appendix D](#) of the FORTIFIED Standards - Hurricane.

Distance From Salt Water Shore:

- <Select>
- 300' or less
- More Than 300' but less than 1000'
- More Than 1000' but less than 3000'
- More than 3000'

Mailing Address If Mailing Address is

*Address Line1 :

Address Line2 :

For reference, there is a direct weblink to Appendix D within the note.



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FORTIFIED Home Evaluators Only: Documentation Requirements

If the distance from a saltwater shoreline is MORE than 3,000 ft, no additional documentation is required. If the distance is LESS than 3,000 ft, documentation of the corrosion-resistant connections and fasteners used on the home is now required. This information will be entered on the first page of the evaluation.

The screenshot shows a web-based evaluation form with the following fields:

- Dwelling Type: Select Option
- Exposure Category: Select Option
- Finished Elevation Photos: [Add Photo]
- Include at least 4 new photos of exposed connections: [Add Photo]
- Indicate the distance from salt water shore: More Than 1000 ft but less than 3000 ft (highlighted with a red arrow)
- Year Built: [Text Field]
- How was year built determined?: [Text Field]
- Building Height (to the nearest foot): [Text Field]
- Is structure supported by dry stack or unreinforced foundation?: Select Option
- Wind Speed (ASCE 7-05): 130

Footer: FEH36612020180000014 | 4834 yahoo ave, tampa Florida

Photographs of labels, copies of invoices, and/or field delivery tickets indicating corrosion-resistance level for the connections and fasteners used are required. Photographs of the connections and fasteners should also be provided in this location.



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Examples

GULF SHORES, AL			
Actions		Notes	
Item Code	Description	Qty/Footage	Price
	EZ-FIT 17134 HDG 1-1/2"X.148 PP 2M JOIST HANGER NAIL 34DG	2 BOX	55
	EZ-FIT 650385 3X120 HDG RING 33D 2.5M/CTN	2 BOX	85
	EZ-FIT 650383 2-3/8"x.113 RS HDG 2.5M	2 BOX	65
	STAINLESS STEEL JOIST HANGER 17154 PNEU 1-1/2X148 1M	2 BOX	115
	MFM WIND AND WATER SHIELD SMOOTH 2SQ/F	4 EA	115
	FRM RT7A-SS STAINLESS STEEL HURRICANE C	100 EA	25
	SPF 2X6-18 #2 & BTR. SPRUCE-PINE-FIR	10 pc	15

