



# ORANGE CITY

The Heart of Southwest Volusia

## SLOPE ROOF APPLICATION INFORMATION

Effective June 30, 2015

WIND-BORNE DEBRIS AREA RETROFITS	WHEN A ROOF ON AN EXISTING BUILDING IS REPLACED THAT HAS A VALUE =>\$300,000 FBC-EB 708.8 WILL APPLY <b>BUILDING VALUATION WILL BE DETERMINED PER SECTION 101.2</b>	<b>THIS COLUMN IS FOR INFORMATION AND EXAMPLES ONLY.</b>
ROOF-DECKING ATTACHMENT AND FASTENERS SECTION 708.7.1	WHEN A ROOF ON AN EXISTING SITE-BUILT, SINGLE FAMILY RESIDENTIAL STRUCTURE IS REPLACED: SECTION 708.7 WILL APPLY.	<b>THIS REQUIREMENT APPLIES TO ALL REROOFING PERMITS.</b>
SECONDARY WATER BARRIER SECTION 708.7.2	PEEL & STICK MUST COMPLY WITH SECTION 708.7.2 & ASTM D1970 [ ] ALL SHEATHING JOINTS [ ] ENTIRE ROOF DECK Not required if underlayment is installed per 708.7.2 1b) & 2a)	<b>THIS REQUIREMENT APPLIES TO ALL REROOFING PERMITS.</b> EXAMPLE: [ ] ALL SHEATHING JOINTS [ X ] ENTIRE ROOF DECK
SLOPE:	_____ " IN 12"	EXAMPLE: 5" IN 12" (INCHES OF RISE IN 12" OF RUN)
AVERAGE ROOF HEIGHT:	_____ FEET	EXAMPLE: 15 FEET (SINGLE STORY BUILDING)
DECK TYPE:		EXAMPLE (S): 1/2" PLYWOOD, 5/8" OSB
UNDERLAYMENT: ** NOT REQUIRED IF SHEATHING IS COMPLETELY COVERED WITH PEEL & STICK	FBC Bldg 1507.2.3 Underlayment TYPE : <input type="checkbox"/> ASTM D 226, TYPE I or II, ASTM D4869type II or Type IV, or ASTM D 6757 Approved Synthetic <input type="checkbox"/> Underlayment	LAYERS: [ ] 15 # Felt [ ] 30 # Felt
		EXAMPLE Type: __1__ Layers: __1__ [ x ] ASTP D 226 [ ] 15# Felt [ ] ASU [ x ] 30# Felt
ROOF COVERING:	MANUFACTURER  PRODUCT	EXAMPLE: ABC ROOFING PRODUCTS, INC. PINEVALLEY 30 AR
APPROVAL METHOD:	FLORIDA APPROVAL #: _____ -OR- MIAMI/DADE N.O.A.:	EXAMPLE: 1675.4 (FL#) - OR - NOA No 03-0528.06 (MIAMI/DADE)
FASTENERS:	TYPE: _____	EXAMPLE: 1-1/2" GALVANIZED ROOFING NAIL

**FBC-EB 708.7** When a roof on an existing site-built, single family residential structure is replaced, the following procedures shall be permitted to be performed by the roofing contractor:

- (a) Roof-decking attachment and fasteners shall be strengthened and corrected as required by section 708.7.1.
- (b) A secondary water barrier shall be provided as required by section 708.7.2.

**FBC-EB 708.7** When a roof covering on existing site-built single family residential structure is removed and replaced on building that is located in the wind-bone debris region as defined in the *Florida Building Code, Building* and that has an insured value of \$300,000 or more:

- (a) Roof to wall connections shall be improved as required by section 708.8.1.
- (b) Mandated retrofits of the roof-to-wall connection shall not be required beyond a 15-percent increase in the cost of reroofing.  
**Exception:** Single-family residential structures permitted subject to the *Florida Building Code* are not required to comply with this section.

**708.7.1** Roof decking attachment for site-built single-family residential structures. For Site-built single-family residential structure the fastening shall be in accordance with section 708.7.1.1 or 708.7.1.2 as appropriate for the existing construction. 8d nails shall be the minimum of 0.113 inch (2.9 mm) in diameter and shall be a minimum of 2 ¼ inch (57 mm) long to qualify for the provisions of this section for existing nails regardless of the head shape or head diameter.

**708.7.1.1** Roof decking consisting of sawn lumber or wood planks up to 12 inches (305 mm) wide and secured with at least two nails (minimum size 8d) to each roof framing member it crosses shall be deemed to be sufficiently connected. Sawn lumber or wood plank decking secured with smaller fastener than 8d nails or with fewer than two nails (minimum size 8d) to each framing member it crosses shall be deemed sufficiently connected if fasteners are added such that two clipped head , round head, or ring shank nails (minimum size 8d) are in place on each framing member it crosses.

**708.7.1.2** For roof decking consisting of wood structural panels, fasteners and spacing required in columns 3 and 4 of table 708.1.2 are deemed to comply with the requirements of section 706.3, *Florida Building Code, Existing Building* for the indicated design wind speed range. Wood structural panel connection connections retrofitted with a two part urethane based closed cell adhesive sprayed onto the joint between the sheathing and framing members are deemed to comply with the requirements of section 706.3. *Florida Building Code, Existing Building*, provided testing using the manufacturer's recommended application on panels connected with 6d smooth shank nails at no more than a 6-inch (152.4 mm) edge and 12-inch (305 mm) field spacing demonstrate a uplift resistance of a minimum of 200 psf. Supplemental fasteners as required by Table 708.7.2 shall be 8d ring shank nails with round heads and the following minimum dimensions.

1. 0.113 inch (2.9 mm) nominal shank diameter.
2. Ring diameter of 0.010 inch (0.254 mm) over shank diameter.
3. 16 to 20 rings per inch.
4. A minimum 0.280 inch (0.7 mm) full round head diameter.
5. Ring shank to extend a minimum of 1 ½ inches (38 mm) from the tip of the nail.
6. Minimum 2 ¾ inches (60 mm) nail length.

**Table 708.7.1.2  
Supplement Fasteners at Panel Edges and Intermediate Framing**

Existing fasteners	Existing Spacing	V <sub>asd</sub> 110 MPH or less supplemental fastener shall be no greater than	V <sub>asd</sub> Greater 110 MPH supplemental fastener shall be no greater than
Staples or 6d	Any	6" o.c. <sup>b</sup>	6" o.c. <sup>b</sup>
8d clipped head, round head, or ring shank	6" o.c. or less	None necessary	None necessary
8d clipped head, round head, or ring shank	Greater than 6" o.c.	6" o.c. <sup>a</sup>	6" o.c. <sup>a</sup>

- a. Maximum spacing determined based on existing fasteners and supplemental fasteners.
- b. Maximum spacing determined based on supplemental fasteners only.
- c.  $V_{asd}$  shall be determined in accordance with Section 1609.3.1 of the *Florida Building Code, Building* or Section 301.2.1.3 of the *Florida Building Code, Residential*.

**708.7.2 Roof secondary water barrier for site-built single family residential structures.** A secondary water barrier shall be installed using one of the following methods when roof covering is removed and replaced:

1. In either HVHZ or Non-HVHZ regions:

- a) All joints in structural panel roof sheathing or decking shall be covered with a minimum 4 inch (102 mm) wide strip of self- adhering polymer modified bitumen tape applied directly to the sheathing or decking. The deck and self adhering polymer modified bitumen tape shall be covered with one of the underlayment systems approved for the particular roof covering to be applied to the roof.
- b) The entire roof deck shall be covered with an approved asphalt impregnated 30# felt underlayment or approved synthetic , underlayment installed with nails and tin-tabs in accordance with Section 1518.2, 1518.3 Or 1518.4 of the *Florida Building Code, Building*. (No additional underlayment shall be required over the top of this sheet.) the synthetic underlayment shall be fastened in accordance with the manufacturer's recommendations.
- c) The entire roof deck shall be covered with an approved asphalt impregnated 30# felt underlayment installed with nails and tin-tabs as required for the HVHZ. (No additional underlayment shall be required over the top of this sheet).

2. Outside of the HVHZ:

- a) The entire roof deck shall be covered with an approved self - adhering polymer modified bitumen sheet meeting ASTM D 1970 or an approved self – adhering synthetic underlayment installed in accordance with the manufacturer's installation instructions. No additional underlayment shall be required on top of this sheet for new installations.

**Exceptions:**

- 1. Roof slopes < 2:12 having a continuous roof system shall be deemed to comply with section 708.7.2 requirements for a Secondary Water Barrier.
- 2. Clay and Concrete tile roof systems installed as required by the Florida Building Code are deemed to comply with the requirements of section 708.7.2 for Secondary Water Barriers.

Florida Building Code, Building 1507.2.3 Underlayment.

Unless otherwise noted, required underlayment shall conform to ASTM D 226, Type I or Type II, or ASTM D 4869 Type I or Type II.

**Florida Building Code, Building:**

**1507.2.5 Asphalt shingles.**

Asphalt shingles shall have self-seal strips or be interlocking, and comply with ASTM D 225 or ASTM D 3462.

**1507.2.6 Fasteners.**

Fasteners for asphalt shingles shall be galvanized, stainless steel, aluminum or copper roofing nails, minimum 12 gage [0.105 inch (2.67 mm)] shank with a minimum 0.375 inch-diameter (9.5 mm) head, of a length to penetrate through the roofing materials and a minimum of 0.75 inch (19.1 mm) into the roof sheathing. Where the roof sheathing is less than 0.75 inch (19.1 mm) thick, the nails shall penetrate through the sheathing. Fasteners shall comply with ASTM F 1667.

**1507.2.6.1**

The nail component of plastic cap nails shall meet the corrosion resistance requirements of 1507.2.6.

**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.

### **1507.2.7 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), underlayment shall be two layers applied in the following manner. Apply a minimum 19-inch-wide (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, 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 only as necessary to hold in place.

### **1507.2.8.1 High wind attachment. RESERVED**

### **1507.2.9 Flashings.**

Flashing for asphalt shingles shall comply with this section. Flashing shall be applied in accordance with this section and the asphalt shingle manufacturer's printed instructions.

#### **1507.2.9.1 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 (102 mm by 102 mm) "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.

Base flashing shall be of either corrosion resistant metal with a minimum thickness provided in Table 1503.2 or mineral surface roll roofing weighing a minimum of 77 pounds per 100 square feet (3.76 kg/m<sup>2</sup>). Counter flashing shall be corrosion resistant metal with a minimum thickness provided in Table 1503.2.

#### **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 lined with metal(valley expose) 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(valley covered with shingles), valley lining of one ply of smooth roll roofing complying with ASTM D 6380 Class S, and at least 36 inches (914 mm) wide or types as described in Items 1 or 2 above shall be permitted. Self-adhering polymer modified bitumen underlayment complying with ASTM D 1970 may be used in lieu of the lining material

#### **1507.2.9.3 Drip edge.**

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 1/2 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 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 Vasd, as determined in accordance with Section 1609.3.1, 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.