Part IX-Referenced Standards

CHAPTER 46

REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Section 102.4.

ASTM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428

Standard reference number	Title	Referenced in code section number
D312/D312M-15	Specification for Asphalt Used in Roofing	Table R905.9.2
D321M—2016M	Specification for Asphalt Used in Roofing	
~~D3161/D3161M – 2016~~D3162M-2016A	Test Method for Wind Resistance of Steep Slope Roofing Products (Fan Induced Method)	R905.2.6.1, Table R905.2.6.1, R905.4.4.1, Table R905.4 4.1, R905.16.7

RATIONALE:

The designations of two ASTM standards shown above are incorrectly expressed in the FBC-Residential Referenced Standards supplement. The designations should be as follows:

D312/D312M-16a
Specification for Asphalt Used in Roofing

D3161/D3161M-16a
Test Method for Wind-Resistance of Steep Slope Roofing Products (Fan Induced Method)

ARMA COMMENT TO FLORIDA SUPPLEMENT

1518.2.1

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles shall comply with one of the following methods:

1. The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

Exception:

1. An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, renailing off the roof sheathing in accordance with Section 706.7.1 of the Florida Building Code, Existing Building can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

2. A minimum 3-3/4 -inch-wide (102 96 mm) strip of selfadhering polymer-modified bitumen membrane complying with ASTM D1970 or selfadhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176°F (80°C)], installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1518.2.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.

3. Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV, or ASTM D8257 underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheets of ~~reinforced~~ underlayment, for the second course. Apply the third course of underlayment overlapping the second course ~~successive sheets~~ half the width of a full sheet plus 2 inches. Overlap all successive courses half the width of a full sheet plus 1 inch. End laps shall

be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, Vult, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch (19.05 mm) into the roof sheathing.

RATIONALE:

This comment recommends changes to section 1518.2.1, which are shown as red text and turquoise highlights.

R10071-A5 brought in improved instructions for installation of a two-layer underlayment system in 1507.1.1.1, Item 3. R10073-A3 incorporated the same guidance in FBC-Residential Section R905.1.1.1, Item 3.

This comment proposes the same changes in Section 1518.2.1 to create equivalent requirements for installation of two-layer underlayment systems within and outside the HVHZ.

ARMA COMMENT TO FLORIDA SUPPLEMENT

In FBC-Building, Chapter 2:

HIGH VELOCITY HURRICANE ZONE. This zone consists of Broward and Miami-Dade counties.

In FBC-Residential, Chapter 2:

HIGH-VELOCITY HURRICANE ZONE (HVHZ). This zone consists of Broward and Miami-Dade counties.

RATIONALE:

This comment is a follow-up to prior communications with FBC staff about making an editorial correction to the definition of High Velocity Hurricane Zone in both the Building and Residential codes to recognize the county name was changed from Dade County to Miami-Dade County on November 13, 1997.

ARMA COMMENT TO FLORIDA SUPPLEMENT

1518.2.1

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles

Underlayment for asphalt shingles, metal roof panels or shingles, mineral surfaced roll roofing, slate and slate-type shingles shall comply with one of the following methods:

1. The entire roof deck shall be covered with an approved self-adhering polymer modified bitumen underlayment complying with ASTM D1970 installed in accordance with both the underlayment manufacturer's and roof covering manufacturer's installation instructions for the deck material, roof ventilation configuration and climate exposure for the roof covering to be installed.

Exception:

1. An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, renailing off the roof sheathing in accordance with Section 706.7.1 of the Florida Building Code, Existing Building can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

2. A minimum 3-3/4 -inch-wide (~~102 96~~ 95 mm) strip of self-adhering polymer-modified bitumen membrane complying with ASTM D1970 or self-adhering flexible flashing tape complying with AAMA 711, Level 3 [for exposure up to 176°F (80°C)], installed in accordance with the manufacturer's instructions for the deck material, shall be applied over all joints in the roof decking. An approved underlayment in accordance with Table 1518.2.1 for the applicable roof covering shall be applied over the entire roof over the membrane strips.

3. Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV, or ASTM D8257 underlayment shall be installed as follows: Apply a strip of underlayment that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply full sheets of reinforced underlayment, overlapping successive sheets half the width of a full sheet plus 2 inches. End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be attached to a nailable deck with corrosion-resistant fasteners with a maximum fastener

spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch (25.4 mm). Metal caps are required where the ultimate design wind speed, Vult, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch (0.889 mm). The cap nail shank shall be not less than 0.083 inch (2.1082 mm) for ring shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than 3/4 inch (19.05 mm) into the roof sheathing.

TABLE 1518.2.1UNDERLAYMENT WITH SELF-ADHERING STRIPS OVER ROOF DECKING JOINTS

<table>
<tr><th rowspan="2">Roof Covering</th><th rowspan="2">Underlayment Type</th><th colspan="2">Underlayment Attachment</th></tr>
<tr><th>Roof Slope 2:12 and Less Than 4:12</th><th>Roof Slope 4:12 and Greater</th></tr>
<tr><td>Asphalt Shingles, Metal Roof Panels, Photovoltaic Shingles</td><td>ASTM D226Type IIASTM D4869Type III or IV

ASTM D 6757</td><td rowspan="2">Apply in accordance with Section 1518.2.1, Item 3</td><td rowspan="2">Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 4 inches; end laps shall be 6 inches and shall be offset by 6 feet. Underlayments shall be fastened with approved minimum 12 gage by 11/4 in. corrosion-resistant annular ring shank roofing nails fastened through minimum 32 gage by 15/8 in. diameter approved tin caps. Underlayment shall be attached to a nailable deck in a grid pattern of 12 inches (305 mm) between the overlaps, with 6-inch (152 mm)</td></tr>
<tr><td>Metal Roof Shingles, Mineral-Surface Roll Roofing, Slate and Slate-type Shingles, Wood Shingles, Wood Shake</td><td>ASTM D226Type II ASTM D4869 Type III or IV</td></tr>
</table>

			spacing at the overlaps. Nails shall be of sufficient length to penetrate through the sheathing or wood plank a minimum of ~~3/16~~ 1/8 in. or penetrate 1 inch (25 mm) or greater thickness of lumber a minimum of 1 in., except where architectural appearance is to be preserved, in which case a minimum of 3/4 in. nail may be used.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s

RATIONALE:

Three corrections are requested, shown via red text and turquoise highlights:

(1) In Section 1518.2.1, Item 2, the correct conversion of 3 ¾" is 95 mm. This was corrected in Section 1507.1.1.1 via R9882-G1 and in FBC-Residential Section R905.1.1.1 via both R9884-G1 and R10073-G1. Unfortunately, it was overlooked here. Changing "96 mm" to "95 mm" in Section 1518.2.1. will establish the same metric equivalent for this seam tape width dimension throughout the Building and Residential codes. Also, the word "selfadhering" is changed to "self-adhering" in two instances.

(2) In Table 1518.2.1, the correct standard is ASTM D6757 rather than ASTM D675. Correcting this was overlooked but doing so now will eliminate confusion and potential future questions.

(3) In Table 1518.2.1, the minimum nail penetration through sheathing or planks is shown as 3/16". This was changed to 1/8" in RAS115 via R9909 and in Section 1518.7.3.2 via R9910. Changing it in Table 1518.2.1 will create equivalent requirements throughout the FBC-Building.

ARMA COMMENT TO FLORIDA SUPPLEMENT

4.1 Underlayment

Solid Sheathing: Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV~~,~~ underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheet of underlayment~~,~~ for the second course. Apply the third course of underlayment overlapping the second course half the width of a full sheet plus 2 inches. Overlap all successive courses half the width of a full sheet plus 1 inch. End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be fastened to a nailable deck with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment ~~F~~fasteners shall be corrosion resistant 12 ga. roofing nails through tin caps.

5.1 Underlayments:

Solid Sheathing: ~~Underlayment shall be installed with t~~Two layers of ASTM D226 Type II or ASTM D4869 Type III, Type IV~~, or ASTM D8257~~ underlayment shall be installed as follows: Apply a strip of underlayment for the first course that is half the width of a full sheet parallel to and starting at the eaves, fastened sufficiently to hold in place. Starting at the eave, apply a full sheet~~s~~ of ~~reinforced~~ underlayment for the second course. Apply the third course of underlayment~~,~~ overlapping the second course ~~successive sheets~~ half the width of a full sheet plus 2 inches. Overlap all successive courses half the width of a full sheet plus 1 inch. End laps shall be 6 inches (152 mm) and shall be offset by 6 feet (1829 mm). Underlayment shall be fastened to a nailable deck with a maximum fastener spacing measured horizontally and vertically of 12 inches (305 mm) o.c. between side laps, and one row at the end and side laps fastened 6 inches (152 mm) o.c. Underlayment fasteners shall be ~~fastened with~~ corrosion resistant 12 ga. roofing nails through tin caps.

RATIONALE:

This comment offers changes to RAS 130, which are shown via red text with turquoise highlights.

R10238-A2 made changes to the two-layer underlayment installation requirements for wood shingles in RAS 130 Section 4.1. However, it omitted the important overlap dimension for “all successive courses.” This is corrected by inserting the number 1, as shown in red. Two punctuation and one capitalization errors are fixed also.

ARMA COMMENT TO FLORIDA SUPPLEMENT

R10238-A2 also overlooked the need to make the same changes for wood shakes in Section 5.1. This comment offers equivalent changes to RAS 130, Section 5.1.

The same changes in two-layer underlayment installation were made by R10071-A5 (FBC-Building, Section 1507.1.1.1) and R10073-A3 (FBC-Residential, Section R905.1.1.1).

Making the changes shown in this comment will create consistency with other sections of the FBC-Building and FBC-Residential and within RAS 130.