

**ROOFING APPLICATION STANDARD (RAS) No. 113**  
**STANDARD REQUIREMENTS FOR JOB SITE MIXING OF ROOF TILE MORTAR**

**1. Scope**

- 1.1 The standards set forth herein provide an alternate means of adhering roof tile by mixing the mortar at the job site, for jobs where the mean roof height does not exceed 24 ft.
- 1.2 When using job site mortar mix, approval by the building official and compliance with this RAS are required for every roof tile installation.
- 1.3 All testing shall be conducted by an approved testing agency, certified to perform testing under this standard. A Professional Engineer, or Registered Architect, shall sign all calculations.

**2. Requirements for Approval of Job Site Mix Program**

- 2.1 Job site mortar mix for adhering roof tile shall be reviewed and approved by the building official prior to commencing the roofing job.
- 2.2 The mix proportions for job site mortar mix shall consist of 2 1/2 parts of ASTM C 144 sand and 1 part of ASTM C 91, Type 'M' masonry cement.
- 2.3 Perform a compressive strength test on three samples of above mixture, in compliance with ASTM C 109, with an average result of not less than 2,500 psi.
- 2.4 As part of the documentation to be submitted to the building official for approval of this adhering method, the permit applicant shall include an affidavit signed by the property owner acknowledging that he/she is the owner of the property and the he/she has accepted and understood the use of job site mortar mix on his/her job.
- 2.5 Perform a static uplift test in the following manner:

2.5.1 Build a testing deck to reflect conditions of existing deck system or perform test on existing roof;

2.5.2 Prepare testing deck by installing:

2.5.2.1 Anchor sheet and underlayment to reflect actual installation of proposed system; and

2.5.2.2 Five sets (three tiles per set) of proposed approved tiles with the mortar mix prepared depicting actual mixtures (tile installation shall reflect actual installation procedures);

2.5.2.3 Mortar shall be applied using a 10-in. trowel;

2.5.2.4 Position mortar mix (a fully loaded 10-in. trowel) under tile per manufacturer recommendations;

2.5.2.5 Condition completed testing deck by totally exposing it to similar environment conditions as the job site, for a period of not less than 14 days;

2.5.3 Preparation of testing deck and mixture of mortar mix shall be performed by the same workers that will do the actual installation of proposed system.

2.5.4 Laboratory shall witness the deck and mortar mix preparation and shall monitor conditioning of same.

2.5.5 Perform uplift test (following same procedures set in TAS 101), results of this test shall be equal to or greater than those required of actual job site condition times 1.45 (safety factor).

**3. Job Site Mortar Mix Application**

- 3.1 After successfully performing above test, actual job may begin.

- 3.2 Obtain all mandatory inspections.
- 3.3 Within 30 days of completing the job, perform an uplift test per TAS 106 applying a load equal to or greater than loads determined and tested under Section 2.5.5 (which includes the 1.45 safety factor) of this standard. Test twice the amount of tiles required to be tested under TAS 106.

# ROOFING APPLICATION STANDARD (RAS) No. 115

## STANDARD PROCEDURES FOR ASPHALTIC SHINGLE INSTALLATION

### 1. Scope

- 1.1 This roofing application standard has been developed to provide a responsive method of complying with the requirements of Chapters 15 and 16 (High-Velocity Hurricane Zones) of the *Florida Building Code, Building* while providing a prescriptive method of installing asphaltic shingles.

### 2. Definitions

- 2.1 For definitions of terms used in this application standard, refer to ASTM D 1079 and the *Florida Building Code, Building*.

### 3. General

- 3.1 Asphaltic shingles shall not be installed on roof mean heights greater than 33 feet, unless specifically specified in the roof assembly's Product Approval. Roof slope criteria shall be in accordance with Table 1515.2.
- 3.2 Where asphaltic shingles are to be installed over insulated roof deck, a suitable nailable substrate, in accordance with Section 1520.5.7 must be installed over the insulation prior to the installation of approved underlayment and shingles.
- 3.3 Asphaltic shingles shall be installed in compliance with the Product Approval installation specifications, but in no case with less than six approved roofing nails (12 ga. by 1<sup>1</sup>/<sub>4</sub> in. corrosion-resistant annular ring shank roofing nails) or approved fastening devices which penetrate through the sheathing or wood plank a minimum of <sup>3</sup>/<sub>16</sub> in. or penetrate a 1 in. or greater thickness of lumber a minimum of 1 in. except where architectural appearance is to be preserved, in which case a minimum of <sup>3</sup>/<sub>4</sub> in. nail may be used.

### 4. Underlayment

- 4.1 Minimum prescriptive underlayments shall be one of the following, unless otherwise specifically noted in roofing assembly Product Approval:
- A double layer of an ASTM D 226, Type I, with a 19-inch headlap; or
  - A single layer of an ASTM D 226, type II with a 4-inch headlap; or
  - A single layer of an ASTM D 2626 coated base sheet with a 4-inch headlap.
- All endlaps shall be a minimum of 6 inches.
- All valleys shall be woven.
- 4.2 All underlayments shall be fastened with approved minimum 12 gage by 1<sup>1</sup>/<sub>4</sub> in. corrosion-resistant annular ring shank roofing nails fastened through minimum 32 gage by 15/8 in. diameter approved tin caps. Maximum fastener spacing shall be 6 in. o.c. at the laps with two additional rows in the field at a maximum spacing of 12 in. o.c. Nails shall be of sufficient length to penetrate through the sheathing or wood plank a minimum of <sup>3</sup>/<sub>16</sub> 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 <sup>3</sup>/<sub>4</sub> in. nail may be used.
- 4.3 If the underlayment is a self-adhering membrane, the membrane shall be applied over a mechanically attached anchor/base sheet attached in compliance with this section above.

### 5. Metal Accessories

- 5.1 All metal accessories shall be in compliance with Section 1517.6 of the *Florida Building Code, Building* and RAS 111.
- 5.2 Eave and gable drip metal vertical face shall be a minimum of 1<sup>1</sup>/<sub>2</sub> inches and shall extend down not less than <sup>1</sup>/<sub>2</sub> inch below the sheathing or other member immediately