

## SECTION 07 3015 – PROTECTIVE ROOFING UNDERLAYMENT

### )- GENERAL

#### 1.01 SECTION INCLUDES

- A. [Granular] or [Smooth] protective roofing underlayment

#### 1.02 RELATED REQUIREMENTS

- A. Section 01 7419 – Construction Waste Management and Disposal: Proper disposal of work related waste material.
- B. Section 06 1500 – Wood Decking: Underlayment substrate.
- C. Section 07 3100 – Shingles and Shakes: Overlaid roofing system.
- D. Section 07 3200 – Roof Tiles: Overlaid roofing system.
- E. Section 07 4100 – Roof Panels: Overlaid roofing system.
- F. Section 07 6200 – Sheet Metal Flashing and Trim: Metal roof edge, penetration and counter-flashing.

#### 1.03 DEFINITIONS

- A. Roofing Terminology: Refer to the following for definitions of terms related to roofing work.
  - 1. ASTM D1079
  - 2. The NRCA Roofing Manual: Steep-slope Roof Systems

#### 1.04 REFERENCE STANDARDS

- A. ASTM International, formerly known as the American Society for Testing and Materials (ASTM)
  - 1. ASTM D226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009
  - 2. ASTM D1079 - Standard Terminology Relating to Roofing and Waterproofing; 2010
  - 3. ASTM D1970 – Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2011
  - 4. ASTM D2626 - Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing; 2012
- B. Florida Building Code; Miami-Dade County - Product Control Approved
  - 1. Notice of Acceptance (NOA) No. 10-0406.01, expiration date of 7/14/2015
- C. National Roofing Contractors Association (NRCA)
  - 1. The NRCA Roofing Manual: Steep-slope Roof Systems; 2009
- D. Occupational Safety and Health Administration (OSHA)
  - 1. OSHA Regulation Standards 29 CFR, Part 1926 – Safety and Health Regulations for Construction, Subpart M - Fall Protection, Section 502 – Fall protection systems criteria and practices; current edition

#### 1.05 SUBMITTALS

- A. See Section 01 3300 – Submittal Procedures.
- B. Product Data: Submit for each product indicated.

#### 1.06 QUALITY ASSURANCE

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- A. Perform work in accordance with written recommendations of NRCA Steep-slope Roof Systems Manual.

### 1.07 MOCK-UP

- A. Provide steep slope roofing system mock-up of [10 feet by 10 feet] or [ \_\_\_ sq ft], including protective underlayment and accessories.
- B. Locate where directed.
- C. Mockup may remain as part of the Work.

### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Furnish materials wrapped in manufacturer's original packaging.
- B. Store materials upright in a covered and ventilated location with temperatures under 110 degrees F, and protected until installation in accordance with manufacturer's instructions.
  - 1. Do not stack over three pallets high.

### 1.09 FIELD [or] SITE CONDITIONS

- A. Provide final roof covering over underlayment as soon as practical, no longer than 30 days.
- B. Maintain ambient temperatures above 40 degrees F and below 100 degrees F during application.
- C. Cold Weather Application: Mechanically fasten membrane in position on roof decking and ensure membrane has bonded to roof deck prior to covering.
- D. Comply with safe roofing codes and practices as outlined by OSHA Regulation Standards 29 CFR, Subpart 1926.502.
- E. Depending on roof pitch and surface conditions, manufacturer recommends use of roof jacks, toe-boards, or a storage platform to be secured for support of roofing materials.

### 1.10 WARRANTY

- A. Standard manufacturer's warranty that indicates manufacturer will replace underlayment materials that are found defective within specified warranty period.
  - 1. Warranty Period: 1 year

## PART 2- PRODUCTS

### 2.01 MANUFACTURERS

- A. Alco Products, LLC: [www.alco-products.com](http://www.alco-products.com).
  - 1. Product Alco [Shield Ice & Water Protector Granular, No. 275] or [Shield Ice & Water Protector Smooth, No. 276]
  - 2. Substitutions: [See Section 01 6000 – Product Requirements] or [Not permitted].

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## 2.02 MATERIALS

- A. Granular Protective Underlayment: Self-adhering and self-sealing, polymer modified asphalt membrane; ASTM D1970, with fiberglass mat reinforcement and black colored granular skid resistant surface.
  - 1. Roll Width: 36 inches.
  - 2. Roll Length: **[65 ft for 1.95 square roll, 36 per pallet]** or **[33.3 ft for 1.0 square roll, 49 per pallet]**.
  - 3. Roll Weight: **[50 lbs for 1.95 square roll]** or **[30 lbs for 1.0 square roll]**.
  - 4. Roll Coverage: **[195 sq ft for 1.95 square roll]** or **[100 sq ft for 1.0 square roll]**.
  - 5. Membrane Thickness: 48-50 mils (0.050 inch).
  - 6. Backing Material: Silicone coated release film at 37 1/2 inch wide.
  - 7. Ultra-Violet (UV) Resistance: 30 days, maximum.
  - 8. Product complies with Florida Building Code including the High Velocity Hurricane Zone (HVHZ) when installed as component of approved assembly in accordance with authorities having jurisdiction (AHJ).
  
- B. Smooth Protective Underlayment: Self-adhering and self-sealing, polymer modified asphalt membrane; ASTM D1970, with fiberglass mat reinforcement and smooth skid resistant surface.
  - 1. Roll Width: 36 inches.
  - 2. Roll Length: **[65 ft for 1.95 square roll, 36 per pallet]**.
  - 3. Roll Weight: **[50 lbs for 1.95 square roll]**.
  - 4. Roll Coverage: **[195 sq ft for 1.95 square roll]**.
  - 5. Membrane Thickness: 48 mils (0.048 inch).
  - 6. Backing Material: Split silicone coated release film at 37 1/2 inch wide.
  - 7. Ultra-Violet (UV) Resistance: 30 days, maximum.
  - 8. High Temperature resistance: 203 degrees F.
  - 9. Product complies with Florida Building Code including the High Velocity Hurricane Zone (HVHZ) when installed as component of approved assembly in accordance with authorities having jurisdiction (AHJ).

## 2.03 ACCESSORIES

- A. Underlayment Substrate: Refer to Section 06 1500.
- B. Shingles and Shakes: Refer to Section 07 3100.
- C. Roof Tiles: Refer to Section 07 3200.
- D. Roof Panels: Refer to Section 07 4100.
- E. Standing Seam Sheet Metal Roofing: Refer to Section 07 6113.
- F. Metal Flashing and Trim: Comply with requirements of Section 07 6200.

## PART 3- EXECUTION

### 3.01 VERIFICATION OF CONDITIONS

- A. Prior to application, verify that roof decking surface is free of moisture, frost, dust and dirt, loose nails, and other protrusions.
- B. Replace damaged roof sheathing.
- C. Re-fasten any loose roof decking panels.
- D. Verify that roof decking fasteners are not protruding from surface, adjust as necessary.

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- E. Do not apply underlayment over shingles or pre-existing underlayment.
- F. Do not apply underlayment over damp surfaces, and ensure roof decking is dry prior to starting this work.

### 3.02 INSTALLATION

- A. Install directly to properly prepared roof decking in accordance with manufacturers written installation instruction.
- B. Sweep entire roof deck area to remove dirt and debris.
- C. Remove roll of underlayment from box and cut into three equal lengths, or into shorter lengths as required for roofing project conditions.
- D. Unroll underlayment material and allow it to relax (acclimate to existing conditions) for at least 3 to 5 minutes.
- E. Do not remove the release film until ready to apply underlayment to roof decking.
- F. At the first course, parallel to and flush with the eave, remove the lower half of release film from underlayment and place on roof, locating the printed ply line away from eave edge.
  - 1. Adhere lower half of underlayment, then remove remaining release film and adhere balance of underlayment to roof deck.
- G. Underlayment may be nailed in place until it bonds to roof. Do not nail through lap along top edge of underlayment.
- H. Align additional courses parallel to first course with bottom edge overlapping lower course to marked ply line, with at least 4 inch horizontal overlaps and 6 inch vertical end laps.
- I. Tack overlying horizontal and vertical course in place using hand pressure or a roller, and smooth out lapped areas to ensure good adhesion.
- J. Eaves: Apply single layer of protective underlayment along eaves extending over top of metal drip edge and at least 24 inches beyond the interior wall line, unless otherwise noted by authorities having jurisdiction (AHJ).
  - 1. Apply additional layers along eave as necessary for ice dam protection in compliance with local building code and AHJ.
- K. Rakes: Apply single layer of underlayment along rake extending underneath metal drip edge.
- L. Valleys: Peel back release film and center sheet over the valley and starting at the bottom drape and press underlayment into place working from the center out in each direction.
  - 1. Provide at least 4 inch side of sheet and 6 inch end of sheet overlap.
- M. Hips and Ridges: Apply single layer of underlayment, at least 24 inches wide, centered vertically over hips and ridges after application of underlayment in the field.
- N. Install primary roofing material in accordance with manufacturer's installation instructions.
- O. High Velocity Hurricane Zone (HVHZ) Areas: Install in compliance with approved assemblies under Miami-Dade County Product Control Approved requirements and authorities having jurisdiction (AHJ).
  - 1. Anchor Sheet: One or more plies of ASTM D226 - Type II, or ASTM D2626 anchor sheet underlayment.
    - a. Horizontal Head Laps: 4 inch.
    - b. Vertical End Laps: 6 inch.

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- c. Mechanically fasten anchor sheet to roof decking with approved nails and tin caps at 6 inch on center at laps with two staggered rows 12 inch on center in field.
2. Protective Underlayment: One or more plies adhered to anchor sheet.
  - a. Horizontal Head Laps: 3 inch.
  - b. Vertical End Laps: 6 inch.
  - c. Install first course parallel to eave removing release membrane as protective underlayment is applied.

### **3.03 FLASHING**

- A. Install flashing in accordance with applicable code.
- B. Install flashing around roofing system protrusions, placing over top of lower course and under upper course of underlayment to prevent water back-up.

### **3.04 WASTE MANAGEMENT**

- A. Upon completion of this work, comply with requirements of Section 01 7419.

**END OF SECTION**