



SECTION 07312 – PVC THATCH SHINGLE ROOFING SYSTEM

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section Includes the following:
 - 1. Endureed® Kilimanjaro PVC thatch shingles.
 - 2. Self-adhering sheet underlayment.

- B. Related Sections include the following:
 - 1. Section 06100- ROUGH CARPENTRY for roof deck wood structural panels and additional framing.
 - 2. Section 07600 – SHEET METAL FLASHING for metal counter flashings not part of this section.

1.02 SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Samples for Verification: For the following products, of sizes indicated, to verify color selected.
 - 1. Endureed® Kilimanjaro PVC Thatch Shingle: Full-size thatch shingle strip.
 - 2. Self-Adhering Underlayment: 12 inches square.

- C. Qualification Data: For Installer, including certificate signed by Endureed® Kilimanjaro PVC thatch shingle manufacturer stating that installer is approved, authorized, or licensed to install roofing system indicated.

- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency or by manufacturer and witnessed by a qualified testing agency, for Somerset PVC thatch shingles.

- E. Maintenance Data: For Endureed® Kilimanjaro PVC thatch shingles to include in maintenance manuals.

- F. Warranties: Special warranties specified in this Section.



1.03 PERFORMANCE REQUIREMENTS

- A. General: Provide installed Endureed® Kilimanjaro PVC thatch shingles, self adhering membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.
- B. Fire-Test-Response Characteristics: Provide Endureed® Kilimanjaro PVC thatch shingle and related roofing materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A, ASTM E 108 or UL 790, for application and roof slopes indicated.
- C. Wind Uplift Design: Provide roofing system that complies with the following:
 - 1. Roofing System Manufacturer's written design instructions.
 - 2. 2018 IBC 1603.1.4 Wind Design Data
 - a) Basic design wind speed: 110mph
 - b) Risk Category: II or III (project dependant)
 - c) Design wind pressure: 82.5 psf
 - 3. UL 1897: Design pressure 82.5 psf

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that has 10 years experience in manufacturing the PVC thatch shingle system identical to that specified for this Project.
- B. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Store roofing materials in a dry, well-ventilated, weather tight location according to Endureed® Kilimanjaro PVC thatch shingle manufacturer's written instructions. Store underlayment rolls on end on pallets or other raised surfaces. Do not double-stack rolls.
 - 1. Handle, store, and place roofing materials in a manner to avoid significant or permanent damage to roof deck or structural supporting members.



- B. Protect unused underlayment from weather, sunlight, and moisture when left overnight or when roofing work is not in progress.

1.06 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace Endureed® Kilimanjaro PVC thatch shingles that fail in materials or workmanship in accordance with current warranty terms. Material failures include manufacturing defects, rot/decay, de-lamination, or UV degradation.

PART 2 – PRODUCTS

2.01 BASIS-OF-DESIGN PRODUCT

- A. Product indicated on the drawings and described in this section are Endureed® Premium Thatch Shingles.

2.02 MATERIALS

- A. PVC Thatch Shingle: Simulated reeds manufactured from PVC bound by a metal binder strip made of grade 304 stainless steel.
 - 1. Reed Style: Endureed® Kilimanjaro
 - 2. Shingle Dimensions: 12-inches long by 42-inches wide (305mm x 1067mm)
 - 3. Average Exposure Length: 5-inches (127mm)
- B. PVC Thatch Eave wadd shingle: Simulated reeds manufactured from PVC bound by PVC block to create a prefabricated eave termination. (Not used in all roof applications)
 - 1. Reed Style: Endureed® Kilimanjaro
 - 2. Wadd Block Dimensions: 5-inches wide by 48-inches long (127mm x 1219mm)
 - 3. Provides 4 lineal feet of eave fascia edge dressing
- C. Self-Adhering Sheet Underlayment, Granular Surfaced: ASTM D 1970, minimum of 148-mils thick sheet; glass-fiber-mat-reinforced, SBS-modified asphalt; mineral-granule surfaced; with release paper backing; cold applied.
 - 1. Product: Elastophene® HR FR+ GR (Manufactured by Soprema.)

2.03 ACCESSORIES

- A. Asphalt Roofing Cement: ASTM D 4586, Type II, asbestos free.



- B. Roofing Nails: ASTM F 1667; 11 gauge stainless-steel, annular ring shank, sharp-pointed, with a minimum 11/32-inch (8.7 mm) diameter flat head and of sufficient length to penetrate ¾ inch (19mm) into solid wood decking or extend at least 1/8 inch (3.175mm) through plywood sheathing.

2.04 METAL FLASHING AND TRIM

- A. Sheet Metal Flashing and Trim: Comply with requirements in Section 07600 – SHEET METAL FLASHING.
 - 1. Sheet Metal: 16 oz. Copper.

PART 3- EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
 - 1. Examine roof sheathing to verify that sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
 - 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provision has been made for flashings and self-adhering membrane.
 - 3. Submit written report, to the Contractor signed by Installer, listing conditions detrimental to performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free, on roof deck. Comply with low-temperature installation restrictions of underlayment manufacturer if applicable. Install at locations indicated below and on Drawings, lapped in direction to shed water. Lap sides not less than 3-1/2 inches (89mm) Lap ends not less than 6-inches (152mm) staggered 24 inches (610mm) between courses.
 - 1. Hips: Extend bottom corner inches on each side 3-inches (76mm)

3.03 FLASHING INSTALLATION

- A. General: Install metal flashings and other sheet metal to comply with requirements in Section 07600-SHEET METAL FLASHING.
 - 1. Eave Drip Edges: Install eave drip edge flashings below underlayment and fasten to roof sheathing.



3.04 PVC THATCH SHINGLE INSTALLATION

- A. Install Endureed® Kilimanjaro PVC Thatch Shingles according to manufacturer’s written instructions.
1. Eave & Beginning Course installation: Install “Eave Wadd” block or “Starter” bent shingles as required by project, with spacing & layout per manufacturer’s installation drawings.
 2. Install the remaining courses of thatch shingles with Endureed® Kilimanjaro field shingles, stair-stepping diagonally across roof deck with manufacturer’s recommended offset pattern at succeeding courses, maintaining uniform exposure of 5-inches. (127mm)
 3. Using pre-shaped hip shingles at hips, install shingle spaced evenly to allow for two hip courses to one field course.
 4. Fasten Endureed® Kilimanjaro PVC thatch shingle with a minimum of four roofing nails through pre-punched holes in binder strip, according to manufacturer’s written instructions. For shingle application at hips, when pre-punched holes may not be available, nail holes may be drilled through the binder strips, or stapled with pneumatic narrow crown stainless steel staples.