



SECTION 07322 (07 32 00)

USTILE CLAY ROOFING TILE

Display hidden notes to specifier. (Don't know how? [Click Here](#))

Copyright 2012 - 2023 ARCAT, Inc. - All rights reserved

**** NOTE TO SPECIFIER **** Westlake Royal Roofing Solutions; Formed clay roof tiles and accessories.

This section is based on the products of USTile Roofing, which is located at:

2801 Post Oak, Suite 600
Houston, TX 77056
Toll free: 800-658-8004
Email: request info (Shannon.Delgado@Westlake.net)
Web: www.WestlakeRoyalRoofing.com

[[Click Here](#)] for additional information.

Westlake Royal Roofing LLC is a subsidiary of Westlake Royal Building Products, the country's largest premium provider of complete roofing and re-roofing solutions for architects as well as commercial and residential builders. Westlake Royal Roofing operates 15 clay and concrete tile manufacturing plants throughout the U.S. The company is the largest manufacturer of premium-quality roof tile in the United States. Westlake Royal Roofing offers a broad selection of concrete and clay roof tile and Roof System Components for both new construction and reroof. Westlake Royal Roofing is committed to providing our customers with a tile roof, not just roof tile. The underlying foundation for a tile roof is just as vital as the tile that completes it. Our goal is to provide an optimal roof installation by offering tile and component products that make such an installation possible. When used together, USTile roof tile and Roof System Components can provide a long-lasting and better performing tile roof. For tile profiles (shapes), the specifier should review the manufacturer's literature or website. Colors should be verified based on the plant where the tile will be made.

See our SpecWizard: [Click Here](#).

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER **** Delete items below not required for project.

- A. Formed clay roof tiles and roof system components.
- B. Metal roof flashing.
- C. Underlayments and self-seal membrane.
- D. Related roof accessories.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER **** Delete any sections below not relevant to this project; add others as required.

- A. Section 06100 - Rough Carpentry; Roof sheathing and nailers.
- B. Section 07220 - Roof and Deck Insulation.
- C. Section 07600 - Flashing and Sheet Metal.
- D. Section 07710 - Roof Specialties; Roof gutters and downspouts.
- E. Section 07720 - Roof Accessories.
- F. Section 08600 - Skylights.
- G. Division 15 - Mechanical: Mechanical work projecting through roof.
- H. Division 16: - Electrical: Electrical work projecting through roof.

1.3 REFERENCES

**** NOTE TO SPECIFIER **** Delete references from the list below that are not actually required by the text of the edited section.

- A. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
- B. ASTM C 150 - Standard Specification for Portland Cement.
- C. ASTM C 1167 - Standard Specification for Clay Roof Tiles.
- D. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- E. ASTM D 1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading.
- F. ASTM D 2626 - Standard Specification for Asphalt-Saturated and Coated Organic Felt Base Sheet Used in Roofing.
- G. ASTM D 2822 - Standard Specification for Asphalt Roof Cement.
- H. IAPMO UES Evaluation Report 0411 - Clay Roof Tiles.
- I. IAPMO UES ER-2015 - TRI Concrete and Clay Roof Tile Installation Manual.
- J. California Title 24 - California's Energy Efficiency Standards for Residential and Nonresidential Buildings.
- K. TRI Cold and Snow Concrete and Clay Tile Design Criteria for Cold and Snow Regions.
- L. TRI Concrete and Clay Roof Tile Installation Manual Fifth Edition.
- M. FRSA/TRI Florida High Wind Tile Installation Manual, Revised Sixth Edition, 2020.

**** NOTE TO SPECIFIER **** Roofing tiles conform to the requirements as listed in the following paragraphs. Edit as required for the roof tile selected and the project conditions. Consult with manufacturer for additional information.

1.4 DESIGN REQUIREMENTS

**** NOTE TO SPECIFIER **** The following paragraph applies to One Piece Mission "S" Clay Roofing tiles. Edit as required for the project conditions. Consult with manufacturer for additional information.

- A. USTile Clay Roof Tile materials and installation shall conform to the requirements of IAPMO UER-411.
- B. Roofing tile materials and installation shall conform to the requirements of the applicable building code.

1.5 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Indicate metal flashing profiles, joint locations, fastening locations, and installation details. Indicate tile layout with location of cut and special shaped tiles identified.

**** NOTE TO SPECIFIER **** Delete the following paragraphs if LEED is not applicable.

- C. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
 - 1. Product Data for Credit MR 4.1 and MR 4.2: For products having recycled content, documentation including percentages by weight of post-consumer and pre-consumer recycled content.
 - a. Include statement indicating costs for each product having recycled content.
 - 2. Product Data for Credit MR 5.1 and Credit MR 5.2: Submit data, including location and distance from Project of material manufacturer and point of extraction, harvest or recovery for main raw material.
 - a. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
 - 3. Product Data for Site Credit 7.2: Submit data to substantiate reduction of heat island effect including roofing material with an SRI of 29 or better on steep sloped roofs.

**** NOTE TO SPECIFIER **** Delete selection samples if colors have already been selected in the specification.

- D. Selection Samples: For each finish product specified, two complete sets of tile colors representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two full size samples representing actual product, color, and patterns.
- F. Certificates of Compliance: Submit to certify compliance with referenced standards.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum five years documented experience producing concrete roof tile and member of Tile Roof Institute.
- B. Installer Qualifications: Minimum five years documented experience installing products specified in this section.

**** NOTE TO SPECIFIER **** Include a mock-up if the project size and/or quality warrant taking

such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Mock-up shall be a minimum of a 10 x 10 ft (3 x 3 m) area and include the edge, ridge, valley, and other typical transition conditions anticipated.
 - 3. Do not proceed with remaining work until installation workmanship and appearance is approved by Architect.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs.**

- 4. Mock-up may not remain as part of Work.
- 5. Accepted mock-up may remain as part of Work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Deliver products to project site in manufacturer's unopened pallets, labeled with data indicating compliance with specified requirements.
- C. Maintain dry storage area for products of this section until installation of products.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Do not overload the roof. Distribute stacks of tile uniformly on roof at not greater than 12 inches (305 mm) in height.

1.9 WARRANTY

- A. Roof Tile: Westlake Royal Roofing's Transferable Limited 50-year USTile Clay Product warranty.

**** NOTE TO SPECIFIER ** Select one of the following paragraphs to suit the product specified and delete those that are not applicable.**

- B. Underlayment: Westlake Royal TileSeal HT Self-Adhering Underlayment 30 Year Limited Manufacturer's Warranty.
- C. Underlayment: GatorSeal Granular Heavy Duty Self-Adhering Underlayment 20 Year Limited Manufacturer's Warranty.
- D. Underlayment: Westlake Royal Ply 40 Underlayment 10 Year Limited Manufacturer's Warranty.

**** NOTE TO SPECIFIER ** Include the following if required for project. Verify that the installer will offer this warranty in the location of the project. Delete if not required.**

- E. Installation Warranty: Warrants products of this section, as installed, to be in accord with the Contract Documents and free from faults and defects in materials and workmanship for a period of 3 years after completion.

**** NOTE TO SPECIFIER ** Include the following if required for project. Delete if not required.**

1.10 EXTRA MATERIALS

- A. Provide an additional 1 percent of installed roof tiles, but not less than one full square, for Owner's use in roof maintenance.
- B. Furnish extra materials packaged with protective covering for storage and identified with labels clearly describing contents.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Westlake Royal Roofing Solutions, which is located at: 2801 Post Oak, Suite 600, Houston, TX 77056; Toll Free: 800-658-8004; Email: request info (Shannon.Delgado@westlake.net); Web: <https://westlakeroyalroofing.com>

**** NOTE TO SPECIFIER **** Select the Clay Roof Tile required from the following paragraphs and delete those that are not applicable. Edit the products listed to suit the project requirements.

2.2 CLAY ROOF TILE

- A. USTile General:
 - 1. Made with up to 59 percent recycled raw materials and are 100 percent recyclable.
 - 2. Class A fire rated.
 - 3. Cool Roof and Energy Star rated.
 - 4. California Title 24 (Heat Island) Compliant without upgrades.

**** NOTE TO SPECIFIER **** Lightweight tiles weigh no more than 600 lbs/square and are not recommended for use in areas with severe winter weather. Refer to the Manufacturer's map for locations where Lightweight products are recommended.

- B. One-Piece Lightweight ClayLite Roofing Tile with matching hip, ridge, rakes, boosters and birdstops:
 - 1. Finishing Tile: Provide Mansard Trim, Hip Starter and Mansard Apex 3-Way tiles.
 - 2. Size: 18 inches (457 mm) by 13 inches (330 mm), nominal.
 - 3. Coverage: With 3 inch (76 mm) head lap, 88 field tiles per 100 sq ft (9.29 sq m) of roof area.
 - 4. Installed Weight per Square: Approximately 590 lbs. (268 kg).

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Refer to the Manufacturer's collection brochure for the colors available.

- 5. Color and Finish: _____.
- 6. Color and Finish: As selected by the Architect.

- C. One-Piece Lightweight ClayMax Roofing Tile with matching hip, ridge, rakes, boosters and birdstops: Lightweight Collection.
 - 1. Finishing Tile: Provide Mansard Trim, Hip Starter and Mansard Apex 3-Way tiles.
 - 2. Size: 18 inches (457 mm) by 13 inches (330 mm), nominal.
 - 3. Coverage: With 3 inch (76 mm) head lap, 88 field tiles per 100 sq ft (9.29 sq m) of roof area.
 - 4. Installed Weight per Square: Approximately 590 lbs. (268 kg).
 - 5. Conforms to ASTM C 1167, Grade 1 all-weather tile for freeze-thaw conditions.

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Refer to the Manufacturer's collection brochure for the colors available.

- 6. Color and Finish: _____.

7. Color and Finish: As selected by the Architect.

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 600 lbs/square or more. Delete all but one of the following tile profiles. If more than one is required, be sure to indicate where each is to be used on the drawings or the specifications.

D. One-Piece Mission "S" Clay Roofing Tile with matching hip, ridge, rakes, boosters and birdstops: Standard Weight Collection.

1. Finishing Tile: Provide Mansard Trim, Hip Starter and Mansard Apex 3-Way tiles.
2. Size: 18 inches (457 mm) by 13 inches (330 mm), nominal.
3. Coverage: With 3 inch (76 mm) head lap, 88 field tiles per 100 sq ft (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 800 lbs. (363 kg).

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Refer to the Manufacturer's regional collection brochure for the colors available.

5. Color and Finish: _____.
6. Color and Finish: As selected by the Architect.

E. One-Piece Mission "S" Clay Roofing Tile with matching hip, ridge, rakes, boosters and birdstops: Texas Standard Weight Collection Class 2 Hail Rated Tile.

1. Finishing Tile: Provide Mansard Trim, Hip Starter and Mansard Apex 3-Way tiles.
2. Size: 18 inches (457 mm) by 13 inches (330 mm), nominal.
3. Coverage: With 3 inch (76 mm) head lap, 88 field tiles per 100 sq ft (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 800 lbs. (363 kg).

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Refer to the Manufacturer's regional collection brochure for the colors available.

5. Color and Finish: _____.
6. Color and Finish: As selected by the Architect.

F. 2-Piece Tapered Mission Clay Roofing Tile with matching hip, ridge, rakes, boosters and birdstops: Standard Weight Collection.

1. Size: 18 inches (323 mm) by 7 inches to 8-1/2 inches (179 mm to 216 mm), nominal.
2. Coverage: With 3 inch (76 mm) head lap, 172 field tiles per 100 sq ft (9.29 sq m) of roof area.
3. Installed Weight per Square: Approximately 1,000 lbs. (454 kg).

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Go to the Manufacturer's regional collection brochure for the colors available.

4. Color and Finish: _____.
5. Color and Finish: As selected by the Architect.

G. 2-Piece Tapered Mission Clay Roofing Tile with matching hip, ridge, rakes, boosters and birdstops: Texas Standard Weight Collection Class 2 Hail Rated Tile.

1. Size: 18 inches (323 mm) by 7 inches to 8-1/2 inches (179 mm to 216 mm), nominal.
2. Coverage: With 3 inch (76 mm) head lap, 172 field tiles per 100 sq ft (9.29 sq m) of roof area.
3. Installed Weight per Square: Approximately 1,000 lbs. (454 kg).

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Go to the Manufacturer's regional collection brochure for the colors available.

4. Color and Finish: _____.
5. Color and Finish: As selected by the Architect.

- H. 2-Piece Tapered Monarch Clay Roofing Tile with matching hip, ridge, rakes, boosters and birdstops: Standard Weight Collection.
1. Size: 18 inches (323 mm) by 5-1/4 inches to 6-3/4 inches (133 mm to 171 mm), nominal.
 2. Coverage: With 3 inch (76 mm) head lap, 220 field tiles per 100 sq ft (9.29 sq m) of roof area.
 3. Installed Weight per Square: Approximately 1,070 lbs. (485 kg).

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Go to the Manufacturer's regional collection brochure for the colors available.

4. Color and Finish: _____.
5. Color and Finish: As selected by the Architect.

**** NOTE TO SPECIFIER **** Romano Pan Tile can be used in combination with 2-Piece Mission, Monarch or Cielo Tile tops. Delete if not required.

- I. Romano Pan and 2-piece Top Tile with matching hip, ridge, rakes, boosters and birdstops: standard weight.
1. Size: 18 inches (457 mm) by 13 inches (330 mm), nominal.
 2. Coverage: With 3 inch (76 mm) head lap, 74 field tiles per 100 sq ft (9.29 sq m) of roof area.
 3. Installed Weight per Square: Approximately 990 lbs. (449 kg).
 4. Class A fire rated.
 5. Cool Roof and Energy Star rated.

**** NOTE TO SPECIFIER **** Select the paragraph for the color and finish required and delete those not required. Go to the Manufacturer's brochure for the colors available.

6. Color and Finish: _____.
7. Color and Finish: As selected by the Architect.

**** NOTE TO SPECIFIER **** Westlake Royal Roofing offers a complete line of Roof System Components that are recommended to ensure an optimal roof installation. Select the Accessory Material items which are appropriate for the project and the system selected. Consult with the manufacturer for additional information on Roof System Components.

2.3 ACCESSORY MATERIALS

**** NOTE TO SPECIFIER **** Select the required underlayment from the following paragraphs and delete paragraphs not relevant to this project.

- A. Underlayment:
1. Westlake Royal TileSeal HT Self-Adhering Underlayment.
 2. Westlake Royal TileSeal 50 HT Self-Adhering Underlayment.
 3. GatorSeal Granular Heavy Duty Self-Adhering Underlayment.
 4. Westlake Royal Ply 40 Underlayment.
 5. SwiftGuard Engineered Synthetic Underlayment.
 6. Sol-R-Skin BLUE, Thermal Insulating Underlayment.

B. Battens:

**** NOTE TO SPECIFIER **** Battens are optional, but a recommended upgrade. Select the desired battens from the following paragraphs and delete paragraphs not required.

1. Elevated Batten System battens 1 inch by 3 inch by 8 feet (25 mm by 76 mm by 1.4 M) nominal.
2. Elevated Batten System battens 1 inch by 2 inch by 8 feet (25 mm by 51 mm by 1.4 M) nominal.
3. Elevated Batten System battens 1 inch by 3 inch by 4 feet (25 mm by 76 mm by 1.2 m) nominal.
4. Elevated Batten System battens 1 inch by 2 inch by 4 feet (25 mm by 51 mm by 1.2 m) nominal.

- C. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.
1. Quik Drive screws complying with ASTM 641, Class 1, with 2 inch or 2-1/2 inch (51 mm or 64 mm) Screws, Roofing Specific.

**** NOTE TO SPECIFIER **** Select the materials as required for the project. Delete paragraphs not required.

- D. Wind Clips:
1. Zip-Clip Adjustable Tile Clip.
 2. Wind Clips, Galvanized Steel.
 3. Wind Clips, Stainless Steel.

- E. Rake and Gable End:
1. Prefabricated Rake and Ridge tile. Choose to match tile profile and color.

**** NOTE TO SPECIFIER **** Select the required flashing material from the following paragraphs and delete those not required. Coordinate with flashing specified in other sections of the specification.

- F. Flashings:
1. Ribbed Valley Metal, 26 gauge corrosion resistant metal flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 3. Plumbing Stacks and Other Pipes Penetrating Roofs as recommended by the manufacturer.

**** NOTE TO SPECIFIER **** Select adhesive if required, delete if not required.

- G. Mortar materials, plastic cement, and sealant: Code approved adhesive suitable to bond to clay roof tile.
1. Sand: ASTM C 144.
 2. Portland cement: ASTM C 150, Type 1.
 3. Plastic cement: ASTM D 2822.
 4. Silicone sealant: ASTM D 1002.

- H. Nailers:

**** NOTE TO SPECIFIER **** Select nailers required from the following paragraphs and delete those not required,

1. 2 by 6 inch (51 by 152 mm) wood nailing strips at all hips and ridges.
2. 2 by 2 inch (51 by 51 mm) wood nailing strips at all hips and ridges fastened to Ridge Riser universal hip and ridge brackets.
3. 2 by 4 inch (51 by 101 mm) wood nailing strips under first row of cover tile after gable roll, with adjacent 2 by 2 inch (51 by 51 mm) wood nailing strip along rake sides of profiled tiles only.

- I. Snow Retention: Provide as required per local code and snow loads.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify surfaces are uniform free of ridges, warp, or voids, smooth, clean, and dry.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result under the project conditions.

3.3 INSTALLATION - GENERAL

**** NOTE TO SPECIFIER **** Select paragraphs applicable to project and region of installation and delete the paragraphs that are not applicable.

- A. Install in accordance with manufacturer's instructions and the following:
 - 1. IAPMO UES Evaluation Report 0411 - Clay Roof Tiles.
 - 2. IAPMO UES ER-2015 - TRI Concrete and Clay Roof Tile Installation Manual (TRI Installation Manual).
 - 3. TRI Cold and Snow Concrete and Clay Tile Design Criteria for Cold and Snow Regions.
 - 4. FRSA/TRI Florida High Wind Tile Installation Manual, Revised Sixth Edition, 2020.

3.4 INSTALLATION:

- A. Underlayment: Install in accordance with the manufacturer's instructions.
 - 1. For roof slopes of 3:12 to less than 4:12, two layers are required.
 - 2. For pitches of 4/12 and greater: Minimum one layer is required.
- B. Flashings: Install Ribbed Valley Metal according to Westlake Royal Roofing's installation instructions.
 - 1. Valleys: Install preformed metal flashing over underlayment.

**** NOTE TO SPECIFIER **** Select one of the following two paragraphs and delete the paragraph not required.

- a. Closed Valley: Miter tile to form straight border at center of valley.
 - b. Open Valley: Miter tile to form straight border a minimum of 11 inches (274 mm) back from the center of the valley on each side.
- 2. Side Wall Flashing:

**** NOTE TO SPECIFIER **** Edit the following paragraphs as required.

- a. Lap Top Flange of Base Flashing: 6 inches (152 mm), minimum.
 - b. Nail metal near edge 6 inches (152 mm) on center.
 - c. Extend flashing under tile at least 4 inches (102 mm) and turn edge up 1-1/2 inches (38 mm).
 - d. Lap Joints: 3 inches (76 mm), minimum.
- 3. Sides of dormers, chimneys, and other walls, extend flashing at least 6 inches up vertical surface.
 - a. Extend flashing under tile at least 4 inches (102 mm) and turn edge up 1-1/2 inches (38 mm).
 - b. Lap Joints: 3 inches (76 mm), minimum.
 - 4. At wood saddles and returns, line with Wakaflex flashing extending up roof slope not less than 14 inches, and up vertical walls not less than 6 inches, and thoroughly counter flash.
 - 5. Make all counter flashing plugged, pointed and secure.
- C. Birdstops, boosters and starters for profiled tiles only:
 - 1. Install clay birdstops along entire length of all eaves.
 - 2. Install first course of pan tile leaving a 3/4 to 2 inch (19 to 51 mm) maximum overhang at eave.
 - 3. Install 3 inch (76 mm) booster tiles on top of birdstops.

4. Install 15 inch (381 mm) starter tiles on top of booster tiles along perimeter of all eaves.

D. Eave Closures:

1. Prefabricated Metal Eave Closure: profile to match tile, fastened at minimum 18 inches (457 mm) on center along eave.

E. Fasteners:

**** NOTE TO SPECIFIER **** Edit the following paragraphs as required to avoid conflicting requirements.

1. Follow manufacturer's installation recommendations.
2. Follow TRI Installation Manual.

F. Install field tile in courses beginning at eave working up incline of roof deck.

**** NOTE TO SPECIFIER **** Select one of the following three paragraphs for One-Piece Mission "S" Clay Roofing Tile and delete the paragraphs if not required.

1. Follow TRI Installation Manual.
2. Follow Westlake Royal Roofing's 2-Piece Mission Clay Tile Layout and Alignment Guide for 2-Piece Mission Installations.
3. Follow Westlake Royal Roofing's Faux Mission Clay Tiles Installation Guide for Faux Mission Installations.
4. As an alternate, end caps can be embedded in cement mortar for a more rustic appearance.
5. As an alternate, cover tiles can be added using booster tiles laid dry or laid in cement mortar.
6. Install hip and ridge tiles:
 - a. Provide cement mortar or other approved materials at all hips and ridges to completely fill voids and to weatherproof the roof.
 - b. All hip, ridge and first row of cover tiles after gable roll shall be set in cement mortar and fastened by non-corrosive nails.
7. All tiles in contact with cement mortar shall be immersed in water for two minutes before laying.
8. To avoid color problems on roof:
 - a. Load roof tiles from different pallets.
 - b. Visually inspect application from the ground level after installing 100 tiles.
 - c. Visually verify that roof tile color is uniform and even and verify that tile courses are straight and true.
9. Correct any color or installation problems before proceeding with the installation.
10. Complete installation to provide weather tight service.

**** NOTE TO SPECIFIER **** For self-curbing or prefabricated skylights, refer to skylight manufacturer's installation instructions.

G. Flashing at Curb Mounted Skylights and Other Items:

1. Follow manufacturer's installation recommendations.
2. Follow TRI Installation Manual.

H. Flashing at Plumbing Stacks, Pipes, Turbines, Vents, etc.:

1. Follow manufacturer's installation recommendations.
2. Follow TRI Installation Manual.

I. Coatings: Apply color coordinated paint to all exposed metal flashings.

3.5 CLEANING

- A. Remove all broken tile, debris, and excess tile from roof.
- B. Sweep cut tiles clean.

3.6 REPAIR AND REPLACEMENT

- A. Damaged Tile:
 - 1. Break out damaged roof tile.
 - 2. Repair torn underlayment.
 - 3. Drive fastener flush.
 - 4. Apply minimum 3/8 inch (10 mm) by 2 inch (51 mm) bead of approved adhesive on tile in course below replacement tile.
 - 5. Immediately set replacement tile in position assuring proper contact.

- B. Damaged Small Valley and Hip Cuts:

**** NOTE TO SPECIFIER ** For hip cuts on roof pitches greater than 7:12, mechanical fastening may be required.**

- 1. Apply a minimum of 3/8 inch (10 mm) by 2 inch (51 mm) bead of approved adhesive at head of cut tile.
- 2. Immediately set tile in course above in position assuring proper contact.

3.7 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION