

September 21, 2022

BRNS Design, LLC

1301 Solana Blvd, Building 5, Ste 5200
Westlake, Texas 76262
www.brnsdesign.com | @brns_design

Deviation Request – Material Substitution

Project: 24030 | Entrada Multifamily
Project Address: Entrada, Block M, Lot 1
Purpose: Deviation Request – Material Substitution
Attention: Town of Westlake
Report Prepared By: Joshua Barnes, BRNS Design, by direction of Greg Fox (Fox Brothers Holdings)

Deviation Request

Per Town Ordinance No , 760 (Entrada Design Guidelines), page 49, pitched roofing is to be “genuine, natural clay, color fast, 2-piece Mission Barrel tile”, with “allowable color blends shall be those which substantially match the sample assembly approved by the town. Deviations from the approved sample(s) must be approved by the Town”.

The Entrada Multifamily plan set previously submitted and approved by the Town showed for each structure to receive a roof finish of “Mission Barrel Tile Roof”. This installation would follow the manufacturer’s recommended installation instructions placed with drainage battens over a weather resistant roofing barrier on a plywood deck on wood framed rafters.

The project team requests that the Mission Barrel Tile Roof be substituted with a very similar product: Tejas Espana Newpoint Concrete Tile by Westlake Royal Roofing Solutions. The installation will follow the manufacturer’s instructions and will be set on the same roofing system as expected in the original plan set.

As noted by Ordinance 760, the product substantially matches in color tone in keeping with the design intent of the Entrada Design Guidelines. Below you will find a picture of the existing Primrose School that will be immediately South of our development. It is our intention to match the color selection of the Primrose School as best possible.

Primrose School:



Proposed Product: (Tejas Espana, Finish: Marbled Canyon Red)



Test reports, specifications, product data, and product imagery have been attached to the back of this request.

Product Website: <https://westlakeroyalroofing.com/newpoint-concrete/>

END OF REPORT.

PRODUCT IMAGERY

TEXAS

CONCRETE ROOF TILE COLLECTIONS

**NEWPOINT**
CONCRETE ROOF TILE

Westlake
Royal Roofing Solutions™

Our Texas Legacy.

Serving the Great State of Texas Since 1974

We have proudly served the Texas market for over 50 years. Texas is home to legacy employees who have shaped the way we do business today. Our strong culture and commitment define the quality behind every tile.



Asphalt Shingle
139°
attic temperature



Concrete Tile
94°
attic temperature

Why Tile?

NATURAL PROTECTION

Attic temperatures measured using identical heat sources simulating the sun's radiation comparing Newpoint™ Cool Roof System to a common asphalt shingle installation. The result is less heat in the attic and lower energy bills.

Temperatures measured in simulated attics using identical heat sources simulating sun's radiation to compare Newpoint™ Cool Roof System to common asphalt shingle roof system.

Hail Rated.

HAIL RATED CONCRETE TILE ROOFS MAY PROVIDE INSURANCE REDUCTIONS

Newpoint™ has a complete offering of Class 3 and Class 4 Impact concrete tile, the highest hail performance certification recognized in the industry.

You may qualify for an insurance reduction when choosing one of Newpoint's hail certified roof tiles.

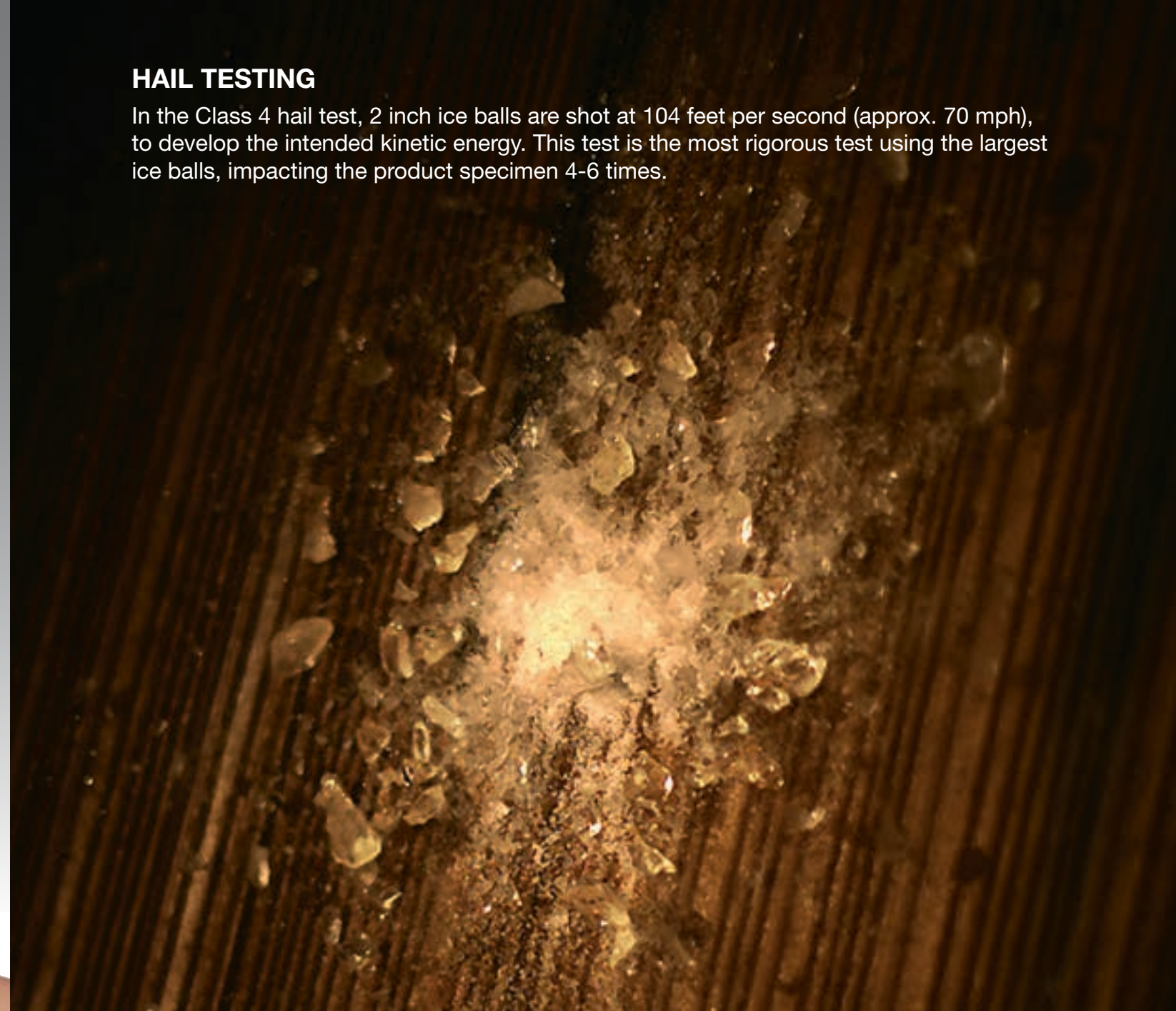
EASY TO REPAIR

Unlike many other roofing materials, tile can be replaced individually without replacing the entire roof.



HAIL TESTING

In the Class 4 hail test, 2 inch ice balls are shot at 104 feet per second (approx. 70 mph), to develop the intended kinetic energy. This test is the most rigorous test using the largest ice balls, impacting the product specimen 4-6 times.



► The hail testing at Intertek's laboratory in Dallas, Texas under test protocol for FM 4473.



Material Matters.

VALUE MATTERS

Westlake Royal Roofing Solutions™ stands behind the quality of our roof tile with a Fully Transferable, Non-Prorated Limited Lifetime Warranty.

BEAUTY MATTERS

Our Newpoint™ concrete tiles have texture and substance, creating a true multidimensional look for your roof. Their natural colorways harmonize easily with other exterior building elements.

DURABILITY MATTERS

Newpoint™ concrete tile gains strength over time, and usually meets building structure and wind rating code requirements. Tile will last 3.75 times longer than an asphalt shingle roof.

SUSTAINABILITY MATTERS

Newpoint™ roof tile is locally made and sourced in Texas since 1974.





Color Matters.

As the market leader, we strive to enhance the curb appeal of your home. We continuously develop new colors to harmonize with the shifting architectural trends in Texas. We take pride in the color quality and blending we provide.

3 STYLES

Newpoint™ concrete roof tile easily harmonizes with all 3 dominant architectural styles.



TRADITIONAL

American adaptations of regional home styles from other time periods or areas of the world. Often mixed references.



COTTAGE
CRAFTSMAN
SPANISH COLONIAL
FOURSQUARE
NEW TRADITIONAL
FRENCH CHATEAU



TRANSITIONAL

Prefers the clean lines of contemporary architecture, but draws heavily on details and styles from traditional architecture.



RANCH
PRAIRIE
MISSION REVIVAL
CONTEMPORARY FARMHOUSE



CONTEMPORARY

Characterized by a preference for clean lines, open concepts, decoration, ample light sources, large windows, and lack of round forms.



MODERN
NEW BARNHOUSE
CONTEMPORARY
MID CENTURY MODERN

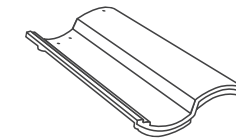


Tejas España | Brazos Blend

HIGH PROFILE COLLECTIONS



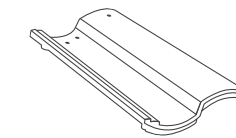
Tejas España



Designed to reflect the classic style and distinctiveness of Spanish architecture.

P. 17

Barcelona Impact



This modern interpretation of old world Spanish design creates a distinctive mission tile appearance. Designed to withstand severe weather conditions. Class 4 Hail Rated.

P. 22



Tejas España | Chestnut Burnt



Tejas España | Mission Red



Tejas España | Casa Grande Blend



Tejas España



*Tejas España | Custom Blend:
Desert Sage, Sandstorm, Chestnut Burnt*

Continental Seville
1TEWS0030



Newport Sun
1TECS6953



CRRC Rated Product - 0942-0111
Ref: .31 / Emi: .90 / SRI: 33 / Aged SRI: 33

New Clay
1TECS6931



CRRC Rated Product - 0942-0021
Ref: .25 / Emi: .93 / SRI: 26 Aged SRI: 27

Terra Cotta
1TECS6100



CRRC Rated Product - 0942-0049
Ref: .29 / Emi: .89 / SRI: 29 / Aged SRI: 33

Brazos Blend
1TEWS6217



CRRC Rated Product - 0942-0093
Ref: .34 / Emi: .89 / SRI: 37 / Aged SRI: 36

Clay Mexican Blend
1TECS6050



Sandstorm
1TECS0026



Desert Sage
1TECS0024



CRRC Rated Product - 0942-0022
Ref: .27 / Emi: .93 / SRI: 29 / Aged SRI: 28

Salerno Clay
1TECS6330



CRRC Rated Product - 0942-0012
Ref: .17 / Emi: .93 / SRI: 17 / Aged SRI: 22

Chestnut Burnt
1TECS3242



Dark Bordeaux
1TECS7944



Green Grey Blend
1TECS4507



Marbled Terra Cotta
1TECS6129



Mission Red
1TECS7027



CRRC Rated Product - 0942-0020
Ref: .19 / Emi: .91 / SRI: 20 / Aged SRI: 25

Marbled Canyon Red
1TECS7164



Charcoal Blend
1TECS1430



CRRC Rated Product - 0942-0072
Ref: .17 / Emi: .91 / SRI: 15 / Aged SRI: 16

Casa Grande Blend
1TECS6169



Lexington Blend
1TECS6190



CRRC Rated Product - 0942-0014
Ref: .23 / Emi: .91 / SRI: 23 / Aged SRI: 24

Charcoal Brown Blend
1TECS1132



CRRC Rated Product - 0942-0005
Ref: .18 / Emi: .91 / SRI: 17 / Aged SRI: 19



Tejas España | Casa Grande Blend



CUSTOM BLENDS

Custom Blend 1



Terra Cotta 45%; Sandstorm 20%; Chestnut Burnt 15%
Continental Seville 10%; Desert Sage 10%

Custom Blend 2



New Clay 30%; Sandstorm 30%
Desert Sage 30%; Green Grey Blend 10%

Custom Blend 3



Sandstorm 40%; Terra Cotta 20%
Casa Grande Blend 20%; Chestnut Burnt 20%

Custom Blend 4



Terra Cotta 25%; Marbled Terra Cotta 25%
Marbled Canyon Red 25%; Casa Grande Blend 25%

Custom Blend 5



Sandstorm 33%; Desert Sage 33%
Chestnut Burnt 33%

Custom Blend 6



Marbled Canyon Red 50%; Casa Grande Blend 50%

Custom Blend 7



Continental Seville 60%; Terra Cotta 20%
Casa Grande Blend 20%

Custom Blend 8



Dark Bordeaux 60%; Chestnut Burnt 40%



Barcelona Impact



Barcelona Impact | Salerno Clay

Salerno Clay

1BITS6330



CRRC Rated Product - 0942-0012
Ref: .17 / Emi: .93 / SRI: 17 / Aged SRI: 22

Lexington Blend

1BITS6190



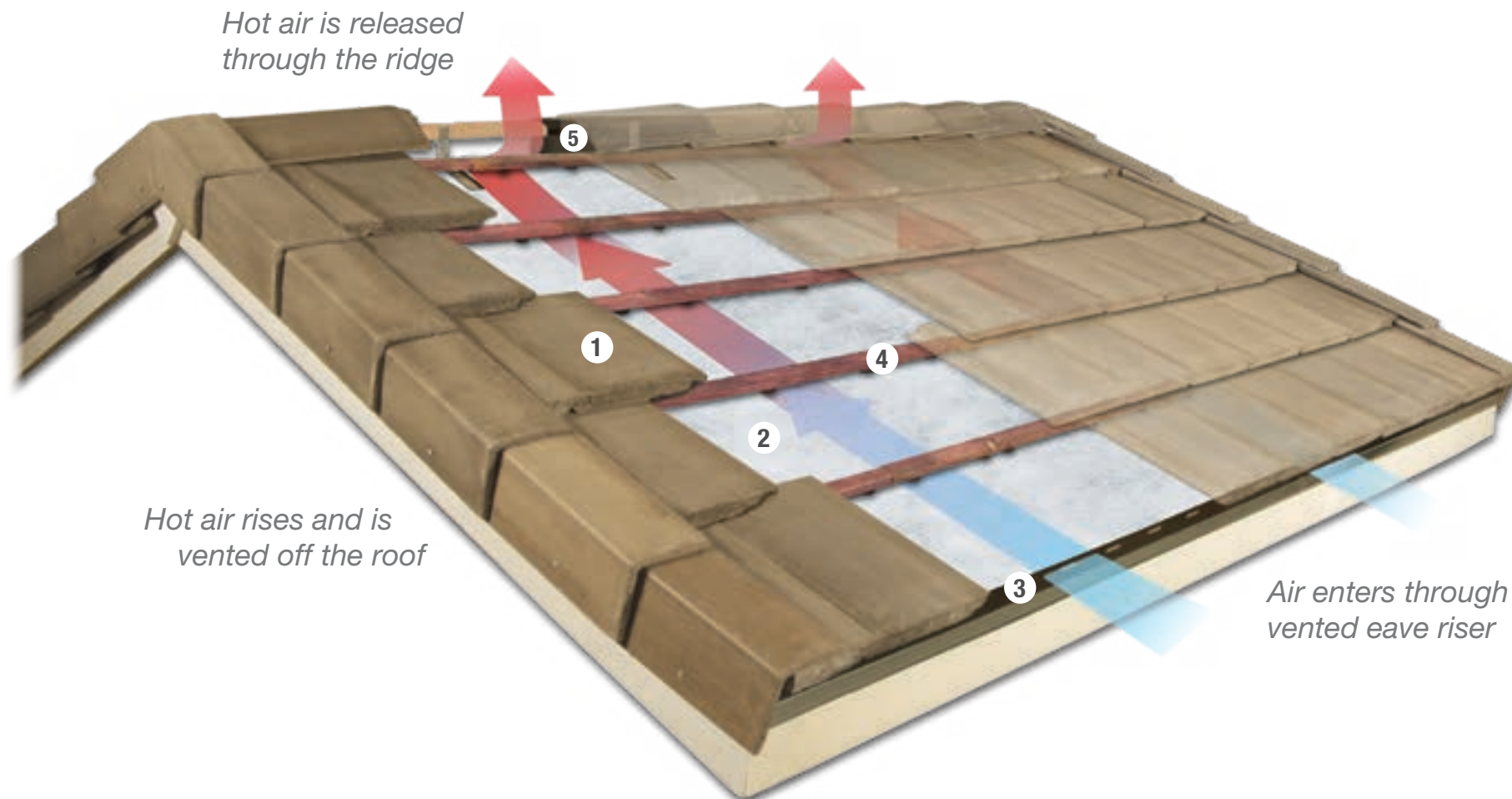
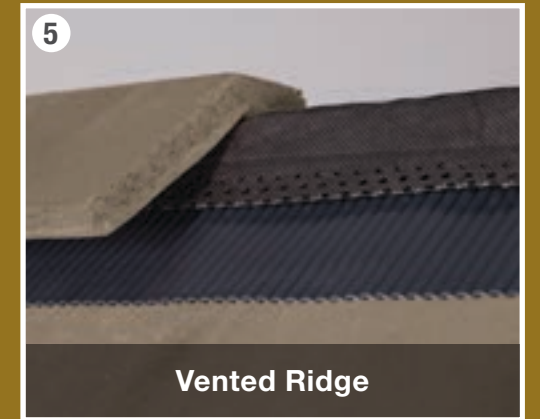
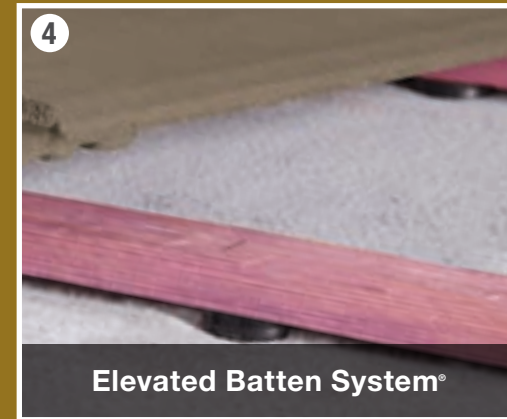
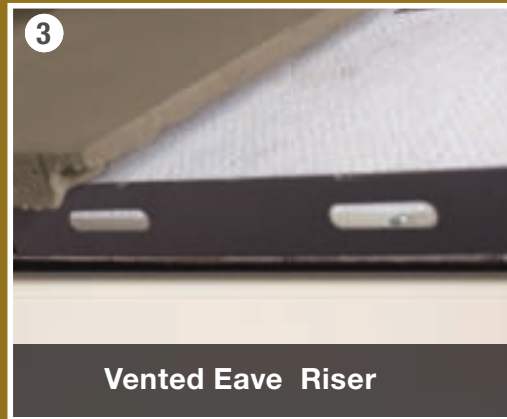
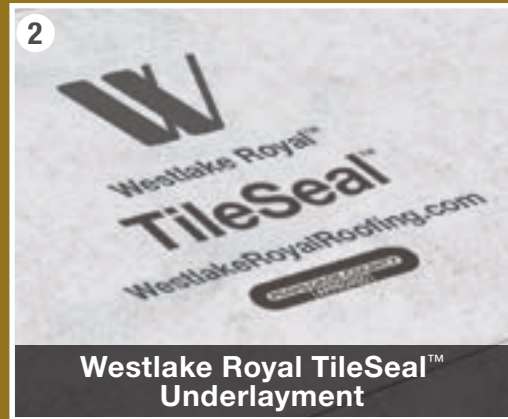
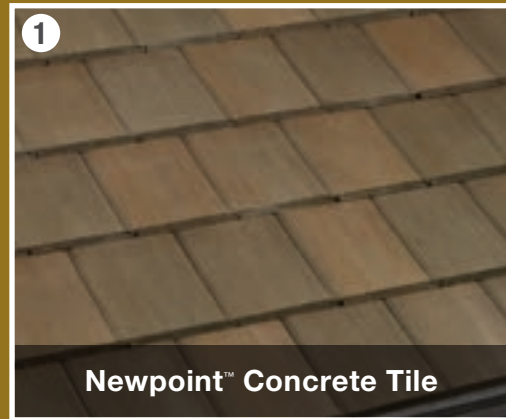
NOTE: Custom blends are sold as individual colors and must be blended on the roof by the installer. When ordering Tejas España Custom Blend colors each color must be ordered in half or full pallets.

Have you considered what is underneath your roof tile?

Newpoint™ Cool Roof System



Five components provide energy efficiency and give substantial return on your investment.



Energy Savings Every Year

22% Reduction in heating and cooling costs[†]

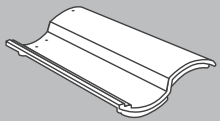


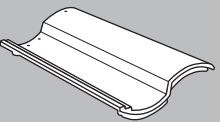
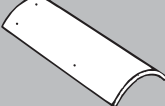
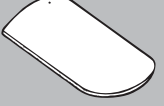


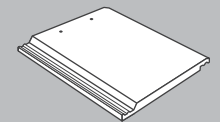

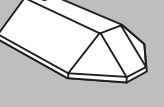
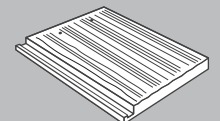
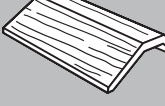
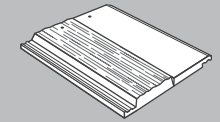
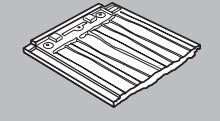
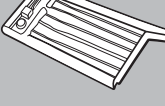
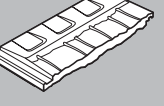


For more information, please visit our website WestlakeRoyalRoofing.com

[†]Steep-slope Assembly Testing of Clay and Concrete Tile with and without Cool Pigmented Colors, Oak Ridge National Laboratory, 2005. Results vary based on profile of tile installed, location, weather and other factors.

Specifications

Finishing Touches

TEJAS ESPAÑA	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	Capri Trim	Capri Hip Starter	
	16-1/2" x 13"	3-5/8"	At 3" minimum headlap, 87 field tiles will cover approx. 100 square feet of roof area.	Approx: 900 lbs.	254	2.92	Approx: 2,935 lbs.	 Class 3 Hail Rated FM 4473	 1CTCS/1CTWS	 1CHCS/1CHWS	
BARCELONA IMPACT	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	Capri Trim	Capri Hip Starter	
	16-1/2" x 13"	3-5/8"	At 3" minimum headlap, 89 field tiles will cover approx. 100 square feet of roof area.	Approx: 1,030 lbs.	244	2.75	Approx: 3,140 lbs.	 Class 4 Hail Rated FM 4473	 1CTCS	 1CHCS	
SAXONY® COUNTRY SLATE	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	90 Rake	3-Sided Ridge	3-Sided Hip Starter
	16-1/2" x 13"	1-1/8"	At 3" minimum headlap, 92 field tiles will cover approx. 100 square feet of roof area.	Approx: 1,030 lbs.	262	2.85	Approx: 3,155 lbs.	 Class 3 Hail Rated FM 4473	 1R9CS	 1R3CS	 1FHCS
SAXONY® COUNTRY SLATE IMPACT	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	90 Rake	3-Sided Ridge	3-Sided Hip Starter
	16-1/2" x 13"	1-1/8"	At 3" minimum headlap, 92 field tiles will cover approx. 100 square feet of roof area.	Approx: 1,080 lbs.	252	2.74	Approx: 3,366 lbs.	 Class 4 Hail Rated FM 4473	 1R9CS	 1R3CS	 1FHCS
SAXONY® SHAKE	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	90 Rake	3-Sided Ridge	3-Sided Hip Starter
	16-1/2" x 13"	1"	At 3" minimum headlap, 92 field tiles will cover approx. 100 square feet of roof area.	Approx: 1,030 lbs.	256	2.78	Approx: 3,050 lbs.	 Class 3 Hail Rated FM 4473	 1R9CL	 1R3CL	 1FHCL
SAXONY® COUNTRY SPLIT SHAKE	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	90 Rake	3-Sided Ridge	3-Sided Hip Starter
	16-1/2" x 13"	1-1/2"	At 3" minimum headlap, 92 field tiles will cover approx. 100 square feet of roof area.	Approx: 1,030 lbs.	256	2.78	Approx: 3,050 lbs.	 Class 3 Hail Rated FM 4473	 1R9CB	 1R3CB	 1FHCB
MADERA 900	Size	Height	Coverage	Installed Weight / Square	Pieces / Pallet	Squares / Pallet	Weight / Pallet	Approvals	90 Rake	V-Ridge	Tapered Eave Starter
	13-1/2" x 13"	7/8"	At 3-1/2" minimum headlap, 120 field tiles will cover approx. 100 square feet of roof area.	Approx: 950 lbs.	360	3	Approx: 3,010 lbs.	 Class 3 Hail Rated FM 4473	 19CCL	 1VCCL	 1CECL

Suggested Tile Mortar™ Colors

Tejas España	Tile Mortar
Brazos Blend	Terra Cotta
Casa Grande Blend	Casa Grande
Charcoal Blend	Charcoal
Charcoal Brown Blend	Desert Sage
Chestnut Burnt	Chestnut Burnt
Clay Mexican Blend	Sandstorm
Continental Seville	Desert Sage
Dark Bordeaux	Dark Bordeaux
Desert Sage	Desert Sage
Green Grey Blend	Charcoal
Lexington Blend	Casa Grande
Marbled Canyon Red	Marbled Canyon Red
Marbled Terra Cotta	Terra Cotta
Mission Red	Mission Red
New Clay	Terra Cotta
Newport Sun	Terra Cotta
Salerno Clay	Sandstorm
Sandstorm	Sandstorm
Terra Cotta	Terra Cotta
Barcelona Impact	Tile Mortar
Charcoal Brown Blend	Desert Sage
Lexington Blend	Casa Grande
Salerno Clay	Sandstorm

Saxony® Country Slate	Tile Mortar
Charcoal Blend	Charcoal
Charcoal Brown Blend	Desert Sage
Chestnut Burnt	Chestnut Burnt
Dark Bordeaux	Dark Bordeaux
Impressionist	Chestnut Burnt
Patina Green	Desert Sage
Shadow Grey	Charcoal
Terra Cotta 2000	Terra Cotta
Tiger Eye	Chestnut Burnt
Weathered Griege	Desert Sage
Wolf Grey	Chestnut Burnt
Saxony® Country Slate Impact	Tile Mortar
Charcoal Blend	Charcoal
Shadow Grey	Charcoal
Tiger Eye	Chestnut Burnt
Wolf Grey	Chestnut Burnt
Saxony® Shake	Tile Mortar
Shadow Grey Burnt	Charcoal
Weathered Shake	Chestnut Burnt
Saxony® Country Split Shake	Tile Mortar
Berkus Green	Charcoal
Cobblestone	Charcoal
Weathered Shake	Chestnut Burnt

Tile Mortar Color Samples



Visualize

Picture your new roof with Newpoint™ Concrete Roof Tile Inspiration house photo gallery on our website.



Design your home with your dream roof by using our [Dream Home Visualizer](#). Upload your house image or use gallery images and the tool will auto-generate a rendering which you can use to try out different products in the design phase. Order Product Samples directly through the tool.



Order A Sample

Deciding on the perfect roof can be overwhelming. So, instead of wondering what color or style will work, order a sample and take the guesswork out of your decision. It's just another way Newpoint™ Concrete Roof Tile makes it easy to buy with confidence.

Architectural Tools

Our complete suite of architectural tools, including Arcat 3-Part Specs and CAD/BIM drawings, are available for download directly from our website.



Online Ordering

Manage your orders through myWestlakeRoyal, a simple online tool to track product orders in real time, all from the convenience of your computer, tablet or smartphone. Sign-up for e-mail alerts to notify you of your order status.

Limited Lifetime Warranty*

As a brand you can trust, Newpoint™ Concrete Roof Tile offers one of the most comprehensive, fully transferable roofing warranties available on the market today.



Follow Us On Social Media

See what everyone loves about Newpoint™ Concrete Roof Tile and get inspired on: Facebook, LinkedIn, YouTube, HOUZZ, Pinterest and Instagram.



*For product warranty details, please visit [Newpoint Concrete Product Warranty](#) on our website. The warranties found there are the sole warranties applicable to Newpoint™ roofing products.

Code Approval: Some approvals are regional and only apply to locally produced products; please contact Newpoint™ before transporting product across state lines. Specifically, products used in the Miami Dade County region of Florida require special testing and recognition. All tiles have systems that are Class A fire rated.

Disclaimer: The printed colors shown in this brochure may vary from actual available tile colors. Before making a final selection, be sure to review actual tile samples and roof installations. Please contact your local sales office for further assistance. Inadvertent errors in this publication are subject to change without notice. No performance guarantee is offered or implied beyond that expressly indicated.

Efflorescence is a temporary surface condition which is common to all concrete products. The process is caused by the chemical nature of cement. This reaction can appear as an overall chalky white bloom (a softening of color) or in more concentrated patches. It is difficult to predict how long the effects of efflorescence will last. It depends on the type and amount of deposit as well as local weather conditions. The action of carbon dioxide and rainwater will gradually remove the deposit, in most cases, leaving the original color of the roof intact without further efflorescence occurring. It is superficial and in no way affects the quality or functional properties of the tile.

Installation: According to the Tile Roofing Institute loading guidelines, "To achieve a pleasant, random blend of color for your job, care should be taken upon loading to mix the tiles." (Source: 2015 Concrete and Clay Roof Tile Installation Manual). Please consult the Tile Roofing Institute (TRI) Installation guides for application recommendations.

Cover: Saxony® Country Slate | Shadow Grey - 75%; Charcoal Blend - 15%; Cobblestone - 10%

NEWPOINT™

CONCRETE ROOF TILE

ABOUT WESTLAKE ROYAL ROOFING SOLUTIONS™

Westlake Royal Roofing Solutions™ is the combination of DaVinci® Roofscapes and the former Boral North America roofing product lines. The company is a recognized, national leader in durable and sustainable clay, composite, concrete, and steel roof systems and components. The company's offerings include US Tile® products, a legacy line of premium, stunning clay tile solutions manufactured to the highest standard of sustainability and craftsmanship: DaVinci® Roofscapes, beautiful and durable composite slate and shake roofing tiles; Newpoint™ Concrete Tile Roofing, the enduring line of concrete tile known for its superior strength, Class A fire rating and long-lasting beauty; Unified Steel™ Stone Coated Roofing, the ultra-lightweight roofing system which benefits from the structural strength of steel; and Westlake Royal™ Roofing Components, a full line of integrated roof components designed to deliver a higher standard of roof installation and performance.

ABOUT WESTLAKE ROYAL BUILDING PRODUCTS™

Westlake Royal Building Products USA Inc., a Westlake company (NYSE:WLK), is a leader throughout North America in the innovation, design, and production of a broad and diverse range of exterior and interior building products, including Siding and Accessories, Trim and Mouldings, Roofing, Stone, Windows and Outdoor Living. For more than 50 years, Westlake Royal Building Products has manufactured high quality, low maintenance products to meet the specifications and needs of building professionals, homeowners, architects, engineers and distributors, while providing stunning curb appeal with an unmatched array of colors, styles, and accessories.

For more information, please visit WestlakeRoyalBuildingProducts.com. Follow us on LinkedIn, Instagram and "Like" us on Facebook.

Sales Offices

Phoenix, ARIZONA
Corona, CALIFORNIA
Lathrop, CALIFORNIA
Stockton, CALIFORNIA
Rialto, CALIFORNIA
Denver, COLORADO
Pompano Beach, FLORIDA

Lake Wales, FLORIDA
Okeechobee, FLORIDA
Kapolei, HAWAII
Henderson, NEVADA
Fort Worth, TEXAS
Katy, TEXAS

Corporate Office

Westlake Royal Building Products
2801 Post Oak, Suite 600
Houston, Texas 77056

Customer Service

Ph: 800.669.TILE (8453)

Website



WestlakeRoyalRoofing.com

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Westlake
Royal Roofing Solutions™

PRODUCT SPECIFICATION

SECTION 07321 (07 32 16)

CONCRETE ROOF TILE

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

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**** NOTE TO SPECIFIER **** Westlake Royal Roofing Solutions; Newpoint Concrete Roofing Tiles' standard weight and light weight concrete roof tile.

This section is based on the products of Westlake Royal Roofing Solutions, which is located at:
2801 Post Oak, Suite 600
Houston, TX 77056
Toll free: 800-658-8004
Email: request info
Web: westlakeroyalroofing.com

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

Westlake Royal Roofing was formed in 1997 as a joint venture between long-time industry leaders Monier Inc. and Westlake Royal Lifetile Inc. Monier was founded in 1965 and Lifetile in 1962. The company is the largest manufacturer of premium-quality roof tile in the United States. Newpoint Concrete Roof Tiles offers a broad selection of Concrete 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, Westlake Royal Roofing roof tile and Westlake Roayl 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.

PART 1 GENERAL

1.1 SECTION INCLUDES

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

- A. Concrete roof tiles.
- B. Roof System Components:
 - 1. Underlayment.
 - 2. Roof flashing materials
 - 3. 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 07600 - Flashing and Sheet Metal.

- C. Section 07710 - Roof Specialties; Roof gutters and downspouts.
- D. Section 08600 - Skylights.
- E. Division 15 - Mechanical: Mechanical work projecting through roof.
- F. 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. IAPMO ES Report - 412 for Westlake Royal Roofing Solutions' Newpoint Concrete Roof Tiles.
- B. IAPMO UES ER-2015 - TRI Concrete and Clay Roof Tile Installation Manual.
- C. Tile Roofing Institute (TRI) - Concrete and Clay Design Criteria for Cold and Snow Regions.
- D. FRSA/TRI Florida High Wind Tile Installation Manual, Revised 6th Edition, 2020.
- E. ICC AC 180 - Acceptance Criteria for Clay and Concrete Roof Tiles.
- F. Florida Building Codes, Product Approval - FL7849, FL14317, FL7804.
- G. CAN/CSA-A220. Series-06 - Concrete Roof Tiles.
- H. ICC AC 188 for Underlayments.
- I. AC 48 for Underlayments in severe climates.
- J. AC 148 for Wakaflex flashing and ridge venting products.
- K. Leadership in Energy and Environmental Design (LEED).
- L. California Title 24 Energy Efficient Standards.
- M. Cool Roof Rating Council (CRRC).

1.4 DESIGN REQUIREMENTS

**** NOTE TO SPECIFIER **** Roof tile materials and installation conforms to International Building Code, International Residential Code for One- and Two-Family Dwelling Code and the Florida Building Code.

- A. Roofing tile materials and installation shall conform to the requirements of IAPMO UER-412.

**** NOTE TO SPECIFIER **** The following paragraph applies to NewPoint Concrete Roof Tile products as listed. Edit as required for the project conditions and the tile specified in Part 2 of this specification. Delete the listing and products that are not applicable. Consult with manufacturer for additional information if required.

- B. Roofing tile materials and installation shall conform to the requirements of Miami Dade County Notice of Acceptance (NOA) as follows:
 1. NOA 21-0420.06 – Barcelona 900 Concrete Roof Tile.
 2. NOA 21-0712.03 – Villa 900 Concrete Roof Tile.
 3. NOA 19-1021.05 – Tejas Espana Concrete Roof Tile.
 4. NOA 19-1002.14 – Villa Concrete Roof Tile.
 5. NOA 12-0308.24 – Mission S Concrete Roof Tile.
 6. NOA 19-1021.04 – Espana Concrete Roof Tile.
 7. NOA 21-0420.03 – Saxony 900 Lake Wales (Shake, Slate, Split Shake) Concrete

- Roof Tile.
8. NOA 21-0420.04 – Saxony 900 Okeechobee Concrete Roof Tile.
 9. NOA 18-0502.03 – TileSeal.
 10. NOA 21-0604.02 – Wakaflex Flashing.
 11. NOA 19-1021.10 – Madera Concrete Roof Tile.

- C. Roofing tile materials and installation shall conform to the requirements of the State of Florida Product Approvals as follows:
1. FL 7849.
 2. FL 14317.
 3. FL 7804.
- D. Roofing tile materials and installation shall conform to the SBCCI Standard for Hurricane Resistant Residential Construction, SSTD10-99, the International Building Code for One- and Two-Family Dwelling Code and the Florida Building Code 2017.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. 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.
- C. 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 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.

**** NOTE TO SPECIFIER ** Retain the next article only if project is to be LEED Certified.
LEED CERTIFICATION**

- G. LEED Submittals: Provide a roofing system that will achieve or aid in the qualification of points satisfying.
1. Sustainable Site credit 7.2 - Heat Island Effect - Roof.
 2. Materials and Resources credit 5 - Local and Regional Materials.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum five years documented experience producing concrete roof tile and member of Tile Roof Industry Alliance.
- 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-foot (3.05 m) by 10-foot (3.05 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 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 Solutions' Newpoint Concrete Roof Tiles' Limited Lifetime, Fully Transferable, Non-Prorated Product Warranty against defects in roof tile for the life of the structure.

**** 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.**

- B. 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 LLC which is located at: 2801 Post Oak, Suite 600, Houston, TX 77056; Toll free: 800-658-8004; Web: westlakeroyalroofing.com.

**** NOTE TO SPECIFIER ** Select paragraphs representing the manufacturing and distribution center for the product specified and delete the others. Note that each plant manufactures a different selection of**

profiles and colors and although any profile/color is available anywhere in the U.S., appropriate shipping costs will apply. Refer to tile profiles for plants in the region of the project's location.

- B. Westlake Royal Roofing Solutions' NewPoint Concrete Roof Tile's Manufacturing and Distribution Facility:
1. Arizona Region:
 - a. Phoenix Plant, 1832 S. 51st Avenue, Phoenix, AZ 85043. Tel: 603-269-2288, Toll Free: 800-845-9921.
 2. Florida, Southeast, Northeast Regions:
 - a. Pompano Beach Plant, 1369 Hammondville Road, Pompano Beach, FL 33069. Tel: 954-786-5380, Toll Free: 800-818-0974.
 - b. Lake Wales Plant, 200 Story Road, Lake Wales, FL 33853. (P.O. Box 632, Lake Wales, FL 33859-0632), Tel: 863-678-9405, Toll Free: 800-282-3633.
 - c. Okeechobee, FL 1289 NE 9th Ave, Okeechobee, FL 34972 Tel: (863) 467-0042
 3. Hawaii Region:
 - a. Hawaii, Hawaii Docks, Lathrop Plant, 342 Roth Road, Lathrop, CA 95330. Tel: 209-983-1600. Tel: 800-669-8453.
 4. Northern California and Pacific Northwest Regions:
 - a. Lathrop Plant, 342 Roth Road, Lathrop, CA 95330. Tel: 209-983-1600. Tel: 800-669-8453.
 - b. Stockton Plant, 9508 South Harlan, French Camp, CA 95231, Mailing: PO Box 6037, Stockton, CA 95206. Tel: 209-982-1473. Tel: 800-669-8453.
 5. Rocky Mountain and Heartland Regions:
 - a. Denver Plant, 10121 Dallas Street, Henderson, CO 80640. Tel: 303-286-3856.
 6. Southern California Region:
 - a. Rialto Plant: 3511 North Riverside Avenue, Rialto, CA 92377. Tel: 909-822-4407. Tel: 800-769-8453.
 7. Southern Nevada Region:
 - a. Henderson Plant, 430 Eastgate, Henderson, NV 95020. Tel: 702-564-8453, Toll Free: 800-224-3560.
 8. Texas Region:
 - a. Katy Plant, 30595 FM 529, Brookside, TX 77434. Tel: 281-371-2634, Toll Free: 866-204-8426.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs: coordinate with requirements of Division 1 section on product options and substitutions.**

C. Substitutions: Not permitted.

D. Requests for substitutions will be considered in accordance with provisions of Section 01600.

**** NOTE TO SPECIFIER ** The following Concrete Roof Tile and Roof System Components paragraphs represent the Manufacturing and Distribution locations for each Westlake Royal Roofing Region. Select the Region(s) representing the project location and delete those that are not applicable. Edit the products listed to suit the project requirements.**

**** NOTE TO SPECIFIER ** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Arizona Region, Phoenix Plant, 1832 S. 51st Avenue, Phoenix, AZ 85043. Tel: 603-269-2288 and 800-845-9921. Select the Weight and the Profile required and delete those not required.**

2.2 CONCRETE ROOF TILE - ARIZONA

**** NOTE TO SPECIFIER ** Standard weight tiles weigh 900 lbs./square or more. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.**

A. Standard Weight Tile: Mission "S" profile.

1. Finishing Tile: Provide Mansard Trim, Hip Starter and Mansard Apex 3-Way tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 90 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1030 lbs. (467 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Boosted Barcelona profile.

**** NOTE TO SPECIFIER ** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.**

1. Size: 13-1/2 inches (343 mm) by 6-1/2 inches (165 mm), nominal.
2. Coverage: 10 percent application, 20 percent application, 30 percent application.
3. Installed weight per square including field tile: 10 percent, 945 lbs. (429 kg), 20 percent, 990 lbs. (449 kg), 30 percent, 1,050 lbs. (476 kg).
4. Color: As selected by the Architect.

C. Standard Weight Tile: Saxony Slate profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 88 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 950 lbs. (431 kg).
5. Color: As selected by the Architect.

D. Standard Weight Tile: Saxony Shake profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 88 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 950 lbs. (431 kg).
5. Color: As selected by the Architect.

E. Standard Weight Tile: Saxony Country Slate profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 88 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 950 lbs. (431 kg).
5. Color: As selected by the Architect.

F. Standard Weight Tile: Madera 900 profile.

1. Finishing Tile: Provide Rake, Hip/Ridge and Tapered Eave Starter tiles.
2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight: Approximately 950 lbs. (431 kg).
5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** Midweight tiles weigh less than 900 lbs./square and are not recommended for use in areas with severe winter weather. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.**

G. Midweight Tile: Madera 700 profile.

1. Finishing Tile: Provide Rake, Hip/Ridge and Tapered Eave Starter tiles.
2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight: Approximately 720 lbs. (327 kg).
5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** Lightweight tiles weigh no more than 600 lbs./square and are not**

recommended for use in areas with severe winter weather. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.

- H. Lightweight Tile: Cedarlite 600 profile.
1. Finishing Tile: Provide Rake, Hip/Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.
- I. Lightweight Tile: Duralite Espana 600 profile.
1. Finishing Tile: Provide Capri Trim, Capri Hip Starter and Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 12-3/8 inches (314 mm), nominal.
 3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** The tile in the following 4 paragraphs are available from Westlake Royal Roofing's Southern California Rialto Plant.

- J. Lightweight Tile: Duralite Villa 600 profile.
1. Finishing Tile: Provide Capri Trim, Capri Hip Starter and Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 580 lbs. (263 kg).
 5. Color: As selected by the Architect.
- K. Lightweight Tile: Duralite Saxony 600 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (258 kg).
 5. Color: As selected by the Architect.
- L. Lightweight Tile: Duralite Saxony 600 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 or 4-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (258 kg).
 5. Color: As selected by the Architect.
- M. Lightweight Tile: Duralite Saxony 600 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (258 kg).
 5. Color: 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 ROOF SYSTEM COMPONENTS - ARIZONA

**** 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. GatorSeal Granular Heavy Duty Self-Adhering Underlayment.
 3. Westlake Royal TileSeal 40 Underlayment.
 4. Westlake Royal Ply40 Underlayment.
 5. Westlake Royal ORG Ply40 Underlayment.
 6. SwiftGuard Engineered Synthetic Underlayment.
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.

**** 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.

- C. Flashings:
1. Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 4. Ribbed Valley Metal 1-inch minimum Center Diverter, 26-gauge, Galvanized Sheet Steel.
 5. Plumbing Stacks and Other Pipes Penetrating Roofs.

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

- D. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required.

- E. Eave Closures:
1. Vented Eave Riser - Metal to match tile profile.
 2. Eave Riser - Metal to match tile profile.

- F. Battens:

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

1. Elevated Batten System 1 inch (25 mm) x 2 inches (51 mm) x 8 ft (2.44 m).
2. Elevated Batten System 1 inch (25 mm) x 3 inches (76 mm) x 8 ft (2.44 m).
3. Elevated Batten System 1 inch (25 mm) x 2 inches (51 mm) x 4 ft (1.22 m).
4. FirePro Elevated Batten System 1 inch (25 mm) x 3 inches (76 mm) x 4 ft (1.22 m). Fire Retardant Treated.
5. FirePro Elevated Batten System 1 inch (25 mm) x 2 inches (51 mm) x 4 ft (1.22 m). Fire Retardant Treated.
6. Batten Extenders 10 inches (254 mm) for use with standard battens at tile pans.
7. Batten Extenders 18 inches (457 mm) for use with standard battens at valleys.

- G. Hip and Ridge:

**** NOTE TO SPECIFIER **** Select to match profile of concrete roof tile.

1. Figaroll Plus: Ridge vent and weather block for all profiles.
2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.

H. Rake and Gable End: Rake and Ridge tiles. Choose to match tile profile and color.

I. Field Venting: Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER **** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Florida Region; Pompano Beach Plant, 1369 Hammondville Road, Pompano Beach, FL 33069. Tel: 954-786-5380 and 800-818-0974; Lake Wales Plant, 200 Story Road, Lake Wales, FL 33853. (P.O. Box 632, Lake Wales, FL 33859-0632), Tel: 863-678-9405 and 800-282-3633, and Okeechobee. Select the Weight and the Profile required and delete those not required.

2.4 CONCRETE ROOF TILE - FLORIDA, SOUTHEAST, NORTHEAST

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 900 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.

**** NOTE TO SPECIFIER **** The tile in the following paragraph is available from Westlake Royal Roofing's Lake Wales Plant.

A. Standard Weight Tile: Barcelona 900 profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 950 lbs. (431 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Boosted Barcelona profile.

**** NOTE TO SPECIFIER **** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.

1. Size: 13-1/2 inches (343 mm) by 6-1/2 inches (165 mm), nominal.
2. Coverage: 10 percent application, 20 percent application, 30 percent application.
3. Installed weight per square including field tile: 10 percent, 945 lbs. (429 kg), 20 percent 990 lbs. (449 kg), 30 percent, 1,050 lbs. (476 kg).
4. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** The tiles in the following 5 paragraphs are available from Westlake Royal Roofing's Lake Wales Plant.

C. Standard Weight Tile: Villa 900 profile.

1. Finishing Tile: Provide Rake, Ridge, Capri Trim, Hip Starter and Capri Apex 3-Way.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 920 lbs. (418 kg).
5. Color: As selected by the Architect.

D. Standard Weight Tile: Saxony 900 Slate profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3- or 4-Way tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 950 lbs. (432 kg).
5. Color: As selected by the Architect.

E. Standard Weight Tile: Saxony 900 Shake profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3- or 4-Way tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 950 lbs. (432 kg).

5. Color: As selected by the Architect.
- F. Standard Weight Tile: Saxony 900 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3- or 4-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 950 lbs. (432 kg).
 5. Color: As selected by the Architect.
- G. Standard Weight Tile: Westlake Royal Roofing's Madera 900 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 950 lbs. (432 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** The tile in the following paragraph is available from Westlake Royal Roofing's Okeechobee Plant.

2.5 CONCRETE ROOF TILE - FLORIDA, SOUTHEAST, NORTHEAST (Okeechobee)

- A. Standard Weight Tile: Galena Spanish profile.
1. Finishing Tile: Provide Barrel, Rake Trim tiles.
 2. Size: 17 inches (432 mm) by 10 inches (254 mm), nominal.
 3. Coverage: 111 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 877 lbs. (398 kg).
 5. Color: As selected by the Architect.
- B. Standard Weight Tile: Plantation profile.
1. Finishing Tile: Provide V-Ridge, Rake tiles.
 2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 91 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 974 lbs. (442 kg).
 5. Color: As selected by the Architect.
- C. Standard Weight Tile: Estate "S" profile.
1. Finishing Tile: Provide Barrel and Rake trim.
 2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 91 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed weight per square including field tile: 828 lbs. (376 kg).
 5. Color: As selected by the Architect.
- D. Standard Weight Tile: Bermuda profile.
1. Finishing Tile: Provide V-Ridge, Rake and Thick Butt tile.
 2. Size: 16 inches (406 mm) by 10 inches (254 mm), nominal.
 3. Coverage: 123 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 1255 lbs. (569 kg).
 5. Color: As selected by the Architect.
- E. Standard Weight Tile: Saxony 900 Series profiles.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3- or 4-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 950 lbs. (432 kg).
 5. Color: 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.

2.6 ROOF SYSTEM COMPONENTS - FLORIDA, SOUTHEAST, NORTHEAST

**** 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. Citadel Plus Base Sheet.

- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.
 - 1. Quik Drive Screws, Roofing Specific.

**** NOTE TO SPECIFIER **** Select to match profile of chosen concrete roof tile. Contact Westlake Royal Roofing for storm clip recommendations.

- C. Wind Clips:
 - 1. Zip-Clip Adjustable Tile Clip.

**** 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.

- D. Flashings:
 - 1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel sidewall flashing.
 - 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 - 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 - 4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.
 - 5. Plumbing Stacks and Other Pipes Penetrating.

- E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required.

- F. Eave Closures: Provide to match tile profile.
 - 1. Vented Eave Riser - Metal.
 - 2. Eave Riser - Metal.

- G. Battens:
 - 1. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 8 feet (2.44 m).

- H. Hip and Ridge:

**** NOTE TO SPECIFIER **** Select to match profile of concrete roof tile.

- 1. Figaroll Plus: Ridge vent and weather block for all profiles.
 - 2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
 - 3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
 - 4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.
 - 5. Trim Lock Hip and Ridge Metal. Choose size to match tile profile.

- I. Ridge, Rake and Gable End Tiles:
 - 1. Choose to match tile profile and color.

- J. Field Venting:
1. Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER **** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Hawaii Region: Hawaii, Hawaii Docks, Tacoma Plant, 10920 Steele Street Lakewood WA 98499. Tel: 800-699-8453. Select the Weight and the Profile required and delete those not required.

2.7 CONCRETE ROOF TILE - HAWAII

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 900 lbs./square or more. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.

- A. Standard Weight Tile: Barcelona 900 profile.
1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Approximately 930 lbs. (422 kg).
 5. Color: As selected by the Architect.
- B. Standard Weight Tile: Villa 900 profile.
1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles as needed.
 2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 90 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 900 lbs. (409 kg).
 5. Color: As selected by the Architect.
- C. Standard Weight Tile: Saxony 900 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (413 kg).
 5. Color: As selected by the Architect.
- D. Standard Weight Tile: Saxony 900 Hartford Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (413 kg).
 5. Color: As selected by the Architect.
- E. Standard Weight Tile: Saxony 900 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (413 kg).
 5. Color: As selected by the Architect.
- F. Standard Weight Tile: Madera 900 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles as needed.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 950 lbs. (432 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** Lightweight tiles weigh no more than 600 lbs./square and are not recommended for use in areas with severe winter weather. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.**

- G. Lightweight Tile: Cedarlite 600 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles as needed.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.
- H. Lightweight Tile: Duralite Espana 600 profile.
1. Finishing Tile: Provide Capri Trim, Capri Hip Starter and Apex 3-Way tiles as needed.
 2. Size: 17 inches (432 mm) by 12-3/8 inches (314 mm), nominal.
 3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.
- I. Lightweight Tile: Duralite Villa profile.
1. Finishing Tile: Provide 600 Capri Trim, Hip Starter Capri, and Apex 3-Way tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 600 lbs. (272 kg).
 5. Color: As selected by the Architect.
- J. Lightweight Tile: Duralite Saxony 600 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3y tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (258 kg).
 5. Color: As selected by the Architect.
- K. Lightweight Tile: Duralite Saxony 600 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 579 lbs. (263 kg).
 5. Color: As selected by the Architect.
- L. Lightweight Tile: Duralite Saxony 600 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (259 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** Midweight tiles weigh less than 900 lbs./square and are not recommended for use in areas with severe winter weather. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.**

- M. Midweight Tile: Duralite Saxony 700 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.

2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: As selected by the Architect.
- N. Midweight Tile: Duralite Saxony 700 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: As selected by the Architect.
- O. Midweight Tile: Duralite Saxony 700 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: 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.

2.8 ROOF SYSTEM COMPONENTS - HAWAII

- A. Underlayment:
1. Westlake Royal TileSeal HT Self-Adhering Underlayment.
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.

**** NOTE TO SPECIFIER **** Select to match profile of chosen concrete roof tile. Contact Westlake Royal Roofing for storm clip recommendations.

- C. Wind Clips:
1. Zip-Clip, Adjustable Tile Clip.
 2. Wind Clips, stainless steel.

**** 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.

- D. Flashings:
1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.
 5. Plumbing Stacks and Other Pipes Penetrating Roof: Wakaflex Pipe Flashing.

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

- E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required.

- F. Eave Closures: Provide to match tile profile.
1. Vented Eave Riser - Metal.

2. Eave Riser - Metal.

G. Battens:

1. Elevated Batten System:
 - a. Nominal 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m). Pressure Treated.
 - b. Nominal 1 inch (25 mm) by 3 inches (76.2 mm). Pressure Treated.

H. Hip and Ridge:

**** NOTE TO SPECIFIER ** Select to match profile of concrete roof tile.**

1. Figaroll Plus: Ridge vent and weather block for all profiles.
2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.
5. Trim Lock Hip and Ridge Metal. Choose size to match tile profile.

I. Ridge, Rake and Gable End Tiles:

1. Choose to match tile profile and color.

J. Field Venting:

1. Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER ** The following paragraph represents the standard weight tile, lightweight tile and accessory materials available Westlake Royal Roofing's Northern California Region, Lathrop Plant, 642 Roth Road, Lathrop, CA 95330. Tel: 209-983-1600 and 800-669-8453; Stockton Plant, 9508 South Harlan, French Camp, CA 95231, (Mailing: PO Box 6037, Stockton, CA 95206) Tel: 209-982-1473 and 800-669-8453. Select the Weight and the Profile of the Concrete Roof Tile and the Accessory Materials required for the project and delete those not required.**

2.9 CONCRETE ROOF TILE - NORTHERN CALIFORNIA AND PACIFIC NORTHWEST

**** NOTE TO SPECIFIER ** Standard weight tiles weigh 900 lbs./square or more. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.**

**** NOTE TO SPECIFIER ** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Plant.**

A. Standard Weight Tile: Barcelona 900 profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 930 lbs. (422 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Boosted Barcelona profile.

**** NOTE TO SPECIFIER ** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.**

1. Size: 13-1/2 inches (343 mm) by 7 inches (178 mm), nominal.
2. Coverage: 10 percent application, 20 percent application, 30 percent application.
3. Installed weight per square including field tile: 10 percent application, 945 lbs. (429 kg), 20 percent application, 990 lbs. (449 kg), 30 percent application, 1,050 lbs. (476 kg).
4. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** The tile in the following paragraph is available from Westlake Royal**

Roofing's Northern California Plant.

- C. Standard Weight Tile: Villa 900 profile.
1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 930 lbs. (423 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Stockton Plant.**

- D. Standard Weight Tile: Saxony 900 Hartford Slate profile.
1. Finishing Tile: Provide manufacturer's 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (414 kg).
 5. Color: Natural Marble, Classics Finish.

**** NOTE TO SPECIFIER ** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Stockton Plant.**

- E. Standard Weight Tile: Saxony 900 Slate profile.
1. Finishing Tile: Provide manufacturer's 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (414 kg).
 5. Color: Natural Marble, Classics Finish.

**** NOTE TO SPECIFIER ** Tile in the following paragraph is available from Westlake Royal Roofing's Northern California Lathrop Plant.**

- F. Standard Weight Tile: Saxony 900 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (414kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Stockton Plant.**

- G. Standard Weight Tile: Saxony 900 Split Old English Thatch profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 91 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 980 lbs. (445 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Stockton Plant.**

- H. Standard Weight Tile: Madera 900 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.

4. Installed Weight: Approximately 950 lbs. (431 kg).
5. Color: As selected by the Architect.

**** 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.

**** NOTE TO SPECIFIER **** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Stockton Plant.

- I. Lightweight Tile: Cedarlite 600 profile.
 1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Stockton Plant.

- J. Lightweight Tile: Duralite Espana 600 profile.
 1. Finishing Tile: Provide Capri Trim, Hip Starter Capri, and Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 12-3/8 inches (314 mm), nominal.
 3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** The tile in the following paragraph is available from Westlake Royal Roofing's Northern California Lathrop Plant.

- K. Lightweight Tile: Duralite 600 Villa profile.
 1. Finishing Tile: Provide Capri Trim, Hip Starter Capri, and Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 600 lbs. (272 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** The tile in the following 3 paragraphs are available from Westlake Royal Roofing's Northern California Stockton Plant.

- L. Lightweight Tile: Duralite Saxony 600 Shake profile.
 1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (259 kg).
 5. Color: As selected by the Architect.

- M. Lightweight Tile: Duralite Saxony 600 Split Shake profile.
 1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (259 kg).
 5. Color: As selected by the Architect.

- N. Lightweight Tile: Duralite Saxony 600 Slate profile.
 1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 or 4-Way tiles as needed.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.

4. Installed Weight: Approximately 570 lbs. (259 kg).
5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER **** Midweight tiles weigh less than 900 lbs./square and are not recommended for use in areas with severe winter weather. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.

- O. Midweight Tile: Duralite Saxony 700 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: As selected by the Architect.
- P. Midweight Tile: Duralite Saxony 700 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 2. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 3. Installed Weight: Approximately 720 lbs. (327 kg).
 4. Color: As selected by the Architect.
- Q. Midweight Tile: Duralite Saxony 700 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: 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.

2.10 ROOF SYSTEM COMPONENTS - NORTHERN CALIFORNIA PACIFIC NORTHWEST

**** 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. GatorSeal Granular Heavy Duty Self-Adhering Underlayment
 3. Westlake Royal TileSeal 40 Underlayment.
 4. Westlake Royal Ply40 Underlayment.
 5. Westlake Royal ORG Ply40 Underlayment.
 6. SwiftGuard Engineered Synthetic Underlayment
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.
1. Quik Drive Screws, Roofing Specific.

**** NOTE TO SPECIFIER **** Select to match profile of chosen concrete roof tile. Contact Westlake Royal Roofing for storm clip recommendations.

- C. Wind Clips:
1. Zip-Clip, Adjustable Tile Clip.

**** 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.

D. Flashings:

1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
2. Wakaflex universal flashing for abutments at chimneys, walls and other rising structures.
3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.
5. Plumbing Stacks and Other Pipes Penetrating Roof: Wakaflex Pipe Flashing.

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

E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required. Eave closures apply to Standard Weight Westlake Royal Roofing Madera and Lightweight Cedarlite tile only; delete if not required.

F. Eave Closures:

1. Vented Eave Riser - Metal.
2. Eave Riser - Metal.
3. Eave Closure "T" - Metal.

G. Battens:

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

1. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m). Pressure treated.
2. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m).
3. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 8 feet (2.44 m).
4. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 4 feet (1.22 m).
5. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m).
6. FirePro Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 4 feet (1.22 m). Fire Retardant Treated.
7. FirePro Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m). Fire Retardant Treated
8. Batten Extenders 18 inches (457 mm) for use with standard battens.
9. Batten Extenders 10 inches (254 mm) for use with standard battens.

H. Hip and Ridge:

**** NOTE TO SPECIFIER **** Select to match profile of concrete roof tile.

1. Figaroll Plus: Ridge vent and weather block, for all profiles.
2. Zephyr Roll: Ridge vent and weather block, 11 inches by 33 feet (279 by 10 m). For flat tiles.
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 by 10 m). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.

I. Ridge, Rake and Gable End Tiles:

1. Choose to match tile profile and color.

**** NOTE TO SPECIFIER **** The following two paragraphs apply to Standard Weight Westlake Royal Roofing Madera and Lightweight Cedarlite tile only.

2. Metal Rake Trim.
3. Gable End Rubber Wedges.

J. Field Venting: Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER **** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Rocky Mountain Region, Denver Plant,

10121 Dallas Street, Henderson, CO 80640. Tel: 303-286-3856. Select the Weight and the Profile required and delete those not required.

2.11 CONCRETE ROOF TILE - ROCKY MOUNTAIN, HEARTLAND

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 900 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.

A. Standard Weight Tile: Barcelona 900 profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 17 inches (432 mm) by 12-3/8 inches (314 mm), nominal.
3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Boosted Barcelona 900 profile.

**** NOTE TO SPECIFIER **** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.

1. Size: 13-1/2 inches (343 mm) by 6-1/2 inches (165 mm), nominal.
2. Coverage: 10 percent application, 20 percent application, 30 percent application.
3. Installed Weight per Square Including Field Tile: 10 percent application, 945 lbs. (429 kg), 20 percent application, 990 lbs. (449 kg), 30 percent application, 1,050 lbs. (476 kg).
4. Color: As selected by the Architect.

C. Standard Weight Tile: Villa 900 profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
5. Color: As selected by the Architect.

D. Standard Weight Tile: Saxony Slate profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 960 lbs. (436 kg).
5. Color: As selected by the Architect.

E. Standard Weight Tile: Saxony Slate Impact profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1000 lbs. (454 kg).
5. Color: As selected by the Architect.

F. Standard Weight Tile: Saxony Shake profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 960 lbs. (435 kg).
5. Color: As selected by the Architect.

- G. Standard Weight Tile: Saxony Split Old English Thatch profile.
1. Finishing Tile: Provide Ridge Angled, Rake Angled, and Hip Starter Angled tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 88 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 960 lbs. (435 kg).
 5. Color: As selected by the Architect.
- H. Standard Weight Tile: Madera 900 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 950 lbs. (431 kg).
 5. Color: 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.

2.12 ROOF SYSTEM COMPONENTS - ROCKY MOUNTAIN, HEARTLAND

**** 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 Ply 40 Underlayment.
 3. Westlake Royal ORG Ply40 Underlayment.
 4. SwiftGuard Engineered Synthetic Underlayment
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.

**** NOTE TO SPECIFIER **** Select to match profile of chosen concrete roof tile. Contact Westlake Royal Roofing for storm clip recommendations.

- C. Wind Clips:
1. Zip-Clip, Adjustable Tile Clip.
 2. Wind Clips, galvanized.

**** 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.

- D. Flashings:
1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.
 5. Plumbing Stacks and Other Pipes Penetrating Roof: Wakaflex Pipe Flashing.

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

- E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required.

- F. Eave Closures:
1. Vented Eave Riser - Metal.
 2. Eave Riser - Metal.

G. Battens:

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

1. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 8 feet (2.44 m).
2. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m).
3. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m).
4. FirePro Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 4 feet (1.22 m). Fire Retardant Treated.
5. FirePro Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m). Fire Retardant Treated.
6. Batten Extenders 10 inches (254 mm) for use with standard battens at tile pans.
7. Batten Extenders 18 inches (457 mm) for use with standard battens at valleys.

H. Hip and Ridge:

**** NOTE TO SPECIFIER **** Select to match profile of concrete roof tile.

1. Figaroll Plus: Ridge vent and weather block for all profiles.
2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll

I. Ridge, Rake and Gable End Tiles:

1. Choose to match tile profile and color.

J. Field Venting: Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER **** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Southern California Region, Rialto Plant. Select the Weight and Profile of the Concrete Roof Tile and the Accessory Materials required for the project and delete those not required.

2.13 CONCRETE ROOF TILE - SOUTHERN CALIFORNIA

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 900 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.

A. Standard Weight Tile: Barcelona 900 profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3 tiles.
2. Size: 17 inches (432 mm) by 12-3/8 inches (314 mm), nominal.
3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Boosted Barcelona 900 profile.

**** NOTE TO SPECIFIER **** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.

1. Size: 13-1/2 inches (343 mm) by 6-1/2 inches (165 mm), nominal.
2. Coverage: 10 percent application, 20 percent application, 30 percent application.
3. Installed Weight per Square Including Field Tile: 10 percent application, 945 lbs. (429 kg), 20 percent application, 990 lbs. (449 kg), 30 percent application, 1,050 lbs. (476 kg).
4. Color: As selected by the Architect.

C. Standard Weight Tile: Villa 900 profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
 5. Color: As selected by the Architect.
- D. Standard Weight Tile: Saxony 900 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 930 lbs. (422 kg).
 5. Color: As selected by the Architect.
- E. Standard Weight Tile: Saxony 900 Hartford Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 930 lbs. (422 kg).
 5. Color: As selected by the Architect.
- F. Standard Weight Tile: Saxony 900 Country Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 or 4-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 930 lbs. (422 kg).
 5. Color: As selected by the Architect.
- G. Standard Weight Tile: Saxony 900 Split Old English Thatch profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 930 lbs. (422 kg).
 5. Color: As selected by the Architect.
- H. Standard Weight Tile: Saxony 900 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 930 lbs. (422 kg).
 5. Color: As selected by the Architect.
- I. Standard Weight Tile: Madera 900 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 950 lbs. (431 kg).
 5. Color: As selected by the Architect.

**** NOTE TO SPECIFIER ** Lightweight tiles weigh no more than 600 lbs./square and are not recommended for use in areas with severe winter weather. Delete all but one of the following tile profiles. If more than one is required, indicate where each is to be used on the Drawings or Specifications.**

- J. Lightweight Tile: Cedarlite 600 profile.

1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.
- K. Lightweight Tile: Duralite Espana 600 profile.
1. Finishing Tile: Provide Capri Trim, Hip Starter Capri, and Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 12-3/8 inches (314 mm), nominal.
 3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 590 lbs. (268 kg).
 5. Color: As selected by the Architect.
- L. Lightweight Tile: Duralite Villa 600 profile.
1. Finishing Tile: Provide Capri Trim, Hip Starter Capri, and Apex 3-Way tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 580 lbs. (263 kg).
 5. Color: As selected by the Architect.
- M. Lightweight Tile: Duralite Saxony 600 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (259 kg).
 5. Color: As selected by the Architect.
- N. Lightweight Tile: Duralite Saxony 600 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (259 kg).
 5. Color: As selected by the Architect.
- O. Lightweight Tile: Duralite Saxony 600 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 570 lbs. (259 kg).
 5. Color: As selected by the Architect.
- P. Lightweight Tile: Duralite Saxony 700 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: As selected by the Architect.
- Q. Lightweight Tile: Duralite Saxony 700 Split Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.

4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: As selected by the Architect.
- R. Lightweight Tile: Duralite Saxony 700 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 720 lbs. (327 kg).
 5. Color: 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.

2.14 ROOF SYSTEM COMPONENTS - SOUTHERN CALIFORNIA

**** 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. Westlake Royal Ply 40 Underlayment.
 4. Westlake Royal ORG Ply40 Underlayment.
 5. SwiftGuard Engineered Synthetic Underlayment
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.
1. Quik Drive Screws, Roofing Specific.

**** NOTE TO SPECIFIER **** Select to match profile of chosen concrete roof tile. Contact Westlake Royal Roofing for storm clip recommendations.

- C. Wind Clips:
1. Zip-Clip, Adjustable Tile Clip.

**** 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.

- D. Flashings:
1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.
 5. Plumbing Stacks and Other Pipes Penetrating Roof: Wakaflex Pipe Flashing.

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

- E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required. Eave Closures apply to Standard Weight Westlake Royal Roofing Madera and Lightweight Cedarlite tile only; delete if not required.

- F. Eave Closures: Provide to match tile profile.
1. Vented Eave Riser - Metal.
 2. Eave Riser - Metal.
 3. Eave Closure "T" - Metal.

G. Battens:

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

1. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m) pressure treated.
2. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m).
3. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 8 feet (2.44 m).
4. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 4 feet (1.22 m). Fire Retardant Treated.
5. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m). Fire Retardant Treated
6. FirePro Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 4 feet (1.22 m). Fire Retardant Treated.
7. FirePro Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m). Fire Retardant Treated.
8. Batten Extenders 18 inches (457 mm) for use with standard battens.

H. Hip and Ridge:

**** NOTE TO SPECIFIER **** Select to match profile of concrete roof tile.

1. Figaroll Plus: Ridge vent and weather block for all profiles.
2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.

I. Ridge, Rake and Gable End Tiles:

1. Choose to match tile profile and color.

**** NOTE TO SPECIFIER **** The following two paragraphs apply to Standard Weight Westlake Royal Roofing Madera, Cedarlite and Saxony tiles only.

2. Metal Rake Trim.
3. Gable End Rubber Wedges.

J. Field Venting: Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER **** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Southern Nevada Region, Henderson Plant. Select the Weight and the Profile required and delete those not required.

2.15 CONCRETE ROOF TILE - SOUTHERN NEVADA

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 900 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 Specifications.

A. Standard Weight Tile: Barcelona profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Boosted Barcelona profile.

**** NOTE TO SPECIFIER **** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.

1. Size: 13-1/2 inches (343 mm) by 6-1/2 inches (165 mm), nominal.

2. Coverage: 10 percent application, 20 percent application, 30 percent application.
 3. Installed Weight per Square Including Field Tile: 10 percent application, 945 lbs. (429 kg), 20 percent application, 990 lbs (449 kg), 30 percent application, 1,050 lbs. (476 kg).
 4. Color: As selected by the Architect.
- C. Standard Weight Tile: Saxony 900 Slate profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (413 kg).
 5. Color: As selected by the Architect.
- D. Standard Weight Tile: Saxony 900 Shake profile.
1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
 2. Size: 17 inches (432 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 85 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight per Square: Approximately 910 lbs. (414 kg).
 5. Color: As selected by the Architect.
- E. Standard Weight Tile: Madera 900 profile.
1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
 2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
 3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.
 4. Installed Weight: Approximately 950 lbs. (431 kg).
 5. Color: 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.**

2.16 ROOF SYSTEM COMPONENTS - SOUTHERN NEVADA

- A. Underlayment:
1. Westlake Royal TileSeal HT Self-Adhering Underlayment.
 2. Westlake Royal Ply 40 Underlayment.
 3. Westlake Royal ORG Ply40 Underlayment.
 4. SwiftGuard Engineered Synthetic Underlayment
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.

**** NOTE TO SPECIFIER ** Select to match profile of chosen concrete roof tile.**

- C. Wind Clips:
1. Wind Clips, Galvanized.

**** 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.**

- D. Flashings:
1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls, and other rising structures.
 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.

5. Plumbing Stacks and Other Pipes Penetrating Roof: Wakaflex Pipe Flashing.

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

E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required. Eave Closures apply to Standard Weight Westlake Royal Roofing Madera tile only; delete if not required.

F. Eave Closures: Provide to match tile profile.

1. Vented Eave Riser - Metal.
2. Eave Riser - Metal.

G. Battens:

1. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 8 feet (2.44 m).
2. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m).
3. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m).
4. FirePro Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 4 feet (1.22 m). Fire Retardant Treated.
5. FirePro Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m). Fire Retardant Treated.
6. Batten Extenders 10 inches (254 mm) for use with standard battens at tile pans.
7. Batten Extenders 18 inches (457 mm) for use with standard battens at valleys.

H. Hip and Ridge:

**** NOTE TO SPECIFIER **** Select to match profile of concrete roof tile.

1. Figaroll Plus: Ridge vent and weather block for all profiles.
2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.

I. Ridge, Rake and Gable End Tiles:

1. Choose to match tile profile and color.

J. Field Venting: Select to match profile of concrete roof tile.

**** NOTE TO SPECIFIER **** The following Concrete Roof Tile and Roof System Components paragraphs represents the products available in Westlake Royal Roofing's Texas Region, Katy Plant. Select the Weight and the Profile required and delete those not required.

2.17 CONCRETE ROOF TILE - TEXAS

**** NOTE TO SPECIFIER **** Standard weight tiles weigh 900 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 Specifications.

A. Standard Weight Tile: Tejas Espana profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 87 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
5. Color: As selected by the Architect.

B. Standard Weight Tile: Barcelona Impact profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3-Way tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.

3. Coverage: 89 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1030 lbs. (467 kg).
5. Color: As selected by the Architect.

C. Standard Weight Tile: Boosted Barcelona profile.

**** NOTE TO SPECIFIER ** Boosted Barcelona is an application of Barcelona which, when added to Barcelona field tile, creates the appearance of a mortar-boosted tile.**

1. Size: 13-1/2 inches (343 mm) by 6-1/2 inches (165 mm), nominal.
2. Coverage: 10 percent application, 20 percent application, 30 percent application.
3. Installed Weight per Square Including Field Tile: 10 percent application, 945 lbs. (429 kg), 20 percent application, 990 lbs. (449 kg), 30 percent application, 1,050 lbs. (476 kg).
4. Color: As selected by the Architect.

D. Standard Weight Tile: Villa profile.

1. Finishing Tile: Provide Capri Trim, Hip Starter and Capri Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 90 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 900 lbs. (408 kg).
5. Color: As selected by the Architect.

E. Standard Weight Tile: Saxony Shake profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 92 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1030 lbs. (467 kg).
5. Color: As selected by the Architect.

F. Standard Weight Tile: Saxony Country Slate profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 92 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1030 lbs. (467 kg).
5. Color: As selected by the Architect.

G. Standard Weight Tile: Saxony Country Slate Impact profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3 tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 92 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1080 lbs. (490 kg).
5. Color: As selected by the Architect.

H. Standard Weight Tile: Saxony Country Split Shake profile.

1. Finishing Tile: Provide 90-degree Rake, 3-Sided Ridge, 3-Sided Hip Starter and Apex 3y tiles.
2. Size: 16-1/2 inches (419 mm) by 13 inches (330 mm), nominal.
3. Coverage: 92 field tiles per 100 square feet (9.29 sq m) of roof area.
4. Installed Weight per Square: Approximately 1030 lbs. (467 kg).
5. Color: As selected by the Architect.

I. Standard Weight Tile: Madera 900 profile.

1. Finishing Tile: Provide Rake, V Ridge and Tapered Eave Starter tiles.
2. Size: 13-1/2 inches (343 mm) by 13 inches (330 mm), nominal.
3. Coverage: 120 field tiles per 100 square feet (9.29 sq m) of roof area.

4. Installed Weight: Approximately 935 lbs. (424 kg).
5. Color: 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.

2.18 ROOF SYSTEM COMPONENTS - TEXAS

**** 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 Ply40 Underlayment.
 5. Westlake Royal ORG Ply40 Underlayment.
 6. SwiftGuard Engineered Synthetic Underlayment.
- B. Fasteners: Sized to penetrate deck minimum 3/4 inch (19 mm) or through thickness of deck or batten.
1. Quik Drive Screws, Roofing Specific.

**** NOTE TO SPECIFIER **** Select to match profile of chosen concrete roof tile. Contact Westlake Royal Roofing for storm clip recommendations.

- C. Wind Clips:
1. Zip-Clip, Adjustable Tile Clip.
 2. Wind Clips, Galvanized.

**** 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.

- D. Flashings:
1. Ribbed Tile Pan, 26-gauge Galvanized Sheet Steel side wall flashing.
 2. Wakaflex universal flashing for abutments at chimneys, walls and other rising structures.
 3. Terminal Bar metal flashing for chimneys and other roof to wall structures.
 4. Ribbed Valley Metal 1 inch Center Diverter, 26-gauge, Galvanized Sheet Steel.
 5. Plumbing Stacks and Other Pipes Penetrating Roof: Wakaflex Pipe Flashing.

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

- E. Adhesive: Code approved adhesive suitable to bond to concrete roof tile.

**** NOTE TO SPECIFIER **** Select the eave closure required from the following paragraphs and delete those not required. The first two paragraphs apply to Standard Weight Westlake Royal Roofing Madera and Lightweight Cedarlite tile only; delete if not required.

- F. Eave Closures: Provide to match tile profile.
1. Vented Eave Riser - Metal.
 2. Eave Riser - Metal.
 3. Eave Closure "T" - Metal. For flat tiles only.

- G. Battens:

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

1. Elevated Batten System 1 inch (25 mm) by 3 inches (76 mm) by 8 feet (2.44 m).
2. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 8 feet (2.44 m).

3. Elevated Batten System 1 inch (25 mm) by 2 inches (51 mm) by 4 feet (1.22 m).
4. Batten Extenders 18 inches (457 mm) for use with standard battens.

H. Hip and Ridge:

**** NOTE TO SPECIFIER ** Select to match profile of concrete roof tile.**

1. Figaroll Plus: Ridge vent and weather block for all profiles.
2. Zephyr Roll: Ridge vent and weather block flat tiles, 11 inches by 33 feet (279 mm by 10 M).
3. Zephyr Roll: Ridge vent and weather block, 13.4 inches by 33 feet (340 mm by 10 M). For medium and high-profile tiles.
4. Ridge Riser: Elevates ridge board to proper height. For all profiles. For use with Figaroll Plus or Zephyr Roll.

I. Ridge, Rake and Gable End Tiles:

1. Choose to match tile profile and color.

**** NOTE TO SPECIFIER ** The following paragraph apply to Standard Weight Westlake Royal Roofing Madera and Lightweight Cedarlite tile only.**

2. Gable End Rubber Wedges.

J. Field Venting: Select to match profile of concrete roof tile.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify surfaces are uniform, 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 ER-2015 - TRI Concrete and Clay Roof Tile Installation Manual - 2015 (TRI Installation Manual). TRI/WSRCA Standard Installation Guides for Concrete and Clay Roof Tile in Cold Weather Applications.
 2. FRSA/TRI Concrete and Clay Roof Tile Installation Manual Sixth Edition (For Florida Applications).
 3. CAN/CSA-A220.1-Series-06 - Concrete Roof Tiles.

3.4 UNDERLAYMENT APPLICATION:

- A. Underlayment: Install in accordance with the manufacturer's instructions and TRI Installation Manual.
- B. Install ridge vents; follow vent manufacturer's installation recommendations and TRI

Installation Manual.

3.5 FLASHING INSTALLATION

- A. Install flashings to shed water and prevent water penetration under tiles.
- B. Valleys: Install preformed metal flashing over underlayment.
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- C. Side Wall Flashing:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- D. Counter Flashing:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.

**** NOTE TO SPECIFIER **** Select one of the following two paragraphs and delete the paragraph not required. Select the first paragraph when using standard wood battens fastened directly to the roof deck. Delete the paragraph not required.

- E. Install batten extenders to support tile over flashing.
- F. Install tiles so as not to inhibit water flow on flashings.
- G. Head and Apron Flashing:
 - 1. Follow vent manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.

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

- H. Flashing at Curb Mounted Skylights and Other Items:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- I. Flashing at Plumbing Stacks, Pipes, Turbines, Vents, etc.:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
 - 3. Apply color coordinated paint to all exposed metal flashings.
- J. Coatings: Apply color coordinated paint to all exposed metal flashings.

3.6 BATTEN INSTALLATION

**** NOTE TO SPECIFIER **** Battens are optional on roof pitches between 4:12 and 7:12.

- A. Install battens in accordance with the manufacturer's installation recommendations and TRI.

3.7 TILE INSTALLATION

- A. Layout:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- B. Wind clips:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.

- C. Hips: Use prefabricated hip starter.
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- D. Hips and Ridges, mechanically fastened:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- E. Rakes and Gables:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.

3.8 CLEANING

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

3.9 REPAIR AND REPLACEMENT

- A. Damaged Tile:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.
- B. Damaged Small Valley and Hip Cuts:
 - 1. Follow manufacturer's installation recommendations.
 - 2. Follow TRI Installation Manual.

3.10 PROTECTION

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

END OF SECTION

PRODUCT MSDS

Date Prepared: 07/19/2022

Supersedes Date: 07/31/2018 Version 1.1

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Names: Concrete Roof Tile

1.1 INTENDED USE OF THE PRODUCT BUILDING MATERIALS Building Material

1.2 NAME, ADDRESS AND TELEPHONE NUMBER OF THE RESPONSIBLE PARTY

WESTLAKE ROYAL ROOFING LLC

2801 Post Oak, Suite 600, Houston, Texas 77056 | Ph:1-855-769-2585

1.3 EMERGENCY TELEPHONE NUMBER: 1-800-822-7529

SECTION 2: HAZARD (S) IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE (GHS-US)

This product is an article as defined in the OSHA Hazard Communication Standard [29 CFR 1910.1200(c)] and, therefore, is exempt from regulatory requirements when handled as a manufactured item. This SDS contains additional health hazard information related to dust generation during construction.

2.1 HAZARD CLASSIFICATION (GHS-US)

Skin Irritation 2

Eye Irritation 2 B

STOT-SE (Single Exposure) 3 (Respiratory Irritation)

STOT-RE (Repeated Exposure) 2 (Respiratory Illness)

Carcinogen 1A

2.2 LABEL ELEMENTS (GHS-US)

Hazard Pictograms:



Signal Word:

- Danger

Hazard Statements:

- Causes skin irritation (H316)
- Causes eye irritation (H320)
- May cause respiratory irritation (H335)
- May cause cancer (H350)
- May cause damage to respiratory system through prolonged or repeated exposure (H373)

Precautionary and Response Statements:

- Do not handle until all safety precautions have been read and understood (P202)
- Avoid breathing dust; in case of inadequate ventilation, wear respiratory protection (P261) (P284)
- Cut/grind/chip product in a well-ventilated area or use a wet saw (P271)
- Wear protective gloves, protective clothing, and eye protection (P280)
- IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing (P304) (P340)
- IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing until pain or irritation subsides. (P305) (P351) (P338)
- If symptoms persist: Get medical advice/attention (P313)

2.3 OTHER HAZARDS

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4 CALIFORNIA PROPOSITION 65:  **WARNING:** Cancer and Reproductive Harm— www.P65Warnings.ca.gov**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1 DESCRIPTION OF PRODUCT** Concrete matrix article.**3.2 PRODUCT INGREDIENTS AND HAZARD CLASSIFICATION**

Substances and hazard classification based on dust composition.

Ingredient	Product Identifier (CAS No.)	% (w/w)	Hazard Classification (GHS-US)
Quartz	14808-60-7	40 - 60	<ul style="list-style-type: none"> • Carcinogenicity 1A, H350 • STOT 2 (Respiratory), H373
Portland cement (cured)	65997-15-1	20 - 40	<ul style="list-style-type: none"> • Skin Irritation 2, H316 • Eye Irritation 2B, H320 • STOT 3 (Respiratory), H335
Limestone	1317-65-3	< 30	<ul style="list-style-type: none"> • Skin Irritation 2, H316 • Eye Irritation 2B, H320 • STOT 3 (Respiratory), H335
Amorphous silica	7631-86-9	< 4	<ul style="list-style-type: none"> • Not classified
Iron oxide	1309-37-1	≤ 3	<ul style="list-style-type: none"> • Not classified

Note: This product contains additional not classified substances at low concentrations that do not contribute to the hazards of this product.

SECTION 4: FIRST AID MEASURES**4.1 DESCRIPTION OF FIRST AID MEASURES**

General: Never give anything by mouth to an unconscious person. Any person who is experiencing symptoms of injury or illness should be moved to a comfortable area with fresh air, and the label or SDS for this product reviewed.

Inhalation: If symptoms of dust exposure (respiratory irritation) occur, move the person to fresh air. Provide drinking water, if conscious, to flush mouth and irrigate upper respiratory tract. Seek medical attention for discomfort or if coughing or other symptoms do not subside.

Eye Contact: If injury is due to a projectile, seek immediate medical attention. If the person's symptom is eye irritation due to dust exposure, careful flushing with clean water should continue for at least 15 minutes. If contact lenses are present, they should be removed after flushing. Flushing should continue until irritation subsides. Medical attention should be obtained if irritation persists.

Skin: Injuries to skin due to abrasion, laceration, or crushing should be treated by flushing with clean water, followed by first aid (application of disinfectant and bandage). If the injury is more extensive or irritation and pain persists, medical attention should be sought.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS—BOTH ACUTE AND DELAYED

General: The most important symptoms and effects from exposure to this product's dust is respiratory irritation and respiratory system chronic illness if significant exposures occur repeatedly.

Inhalation: The immediate acute response to dust inhalation is respiratory system irritation. Upon repeated high levels of dust exposure, crystalline silica content of the dust may cause delayed or chronic respiratory illnesses, including silicosis and cancer.

Eye Contact: Exposures of the eyes to particles and dust may result in irritation, pain, redness, and blurred vision, which is usually temporary.

Skin Contact: Other than abrasion and irritation, skin contact should not cause delayed or chronic symptoms.

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

Anytime symptoms of eye irritation or respiratory irritation persist, medical attention should be obtained.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Finished product is not combustible.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Fire Hazard: Not combustible.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions are not expected to occur under normal conditions.

5.3 ADVICE FOR FIRE FIGHTERS

Not applicable.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing.

6.1.1. FOR NON-EMERGENCY PERSONNEL

Protective Equipment: Use appropriate personal protective equipment (PPE) during clean-up.

Emergency Procedures: Not applicable.

6.1.2. FOR EMERGENCY PERSONNEL

Protective Equipment: Equip clean-up crew with proper protection.

Emergency Procedures: Ventilate area or use wet methods if dust is generated.

6.2 ENVIRONMENTAL PRECAUTIONS

Reuse product as appropriate to avoid disposal.

6.3 METHOD AND MATERIAL FOR CONTAINMENT AND CLEAN-UP

Containment: Contain and collect as any solid. Avoid actions that cause dust to become airborne. Do not breathe dust, and do not allow large quantities of dust to contact skin.

6.4 REFERENCE TO OTHER SECTIONS See Section 8.

Exposure Controls and Personal Protection. For further information, refer to Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Additional Hazards when Processed: Cutting, crushing, or grinding crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression and Personal Protective Equipment (PPE) described in Section 8.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking, and again when leaving work.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Not applicable.

7.3 SPECIFIC END-USE(S)

No applicable limits.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 EXPOSURE LIMITS

The following exposure limits are based on a time-weighted full-shift exposure, unless otherwise noted.

Ingredient	OSHA PEL ⁽¹⁾	ACGIH-TLV ⁽²⁾	Other ⁽³⁾
Quartz (crystalline silica) ⁽⁴⁾	50 µg/m ³ [0.05 mg/m ³ (respirable fraction)]	0.025 mg/m ³ (respirable fraction)	0.05 mg/m ³ (respirable fraction)
Portland cement	15 mg/m ³ (total dust); 5 mg/m ³ (respirable fraction)	1 mg/m ³ (respirable fraction containing no asbestos and < 1% crystalline silica)	10 mg/m ³ (total dust); 5 mg/m ³ (respirable fraction)
Limestone	15 mg/m ³ (total dust); 5 mg/m ³ (respirable fraction)	10 mg/m ³ (total dust); 3 mg/m ³ (respirable fraction)	0.05 mg/m ³ (respirable fraction)
Iron oxide	Fume: 10 mg/m ³ (total dust); Particulate: 15 mg/m ³ (total dust); 5 mg/m ³ (respirable fraction)	5 mg/m ³ (respirable fraction)	5 mg/m ³ (total dust)
Amorphous silica	80 mg/m ³ ÷ %SiO ₂	10 mg/m ³ (total dust); 3 mg/m ³ (respirable fraction)	6 mg/m ³ (total dust)

f_n⁽¹⁾ OSHA PEL (Permissible Exposure Levels at 29 CFR1910.1000)

f_n⁽²⁾ ACGIH-TLV (American Conference of Governmental Industrial Hygienists-Threshold Limit Values 2018)

f_n⁽³⁾ NIOSH REL (National Institute for Occupational Safety & Health Recommended Exposure Limit)

f_n⁽⁴⁾ Amount of respirable crystalline silica not determined.

8.2 EXPOSURE CONTROLS

Appropriate Engineering Controls: Power equipment should be equipped with wet dust suppression or dust collection devices if cutting/grinding/chipping product. Emergency eyewash equipment should be available in the immediate vicinity of any potential exposure. Use local exhaust or general dilution ventilation, or other suppression methods to maintain dust levels below exposure limits. Reference: OSHA Respirable Crystalline Silica Standard for Construction [29 CFR 1926.1153].

Personal Protective Equipment: Protective goggles or safety glasses, and gloves. Wear respiratory protection if dust is present when cutting/grinding/chipping product in accordance with the OSHA Respiratory Protection Standard [29 CFR 1910.134].



Hand Protection: Protective gloves as appropriate to prevent abrasion and hand injuries.

Eye and/or Face Protection: Approved safety glasses, goggles, and/or face-shield.

Skin and Body Protection: Appropriate work clothing and footwear should be worn.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH-approved respiratory protection should be worn in accordance with the OSHA Respiratory Protection Standard [29 CFR 1910.143].

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid.

Appearance: Solid. Tiles come in a wide range of colors.

Odor: Essentially odorless.

Odor Threshold: Not applicable.

pH: Not applicable. **Evaporation Rate:** Not applicable.

Melting Point: No data.

Freezing Point: Not applicable.

Boiling Point: Not applicable.

Flash point: Not applicable.

Auto-Ignition Temperature: Not applicable.

Decomposition Temperature: Not applicable.

Flammability (solid, gas): Not applicable.

Lower Flammable Limit: Not applicable.

Upper Flammable Limit: Not applicable.

Vapor Pressure: Not applicable.

Relative Vapor Density at 20°C: Not applicable.

Relative Density: Not applicable.

Specific Gravity: 2.6

Solubility: Negligible in water.

Partition Coefficient—N-Octanol/Water: Not applicable.

Viscosity: Not applicable.

Explosion Data—Sensitivity to Mechanical Impact: Not applicable.

Explosion Data—Sensitivity to Static Discharge: Not applicable.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY Hazardous reactions are not expected to occur under normal conditions.

10.2 CHEMICAL STABILITY Stable.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS Not applicable.

10.4 CONDITIONS TO AVOID Not applicable.

10.5 INCOMPATIBLE MATERIALS Not applicable.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 LIKELY ROUTES OF EXPOSURE

Skin Contact: Product is abrasive and may irritate unprotected skin.

Eye Contact: When product is shaped or cut, chips or dust may enter unprotected eyes and cause injury or irritation.

Inhalation: When product is shaped or cut, respirable dust may be generated that, when inhaled, can cause respiratory system irritation. Prolonged or repeated inhalation exposure may cause chronic illness.

Ingestion: Not expected to be an exposure route of concern.

11.2 SYMPTOMS RELATED TO PHYSICAL, CHEMICAL, AND TOXICOLOGICAL CHARACTERISTICS

Immediate Effects: Irritation of skin, eyes, and respiratory tract due to abrasion or dust inhalation will produce immediate discomfort, and first aid provided.

Delayed and Chronic Effects: Inhalation of dust on a prolonged or repeated basis may result in chronic lung disease or silicosis and may also result in lung cancer.

11.3 NUMERICAL MEASURES OF TOXICITY

The acute and chronic effects of exposure to this product's fumes/dust have not been quantified.

11.4 CARCINOGENICITY

The ingredient quartz, also known as crystalline silica, has been determined to be carcinogenic by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP).

SECTION 12: ECOLOGICAL INFORMATION

- 12.1 TOXICITY** No additional information available.
- 12.2 PERSISTENCE AND DEGRADABILITY** Not available.
- 12.3 BIO ACCUMULATIVE POTENTIAL** Not available.
- 12.4 MOBILITY IN SOIL** Not available.
- 12.5 OTHER ADVERS EEEFFECTS** Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Waste Disposal Recommendations: Scrap material should be re-used or recycled. Waste is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) (40 CFR 261). Dispose of waste material in accordance with all local, regional, national, provincial, territorial, and international regulations.

SECTION 14: TRANSPORT INFORMATION

- 14.1 IN ACCORDANCE WITH DOT** Not regulated for transport.
- 14.2 IN ACCORDANCE WITH IMDG** Not regulated for transport.
- 14.3 IN ACCORDANCE WITH IATA** Not regulated for transport.
- 14.4 IN ACCORDANCE WITH TDG** Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

15.1 U.S. FEDERAL REGULATIONS

SARA Section 311/312 Hazard Classes

Exempt article [40 CFR 370.13(b)].

SARA Section 313 Emission Reporting

This product may contain constituents listed under SARA (Title III) Section 313, but not in amounts requiring supplier notification under 40 CFR Part 372, Subpart C.

TSCA Inventory

All constituents are included on the Toxic Substances Control Act Chemical Inventory (40 CFR 720).

15.2 U.S. STATE REGULATIONS

State Right-to-Know Laws

This product, as an article, is exempt from hazardous substance inventory reporting under the Massachusetts, New Jersey, and Pennsylvania right-to-know laws.

California Proposition 65—Warning Required

Refer to Section 2.4.

15.3 CANADIAN REGULATIONS

DSL

All ingredients are listed or exempt from inclusion on the Canadian Domestic Substances List (DSL).

WHMIS

Class D, Division 2, Subdivision A – Material causing other toxic effects. Very Toxic—Chronic.



This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all information required by the CPR.

15.4 OTHER: HMIS AND NFPA

HMIS:

HEALTH	* 2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA:



SECTION 16: OTHER INFORMATION

Party Responsible for Preparation of this Document

Westlake Royal Roofing LLC
 1-855-769-2585 | (949) 585-8200

Limitations

The information and recommendations set forth herein are based on data we have in our possession, and we have reason to believe is accurate. It is, however, the user's responsibility to determine the safety, toxicity, or suitability for his/her own use of the herein described product. Because the actions by others is beyond our control, Westlake Royal Roofing LLC makes no warranty expressed or implied regarding accuracy of the data or the results to be obtained from the use thereof.

INSTALLATION TECH MEMO

Technical Bulletin

FASTENING OF BATTENS AND COUNTERBATTEN SYSTEMS

Issued: January, 2001

Revision: March, 2022

In most climates and conditions, the code prescribed, minimum requirements are adequate for the attachment of battens to the roof deck. There are however, a number of circumstances that warrant more attention to how and where the battens are attached depending on how much weight and stress they will be subjected to. Steep sloped roofs where the battens will be used to support foot traffic during the roof installation will generally require better attachment than lower slope roofs. Likewise, roofs that are fitted with certain types of snow retention devices may require enhanced fastening depending on roof slope and expected snow loads.

The simplest method used to increase uplift or withdrawal resistance is to fasten the battens through the sheathing and into the rafters. In most cases, an 8d or 10d nail will provide adequate attachment although, in severe circumstances such as steep slope combined with snow load, double fasteners or screws may be required.

Rafters should be spotted prior to underlayment application to ensure proper fastener penetration. This can be done simply by marking the underlayment as each course is installed by crayon or roofing nail over the rafter. Once the underlayment is installed the battens or vertical strapping may be fastened securely to the rafters.

Another method that may be used when the counterbatten system is employed is to attach the vertical strips over the rafters prior to the underlayment. With this system, it is recommended that special, tear-resistant underlayment be used to avoid damage from step-through during the tile application.

The fastening of battens to the rafters ensures a good, long-term attachment that will prevent tile slippage or roof leaks as the roof ages.

PRODUCT TEST REPORTS



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786)315-2590 F (786) 315-2599

www.miamidade.gov/economy

Westlake Royal Roofing LLC
7575 Irvine Center Drive #100
Irvine, California, USA 92816

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER -Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: TEJAS ESPAÑA

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews NOA# 22-0331.12 and consists of pages 1 through 7.
The submitted documentation was reviewed by Alex Tigera.

06/27/24



NOA No.: 24-0320.01
Expiration Date: 04/18/29
Approval Date: 06/27/24
Page 1 of 7

ROOFING ASSEMBLY APPROVAL

Category: Roofing
Sub-Category: Roofing Tiles
Material: Concrete

1. SCOPE

This approves a roofing system using **TEJAS ESPAÑA**, as manufactured by Westlake Royal Roofing LLC, as described in Section 2 of this Notice of Acceptance. For locations where the pressure requirements, as determined by applicable Building Code does not exceed the design pressure values obtained by calculations in compliance with RAS 127 using the values listed in section 4 herein. The attachment calculations shall be done as a moment based system.

2. PRODUCT DESCRIPTION

<u>Manufactured by Applicant</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
TEJAS ESPAÑA	L = 16.5” W = 13.” H = 3.63 ” Thickness: ”	TAS 112	High Profile “S” Type, interlocking, concrete tile equipped with two nail holes. For direct deck or battened nail-on, mortar or adhesive set applications.
Trim Pieces	L= varies W = varies Varying thickness	TAS 112	Accessory trim, concrete roof pieces for use at hips, rakes, ridges and valley terminations. Manufactured for each tile profile.

2.1 PRODUCTS MANUFACTURED BY OTHERS

<u>Product Name</u>	<u>Product Description</u>	<u>Manufacturer (With Current NOA)</u>
ICP Adhesives Polyset AH-160	Two component polyurethane foam adhesive.	ICP Adhesives and Sealants, Inc.
TILE BOND™ Roof Tile Adhesive	Single component polyurethane foam roof tile adhesive.	The Dow Chemical Company
“Tile Tite” Roof Tile Mortar	Premixed, pre-bagged roof tile mortar.	Bermuda Roof Co. Inc.
Bonsal Roof Tile Mortar	Premixed, pre-bagged roof tile mortar.	Bonsal American
“Quikrete” Roof Tile Mortar, FL-15	Premixed, pre-bagged gray roof tile mortar.	The Quikrete Companies, Inc.

2.2 MANUFACTURING LOCATION

1. Katy, Texas



2.3 SUBMITTED EVIDENCE:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Redland Technologies	7161-03 Appendix III	PA 102 & PA 102(A)	Dec. 1991
	Letter	PA 108 (Nail-On)	Aug. 1994
	P09647-01	PA 108 (Mortar Set)	July 1994
	P0402	Withdrawal Resistance Testing of screw vs. smooth shank nails	Sept. 1993
The Center for Applied Engineering, Inc.	94-083	PA 101 (Adhesive Set)	April 1994
	94-084	PA 101 (Mortar Set)	May 1994
	25-7094-(3, 6 & 9)	PA 102	Oct. 1994
	25-7120-(1 & 2)	PA 102	Nov. 1994
	25-7183-(3 & 4)	PA 102	Feb. 1995
	25-7214-(3, 4, &7)	PA 102	March, 1995
	25-7804-4	PA 102	Sep. 1996
Celotex Corporation Testing Services	520111-3	PA 101	Dec. 1998
	520191-2-1	PA 101	March 1999
Walker Engineering, Inc.	Calculations	25-7094	February 1996
	Calculations	25-7496	April 1996
	Calculations	25-7584	December 1996
	Calculations	25-7804b-8	December 1996
	Calculations	25-7804-4 & 5	December 1996
	Calculations	25-7848-6	December 1996
	Calculations	25-7183	March 1995
American Test Lab of South Florida	RT1023.02-18	TAS 112	January 17, 2019
		TAS 112	05/15/24
Walker Engineering, Inc.	Calculations	Restoring Moment Aerodynamic Multiplier	March 21, 2019



3. LIMITATIONS

- 3.1 Fire classification is not part of this acceptance.
- 3.2 For mortar or adhesive set tile applications, a static field uplift test shall be performed in accordance with TAS 106.
- 3.3 Applicant shall retain the services of a Miami-Dade County Certified Laboratory to perform quarterly test in accordance with TAS 112, appendix 'A'. Such testing shall be submitted to the Miami-Dade Product Control office for review.
- 3.4 Minimum underlayment shall be in compliance with the applicable Roofing Applications Standards listed section 4.1 herein.
- 3.5 30/90 hot mopped underlayment applications may be installed perpendicular to the roof slope unless stated otherwise by the underlayment material manufacturers published literature.
- 3.6 Minimum Slope 4/12 for mechanically attached tile.
- 3.7 This acceptance is for wood deck applications. Minimum deck requirements shall be in compliance with applicable building code.
- 3.8 All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.

4. INSTALLATION

- 4.1 **TEJAS ESPAÑA**, and its components shall be installed in strict compliance with Roofing Application Standard RAS 118, RAS 119, and RAS 120.
- 4.2 Data For Attachment Calculations

Table 1: Average Weight (W) and Dimensions (l x w)			
Tile Profile	Weight-W (lbf)	Length-l (ft.)	Width-w (ft.)
Tejas España	10.4	1.375	1.08

Table 2: Aerodynamic Multipliers - λ (ft ³)		
Tile Profile	λ (ft ³) Batten Application	λ (ft ³) Direct Deck Application
Tejas España	0.278	0.301

Table 3: Restoring Moments due to Gravity - M _g (ft.-lbf)												
Tile Profile	2":12"		3":12"		4":12"		5":12"		6":12"		7":12" or greater	
	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck	Battens	Direct Deck
Tejas España	N/A	7.14	N/A	7.08	6.38	6.98	6.26	6.85	6.11	6.69	5.95	6.52



**Table 4: Attachment Resistance Expressed as a Moment - M_r (ft.-lbf)
for Mechanically Attached Systems**

Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens
Tejas España	2-10d Ring Shank Nails	28.6	41.2	19.4
	1-10d Smooth or Screw Shank Nail	5.1	6.8	2.8
	2-10d Smooth or Screw Shank Nails	6.9	9.2	7.3
	1 #8 Screw	20.7	20.7	18.1
	2 #8 Screw	43.2	43.2	29.8
	1-10d Smooth or Screw Shank Nail (Field Clip)	23.1	23.1	19.0
	1-10d Smooth or Screw Shank Nail (Eave Clip)	29.3	29.3	24.0
	2-10d Smooth or Screw Shank Nails (Field Clip)	27.6	27.6	38.6
	2-10d Smooth or Screw Shank Nails (Eave Clip)	38.1	38.1	41.8

**Table 5: Attachment Resistance Expressed as a Moment - M_r (ft.-lbf)
for Mechanically Attached Systems**

Tile Profile	Fastener Type	Direct Deck (min 15/32" plywood)	Direct Deck (min. 19/32" plywood)	Battens
Tejas España	2-10d Ring Shank Nails ¹	33.1	48.1	45.2

¹ Installation with a 4" tile headlap and fasteners are located a min. of 2½" from head of tile.

**Table 6: Attachment Resistance Expressed as a Moment M_r (ft.-lbf)
for Two Paddy Adhesive Set Systems**

Tile Profile	Tile Application ²	Minimum Attachment Resistance
Tejas España	TILE BOND™ Roof Tile Adhesive	29.3 ³
	ICP Adhesives Polyset® AH-160	29.3 ⁴

² See manufactures component approval for installation requirements.

³ Medium paddy weight of 10.7 grams per paddy of TILE BOND™ Roof Tile Adhesive.

⁴ Medium paddy weight of 8 grams per paddy of Polyset® AH-160.

**Table 7: Attachment Resistance Expressed as a Moment - M_r (ft.-lbf)
for Single Paddy Adhesive Set Systems**

Tile Profile	Tile Application	Minimum Attachment Resistance
Tejas España	ICP Adhesives Polyset AH-160	66.5 ⁵
	ICP Adhesives Polyset AH-160	38.7 ⁶

⁵ Large paddy weight of 63 grams of Polyset® AH-160.

⁶ Medium paddy weight of 24 grams of Polyset® AH-160.

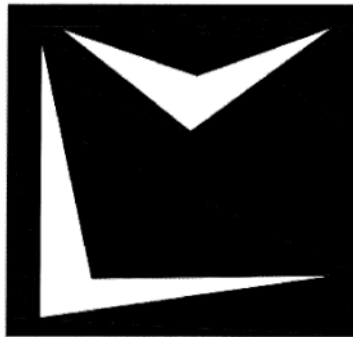


**Table 8: Attachment Resistance Expressed as a Moment - M_f (ft-lbf)
for Mortar Set Systems**

Tile Profile	Tile Application	Attachment Resistance
Tejas España	Mortar Set ⁷	24.5
7 See specific mortar manufacturers Notice of Acceptance		

5. LABELING

All tiles shall bear the imprint or identifiable marking of the manufacturer's name or logo (See Detail Below), or following statement: "Miami-Dade County Product Control Approved"



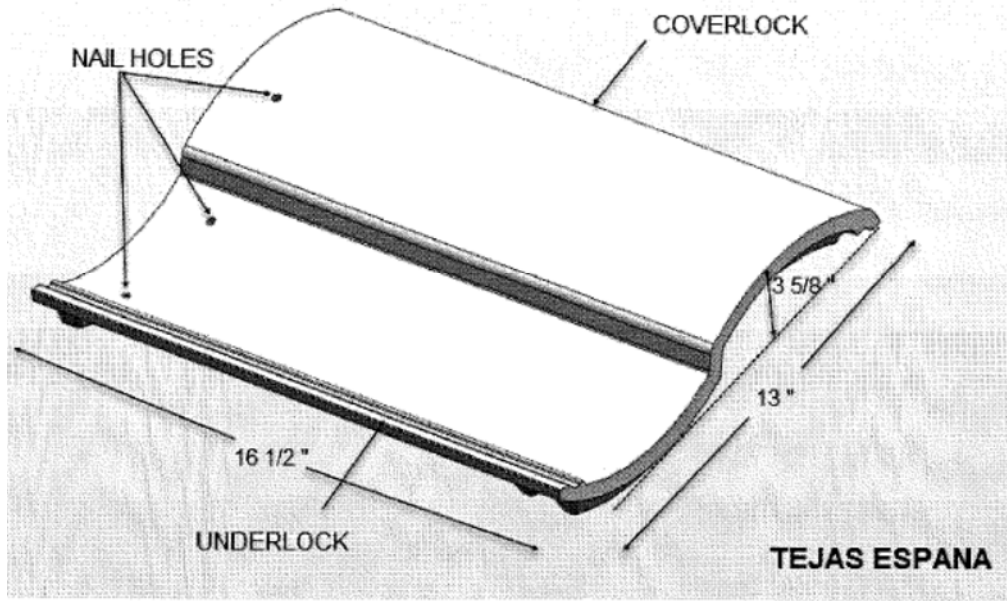
MONIER LOGO
(LOCATED ON UNDERSIDE OF TILE)

6. BUILDING PERMIT REQUIREMENTS:

- 6.1 Application for building permit shall be accompanied by copies of the following:
 - 6.1.1 This Notice of Acceptance.
 - 6.1.2 Any other documents required by Building Official or Applicable building code in order to properly evaluate the installation of this system.



PROFILE DRAWINGS



TEJAS ESPAÑA

END OF THIS ACCEPTANCE