PRI Evaluation Report

PRI ER 1378E04
Issue Date: 06/09/2021
Last Revision: 09/27/2022
This Report is Reviewed Annually
Visit: pri-group.com for current status.

Report Holder:

Westlake Royal Roofing LLC
7575 Irvine Center Drive, Suite 100
Irvine, CA 92618
(800) 658-8004
westlakeroyalroofing.com

SCOPE

Subject: Underlayments

Products:

Westlake Royal TileSeal® HT Underlayment
Westlake Royal MetalSeal® HT Underlayment
Westlake Royal GatorSeal® Underlayment
Westlake Royal Citadel® Plus Base Sheet

CSI MasterFormat®:

DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Sub-level 2: 07 30 00 – Steep Slope Roofing

Code References:

- 2018, 2015, and 2012 International Building Code® (IBC)
- 2018, 2015, and 2012 International Residential Code® (IRC)

Properties Evaluated:

- External Fire Exposure (ASTM E108, ANSI/UL790)
- Wind Resistance (ANSI/UL 1897)
- Physical Properties (ASTM D1970)
- Ice Barrier (ICC-ES AC48)
- Other (ICC-ES AC152)

Evidence Submitted:

- Recognized test report(s) indicating compliance with ASTM E108 and/or ANSI/UL790
- Recognized test report(s) indicating compliance with ANSI/UL 1897
- Recognized test report(s) indicating compliance with ASTM D1970
- Recognized test report(s) indicating compliance with ICC-ES AC152
- Recognized test report(s) indicating compliance with ICC-ES AC48
- Quality Documentation
- Manufacturer's Drawings and Installation Instructions

Manufacturing Locations:

Factory ID	Location
Private Label	Private Label

PRODUCT DESCRIPTIONS and APPLICATIONS

Product Descriptions:

Underlayments covered under this report are self-adhering modified bitumen membranes. They are ASTM D1970 underlayments and, where required, may also be used as an ice barrier as specified in the following code:

- 2018, 2015, and 2012 *IBC* Chapter 15
- 2018, 2015, and 2012 *IRC* Chapter 9

Product with Description:	Factory IDs:	Dimensions:
Westlake Royal TileSeal® HT Underlayment A self-adhered, premium high temperature, modified asphalt roofing underlayment with a woven polyester surface and a split release backing. It is supplied in rolls with a nominal coverage area of 2 squares.	Private Label	Length: 72 ft Width: 3 ft Thickness: 60 mils
Westlake Royal MetalSeal® HT Underlayment A self-adhered, premium high temperature, modified asphalt roofing underlayment with a woven polyester surface and a split release backing. It is supplied in rolls with a nominal coverage area of 2 squares.	Private Label	Length: 72 ft Width: 3 ft Thickness: 60 mils
Westlake Royal GatorSeal® Underlayment A self-adhered roof underlayment, reinforced with a fiberglass mat, with a granulated surface.	Private Label	Length: 65 ft Width: 3 ft Thickness: 46 mils
Westlake Royal Citadel Plus® Base Sheet A self-adhered base sheet, reinforced with a fiberglass mat, with a poly surface designed for use with Westlake Royal TileSeal, Westlake Royal MetalSeal, and Westlake Royal GatorSeal.	Private Label	Length: 72 ft Width: 3 ft Thickness: 47 mils

Fire Classification:

Underlayments covered under this report may be used as an accessory component in approved, fire classified roof covering systems. When installed directly on minimum $^{15}/_{32}$ inch thick exterior plywood decking (DOC PS-1) or minimum $^{7}/_{16}$ inch thick oriented strand board (OSB) (DOC PS-2) or minimum 1 inch thick wood plank, underlayments are part of a fire classified assembly in accordance with ASTM E108 and/or ANSI/UL 790 and qualify for use under the following code:

- 2018, 2015, and 2012 *IBC* Section 1505.1
- 2018, 2015, and 2012 *IRC* Section R902.1.

Underlayments covered under this report may be used with the below allowable roof covers.

Underlayment Product:	Fire Classification – Allowable Roof Covers							
	Asphalt Shingles	Clay and Concrete Tile		Metal		Mineral-Surfaced Roll Roofing	Slate and Slate-Type Shingles	Wood Shingles and Shakes
		Mechanical Attachment	Adhesive-Set	Shingles	Panels			
Westlake Royal TileSeal® HT Underlayment *Optional Base Sheet:* *Westlake Royal Citadel® Plus*	Class A	Class A	Class A	Class C	Class C	No	Class A	No

Underlayment Product:	Fire Classification – Allowable Roof Covers							
	Asphalt Shingles	Clay and Concrete Tile		Metal		Mineral-Surfaced Roll Roofing	Slate and Slate-Type Shingles	Wood Shingles and Shakes
		Mechanical Attachment	Adhesive-Set	Shingles	Panels			
Westlake Royal MetalSeal® HT Underlayment *Optional Base Sheet:* *Westlake Royal Citadel® Plus*	Class A	Class A	Class A	Class C	Class C	No	Class A	No
Westlake Royal GatorSeal® Underlayment *Optional Base Sheet:* *Westlake Royal Citadel® Plus*	Class A	No	No	No	No	No	Class A	No

Wind Resistance:

Underlayments covered under this report may be used for mechanically attached roof covers as prescribed in the following code:

- 2018 *IBC* Section 1507.1.1 as permitted in Exception 1 for self-adhering underlayment complying with ASTM D1970
- 2015, and 2012 *IBC* Section 1507 where exceptions or allowances for ASTM D1970 are referenced
- 2018 and 2015 *IRC* Section R905.1.1 as permitted in Exception 1 for self-adhering underlayment complying with ASTM D1970
- 2012 *IRC* Section R905 where exceptions or allowances for ASTM D1970 are referenced

For adhesive-set clay or concrete roof covers, where wind loads may be transferred from the tile to the underlayment, underlayment systems are evaluated for wind resistance in accordance with ANSI/UL 1897.

System #1 -142.5psf MDP[1]	Deck[2]:	Minimum $^{15}/_{32}$ inch thick exterior plywood (DOC PS-1)
	Primer:	None
	Joint Treatment:	None
	Base Sheet:	None
	Underlayment:	Westlake Royal TileSeal® HT Underlayment applied in accordance with manufacturer's installation instructions. Underlayment shall be backnailed along selvage with minimum No. 12 gage (0.105 inch), $^{3}/_{8}$ inch diameter head, corrosion resistant ring shank nails through 32 gage x 1-$^{5}/_{8}$ inch diameter tin caps spaced 12 inches o.c. The underlayment shall be rolled with a minimum 75lb steel roller immediately following application.
System #2 -202.5psf MDP[1]	Deck[2]:	Minimum $^{15}/_{32}$ inch thick exterior plywood (DOC PS-1)
	Primer:	ASTM D41 Asphalt Primer
	Joint Treatment:	None
	Base Sheet:	None
	Underlayment:	Westlake Royal TileSeal® HT Underlayment applied in accordance with manufacturer's installation instructions. Underlayment shall be backnailed along selvage with minimum No. 12 gage (0.105 inch), $^{3}/_{8}$ inch diameter head, corrosion resistant ring shank nails through 32 gage x 1-$^{5}/_{8}$ inch diameter tin caps spaced 12 inches o.c. The underlayment shall be rolled with a minimum 75lb steel roller immediately following application.

System #3 -210.0psf MDP[1]	Deck[2]:	Minimum $^{15}/_{32}$ inch thick exterior plywood (DOC PS-1)
	Primer:	KARNAK #89 Sta-Tak Primer
	Joint Treatment:	None
	Base Sheet:	None
	Underlayment:	Westlake Royal TileSeal® HT Underlayment applied in accordance with manufacturer's installation instructions. Underlayment shall be backnailed along selvage with minimum No. 12 gage (0.105 inch), $^{3}/_{8}$ inch diameter head, corrosion resistant ring shank nails through 32 gage x 1-$^{5}/_{8}$ inch diameter tin caps spaced 12 inches o.c. The underlayment shall be rolled with a minimum 75lb steel roller immediately following application.

Note(s): 1- indicates Maximum Design Pressure (2:1 margin of safety applied to the maximum test load achieved without failure).
2- indicates Deck Attachment to structural support is outside the scope of this evaluation and shall be to the satisfaction of the Authority Having Jurisdiction.

Physical Properties:

Underlayments covered under this report have been tested for physical properties in accordance with ASTM D1970 and qualify for use under the following code:

- 2018, 2015, and 2012 *IBC* Chapter 15
- 2018, 2015, and 2012 *IRC* Chapter 9

Ice Barrier:

Underlayments covered under this report may be used as ice barriers in accordance with the following code:

- 2018, 2015, and 2012 *IBC* Chapter 15
- 2018, 2015, and 2012 *IRC* Chapter 9

When installed as an ice barrier, underlayment shall extend from lowest edges of roof surface to a point not less than 24 inches inside the exterior wall line of the building.

INSTALLATION – GENERAL

Underlayments covered under this report must be installed in accordance with the applicable code, this report, and the manufacturer's published installation instructions, which must be available at all times on the jobsite during installation. The underlayments are not the primary roof cover and as such are not intended to be left permanently exposed to direct weather.

Underlayments covered under this report have been evaluated for application to wood decks. Application to other surfaces is outside the scope of this evaluation.

Roof slopes must be minimum 2:12 (16.67% slope or 9°). Prior to application, all underlayments shall be unrolled and allowed to relax for 3-5 min. The underlayment shall be installed with the release backer removed and pressed firmly into place to ensure complete contact with the deck. The minimum application temperature is 40°F and the manufacturer must be contacted when installing below this temperature.

Underlayments covered under this report are moisture and vapor barriers. The spaces under the covered deck area and the attic space must be properly ventilated in accordance with local building codes.

Underlayments covered under this report are intended for exterior applications only.

Deck:

The roof deck must be code-complying, exterior-grade wood structural panel sheathing complying with DOC PS-1 or DOC PS-2 and minimum $^{3}/_{8}$ inch (9.5mm) thick; solid lumber sheathing using minimum nominal 1 by 6 lumber is permitted. Deck surface shall be clean, smooth, dry, free of debris, and structurally sound prior to installing underlayment. All deck fasteners shall be checked for protrusion and corrected prior to underlayment application. Replace any damaged or rotted deck.

Refer to PRODUCT DESCRIPTIONS and APPLICATIONS section for additional stipulations for roof deck as associated with Fire Classification(s) and Wind Resistance System(s).

Fasteners:

When used for underlayment, fasteners must comply with ASTM F1667 and be minimum No. 12 gage (0.105 inch), $^{3}/_{8}$ inch diameter head, galvanized, stainless steel, aluminum or copper corrosion-resistance nails. Fasteners must penetrate into the deck minimum $^{3}/_{4}$ inch, or through the deck, where the deck is less than $^{3}/_{4}$ inch thick.

Asphalt Cement:

When used with underlayment, asphalt cement must comply with ASTM D4586.

Asphalt Primer:

When used with underlayment, asphalt primer must comply with ASTM D41.

Flashing:

Underlayments covered under this report may be used as flashing material where self-adhering polymer modified bitumen sheet and/or ASTM D1970 are referenced in the following code as applicable:

- 2018, 2015, and 2012 *IBC* Section 1507
- 2018, 2015, and 2012 *IRC* Section R905

Where underlayment is intended to adhere to metal flashing materials, metal surface shall be primed.

Reroofing:

Prior to the reroofing, all existing roofing must be removed down to the deck. Exposed deck surface shall be clean, smooth, dry, free of debris, and structurally sound prior to installing underlayment. All deck fasteners shall be checked for protrusion and corrected prior to underlayment application. Replace any damaged or rotted deck.

INSTALLATION – UNDERLAYMENTS

Westlake Royal TileSeal® HT Underlayment: Westlake Royal TileSeal® HT Underlayment may be used as the underlayment for the entire roof with roof coverings of clay and concrete tile, metal shingles, or metal panels. Optionally, Westlake Royal TileSeal® HT Underlayment may be used as the underlayment for the entire roof with mechanically attached roof coverings of asphalt shingles, slate shingles, or wood shakes. Optionally, Westlake Royal TileSeal® HT Underlayment may be applied as waterproof barrier around eaves, rakes, valleys, vents, chimneys, skylights, and other areas of roof detail that may benefit from additional protection against water infiltration; along a valley, Westlake Royal TileSeal® HT Underlayment can be installed as a valley liner. Westlake Royal TileSeal® HT Underlayment may be used as a component of fire classified roofing assemblies when installed with clay and concrete tile, metal shingles, metal panels, asphalt shingles, or slate shingles. Westlake Royal TileSeal® HT Underlayment is not fire classified for use under mineral-surfaced roll roofing or wood roof coverings.

Westlake Royal TileSeal® HT Underlayment shall be installed as directed in the published installation instructions. Side laps shall be a minimum of 3 inches. End laps shall be a minimum of 6 inches. To ensure adhesion at the end lap, apply sufficient asphalt primer or asphalt cement to fully penetrate polyester, non-woven fabric surface and apply pressure to seal lap. Shingle laps, with the upslope piece overlapping the downslope piece, shall be implemented. UV exposure on the roof deck shall be limited to a maximum of 180 days.

For clay and concrete tile applications, the following additional provisions shall be implemented:

- Do not use Westlake Royal TileSeal® HT Underlayment below a slope of $2^1/_2$:12 when tiles are mechanically-attached.
- Westlake Royal TileSeal® HT Underlayment shall be back nailed 12 inches o.c. in the selvage area on roof slopes greater than 3:12 (nails shall be installed perpendicular to the deck slope with the nail heads flush to the top surface of the underlayment).
- On slopes 2:12 to 6:12, it is permissible store tiles directly atop Westlake Royal TileSeal® HT Underlayment in stacks no greater than ten (10) tiles per stack.
- On slopes greater than 6:12, tiles shall be stored on battens in stacks no greater than ten (10) tiles per stack.
- In adhesive-set applications, qualified tile adhesives must be used. Qualified adhesives include ICP Adhesives & Sealants, Inc. “Polyset® AH-160” or Dupont de Nemours, Inc. “Tile Bond™ Roof Tile Adhesive”.

Westlake Royal MetalSeal® HT Underlayment: Westlake Royal MetalSeal® HT Underlayment may be used as the underlayment for the entire roof with roof coverings of clay and concrete tile, metal shingles, or metal panels. Optionally, Westlake Royal MetalSeal® HT Underlayment may be used as the underlayment for the entire roof with mechanically attached roof coverings of asphalt shingles, slate shingles, or wood shakes. Optionally, Westlake Royal MetalSeal® HT Underlayment may be applied as waterproof barrier around eaves, rakes, valleys, vents, chimneys, skylights, and other areas of roof detail that may benefit from additional protection against water infiltration; along a valley, Westlake Royal MetalSeal® HT Underlayment can be installed as a valley liner. Westlake Royal MetalSeal® HT Underlayment may be used as a component of fire classified roofing assemblies when installed with clay and concrete tile, metal shingles, metal panels, asphalt shingles, or slate shingles. Westlake Royal MetalSeal® HT Underlayment is not fire classified for use under mineral-surfaced roll roofing or wood roof coverings.

Westlake Royal MetalSeal® HT Underlayment shall be installed as directed in the published installation instructions. Side laps shall be a minimum of 3 inches. End laps shall be a minimum of 6 inches. To ensure adhesion at the end lap, apply sufficient asphalt primer or asphalt cement to fully penetrate polyester, non-woven fabric surface and apply pressure to seal lap. Shingle laps, with the upslope piece overlapping the downslope piece, shall be implemented. UV exposure on the roof deck shall be limited to a maximum of 180 days.

For clay and concrete tile applications, the following additional provisions shall be implemented:

- Do not use Westlake Royal MetalSeal® HT Underlayment below a slope of $2^1/_2$:12 when tiles are mechanically-attached.
- Westlake Royal MetalSeal® HT Underlayment shall be back nailed 12 inches o.c. in the selvage area on roof slopes greater than 3:12 (nails shall be installed perpendicular to the deck slope with the nail heads flush to the top surface of the underlayment).

- On slopes 2:12 to 6:12, it is permissible store tiles directly atop Westlake Royal MetalSeal® HT Underlayment in stacks no greater than ten (10) tiles per stack.
- On slopes greater than 6:12, tiles shall be stored on battens in stacks no greater than ten (10) tiles per stack.

In adhesive-set applications, qualified tile adhesives must be used. Qualified adhesives include ICP Adhesives & Sealants, Inc. "Polyset® AH-160" or Dupont de Nemours, Inc. "Tile Bond™ Roof Tile Adhesive".

Westlake Royal GatorSeal® Underlayment: Westlake Royal GatorSeal® Underlayment may be applied as waterproof barrier around eaves, rakes, valleys, vents, chimneys, skylights, and other areas of roof detail that may benefit from additional protection against water infiltration. Along a valley, Westlake Royal GatorSeal® Underlayment can be installed as a valley liner. Optionally, Westlake Royal GatorSeal® Underlayment may be used as the underlayment for the entire roof with mechanically attached roof coverings of asphalt shingles, slate shingles, or wood shakes. Westlake Royal GatorSeal® Underlayment may be used as a component of fire classified roofing assemblies when installed with asphalt shingles or slate shingles. Westlake Royal GatorSeal® Underlayment is not fire classified for use under clay and concrete tile, metal, mineral-surfaced roll roofing, or wood roof coverings.

Westlake Royal GatorSeal® Underlayment shall be installed as directed in the published installation instructions. Asphalt primer may be required for applications to oriented strand board (OSB). Side laps shall be a minimum of 3 inches. End laps shall be a minimum of 6 inches. Shingle laps, with the upslope piece overlapping the downslope piece, shall be implemented. UV exposure on the roof deck shall be limited to a maximum of 30 days.

Westlake Royal Citadel® Plus Base Sheet: Westlake Royal Citadel® Plus Base Sheet may be used as an optionally base sheet in multi-ply underlayment systems for mechanically attached roof coverings of clay and concrete tile, metal shingles, metal panels, asphalt shingles, slate shingles, or wood shakes. Westlake Royal Citadel® Plus Base Sheet shall be covered by Westlake Royal TileSeal® HT Underlayment, Westlake Royal MetalSeal® HT Underlayment, or Westlake Royal GatorSeal® Underlayment. Limits of use are those associated with the top-layer material. Optionally, Westlake Royal Citadel® Plus Base Sheet may be applied as waterproof barrier around eaves, rakes, valleys, vents, chimneys, skylights, and other areas of roof detail that may benefit from additional protection against water infiltration. Along a valley, Westlake Royal Citadel® Plus Base Sheet can be installed as a valley liner.

Westlake Royal GatorSeal® Underlayment shall be installed as directed in the published installation instructions. Side laps shall be a minimum of 3 inches. End laps shall be a minimum of 6 inches. Shingle laps, with the upslope piece overlapping the downslope piece, shall be implemented. UV exposure on the roof deck shall be limited to a maximum of 180 days.

CONDITIONS OF USE & IDENTIFICATION

The products described in this report comply with, or are suitable alternatives to, the codes listed in this report, subject to the following conditions:

- The products as well as the installation methods must be in compliance with the applicable code, this report, and the installation instruction provided by the manufacturer. If the manufacturer's installation instructions differ from what is listed in this report, this report governs.
- This report does not supersede the local jurisdiction regulations and the final approval of the building products, materials, or systems in this report is the responsibility of the authorities having jurisdiction.
- This report is only valid if the product(s) and/or the referenced documentation/codes related to the products do not change. If there is a change in product(s) and/or the referenced documentation/codes related to the products, PRI Construction Materials Technologies, LLC must be informed and further action may be necessary to revalidate this report.
- This report, in its entirety, must be available at job sites upon request by the user or for inspection by the Building Official. A copy of this report in full shall be provided by the manufacturer or its distributors.
- The products are identified by marks bearing the report holder's name, the manufacture location, the product name, and the Seal of PRI Validation Program for Building Materials. The Seal shall indicate, at a minimum, the following:
  a. ASTM D1970
  b. ASTM E108 – Class A
- The products are manufactured at the locations listed in this report and are manufactured under a quality control program with inspections and/or surveillance by PRI Construction Materials Technologies, LLC.
- This report is a supplement to product certification. The products listed herein must be certified separately under the PRI Validation Program for Building Products. This report alone is not a product certification and requires separate product certification under the PRI Validation Program for Building Products to be valid.
- The current status of this report as well as a directory of certified products, including supplemental PRI Evaluation Reports, can be found at pri-group.com.