



EVALUATION REPORT

FLORIDA BUILDING CODE, 6TH EDITION (2017)

Manufacturer: TAMKO BUILDING PRODUCTS
 220 West 4th Street
 Joplin, MO 64801
 (417) 624-6644

Issued September 25, 2017

Manufacturing Plants: Joplin, MO
 Phillipsburg, KS
 Frederick, MD
 Dallas, TX
 Tuscaloosa, AL

Quality Assurance: UL LLC (QUA9625)

SCOPE

Category: Roofing
Subcategory: Asphalt Shingles
Code Sections: 1504.1.1, 1507.2.5, 1507.2.7.1, 1523.6.5.1
Properties: Physical properties, Wind Resistance, Wind Driven Rain

REFERENCES

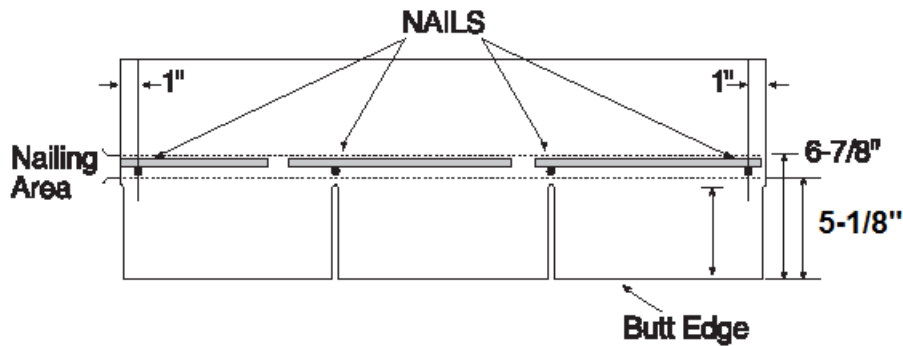
<u>Entity</u>	<u>Report No.</u>	<u>Standard</u>	<u>Year</u>
PRI Construction Materials Technologies (TST5878)	TAP-043-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-051-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-054-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-114-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-117-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-130-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-131-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-165-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-280-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-303-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-307-02-01	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-314-02-01 Rev 2	TAS 100	1995
PRI Construction Materials Technologies (TST5878)	TAP-315-02-01	ASTM D 6381	2008(2013)e1
PRI Construction Materials Technologies (TST5878)	TAP-317-02-01	TAS 100	1995
UL LLC (TST9628)	02NK9507	ASTM D 3161	2016
UL LLC (TST9628)	04NK24366	ASTM D 3462	2010A
UL LLC (TST9628)	05NK28006	ASTM D 6381	2008(2013)e1
		UL 2390	
		ASTM D 7158	2011
UL LLC (TST9628)	06NK03898	ASTM D 3161	2016
		ASTM D 3462	2010A
UL LLC (TST9628)	08CA59132	ASTM D 3161	2016
UL LLC (TST9628)	09NK07896	ASTM D 3161	2016
		ASTM D 3462	2010A
UL LLC (TST9628)	10CA50498	ASTM D 3462	2010A
UL LLC (TST9628)	10CA64882	ASTM D 3161	2016
UL LLC (TST9628)	11NK14014	ASTM D 3161	2016
		ASTM D 3462	2010A
UL LLC (TST9628)	12CA24551	ASTM D 3161	2016
UL LLC (TST9628)	4786110543	ASTM D 6381	2008(2013)e1
UL LLC (TST9628)	4787043752	ASTM D 3161	2016
UL LLC (TST9628)	4787148748	ASTM D 7158	2011
		ASTM D 3161	2016
		ASTM D 3462	2010A
CREEK Technical Services LLC (ANE11669)	TBP15001.3	Calculations	2017

PRODUCT DESCRIPTION

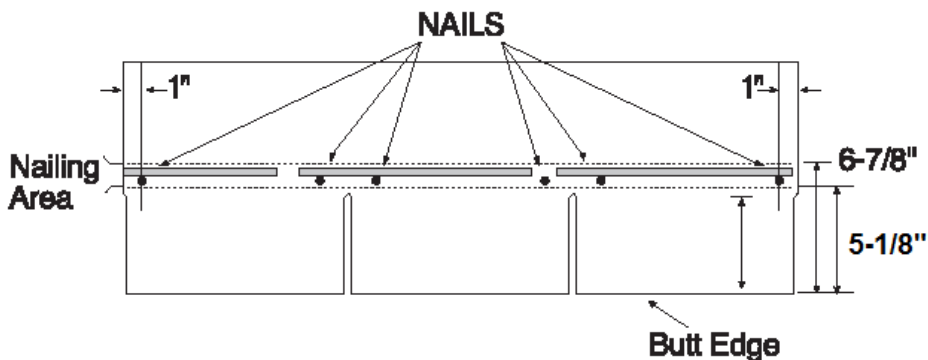
Elite Glass-Seal® (Frederick, Joplin & Tuscaloosa)	12-1/4" x 36", ASTM D 3161, Class F and ASTM D 7158, Class H self-sealing, 3-tab asphalt shingle with fiberglass mat coated on both sides with asphalt and surfaced with ceramic granules complying with ASTM D 3462.
Glass-Seal (Frederick & Tuscaloosa)	12-1/4" x 36", ASTM D 3161, Class F and ASTM D 7158, Class H self-sealing, 3-tab asphalt shingle with fiberglass mat coated on both sides with asphalt and surfaced with ceramic granules complying with ASTM D 3462.
Glass-Seal (Joplin)	12-1/4" x 36", ASTM D 7158, Class H self-sealing, 3-tab asphalt shingle with fiberglass mat coated on both sides with asphalt and surfaced with ceramic granules complying with ASTM D 3462. <u>Shingles shall be used in the non-HVHZ only.</u>
Heritage® (Dallas, Frederick, Joplin, Phillipsburg & Tuscaloosa)	13-1/4" x 39-3/8", ASTM D 3161, Class F and ASTM D 7158, Class H fiberglass reinforced, laminated architectural asphalt shingle surfaced with mineral granules complying with ASTM D 3462.
Heritage® Premium (Dallas, Frederick, Phillipsburg & Tuscaloosa)	13-1/4" x 39-3/8", ASTM D 3161, Class F and ASTM D 7158, Class H fiberglass reinforced, laminated architectural asphalt shingle surfaced with mineral granules complying with ASTM D 3462.
Heritage® Premium (Frederick)	12" x 36", ASTM D 3161, Class F and ASTM D 7158, Class H fiberglass reinforced, laminated architectural asphalt shingle surfaced with mineral granules complying with ASTM D 3462.
Heritage® Vintage® (Phillipsburg)	17-1/2" x 40", ASTM D 3161, Class F and ASTM D 7158, Class H fiberglass reinforced, laminated architectural asphalt shingle surfaced with mineral granules complying with ASTM D 3462.
Heritage® Woodgate (Dallas & Frederick)	13-1/4" x 39-3/8", ASTM D 3161, Class F and ASTM D 7158, Class H fiberglass reinforced, laminated architectural asphalt shingle surfaced with mineral granules complying with ASTM D 3462.
Heritage® Woodgate (Frederick)	12" x 36-3/8", ASTM D 3161, Class F fiberglass reinforced, laminated architectural asphalt shingle surfaced with mineral granules complying with ASTM D 3462. Shingles shall be used in the non-HVHZ only.
Hip and Ridge Shingles (Frederick & Joplin)	12-1/4" x 12", ASTM D 3161, Class F fiberglass reinforced, hip and ridge asphalt shingle surfaced with mineral granules complying with ASTM D 3462.
Vintage® Hip and Ridge (Phillipsburg)	12" x 12", ASTM D 3161, Class F fiberglass reinforced, hip and ridge asphalt shingle surfaced with mineral granules complying with ASTM D 3462.

INSTALLATION

Elite Glass-Seal® (Frederick, Joplin & Tuscaloosa)	Basic Wind Speed (V_{ult}):	Max. 194 mph
	Basic Wind Speed (V_{asd}):	Max. 150 mph
& Glass-Seal (Frederick, Joplin (Non-HVHZ) & Tuscaloosa)	Deck (HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 19/32 in. plywood or wood plank for new construction; Min. 15/32 in. plywood existing construction.
	Deck (Non-HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 15/32 in. plywood or wood plank for new construction; Min. 7/16 in. OSB existing construction.
	Underlayment:	In accordance with FBC requirements.
	Min. slope:	2:12 and in accordance with FBC requirements. Refer to the manufacturer's application instructions when installing shingles at slopes greater than 21:12.
	Installation (HVHZ):	Installed with 5-1/8 inch exposure in accordance with RAS 115 and manufacturer's published installation instructions. Shingles shall be attached using "6 Nail Pattern" detailed below.
	Installation (Non-HVHZ):	Installed with 5-1/8-inch exposure in accordance with FBC requirements and manufacturer's published installation instructions. Shingles shall be attached using either "4 Nail Pattern" or "6 Nail Pattern" detailed below.

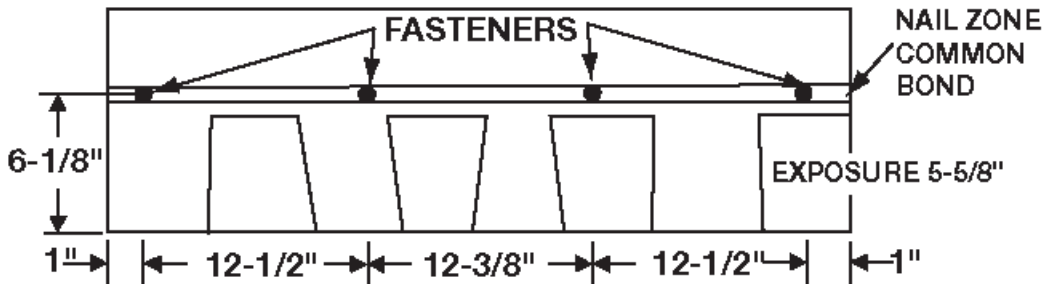


**Figure 1. Elite Glass-Seal & Glass-Seal
4 Nail Pattern (Non-HVHZ only)**

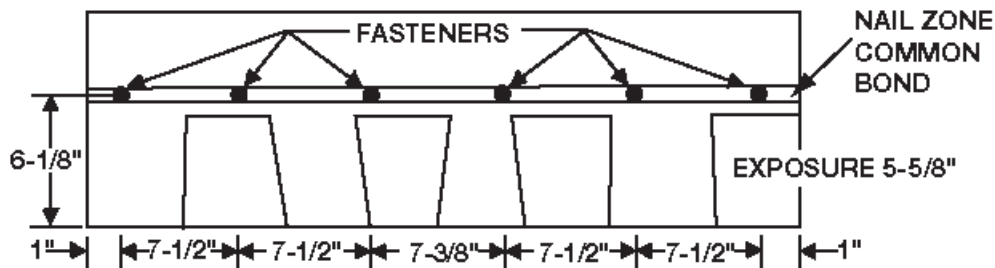


**Figure 2. Elite Glass-Seal & Glass-Seal
6 Nail Pattern**

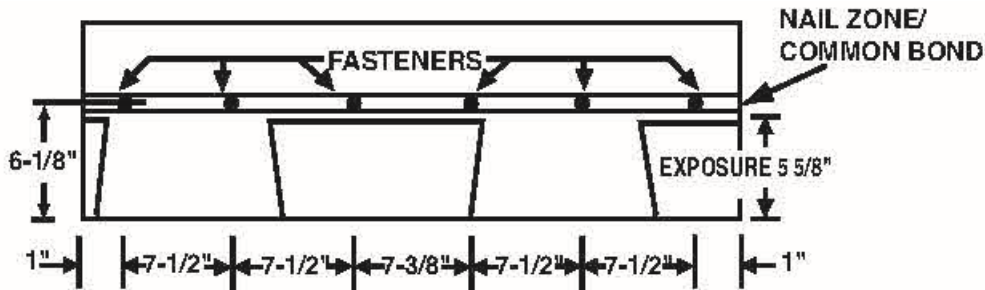
Heritage® (Dallas, Frederick, Joplin, Phillipsburg & Tuscaloosa)	Basic Wind Speed (V_{ult}):	Max. 194 mph
	Basic Wind Speed (V_{asd}):	Max. 150 mph
Heritage® Premium (Dallas, Frederick Phillipsburg & Tuscaloosa)	Deck (HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 19/32 in. plywood or wood plank for new construction; Min. 15/32 in. plywood existing construction.
	Deck (Non-HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 15/32 in. plywood or wood plank for new construction; Min. 7/16 in. OSB existing construction.
Heritage® Woodgate (Dallas & Frederick)	Underlayment:	In accordance with FBC requirements.
	Min. slope:	2:12 and in accordance with FBC requirements. Refer to the manufacturer's application instructions when installing shingles at slopes greater than 21:12.
	Installation (HVHZ):	Installed with 5-5/8 in. exposure in accordance with RAS 115 and manufacturer's published installation instructions. Shingles shall be attached using "6 Nail Pattern" detailed below.
	Installation (Non-HVHZ):	Installed with 5-5/8 in. exposure in accordance with FBC requirements and manufacturer's published installation instructions. Shingles shall be attached using either "4 Nail Pattern" or "6 Nail Pattern" detailed below.



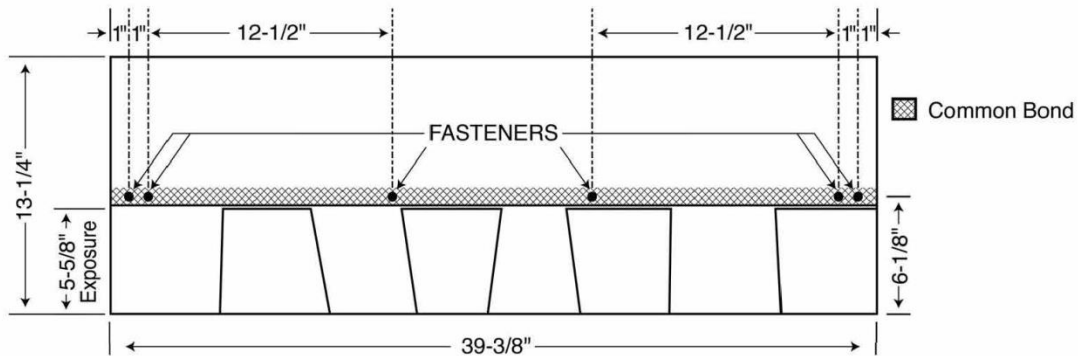
**Figure 3. Heritage®, Heritage® Premium, and Heritage® Woodgate (Dallas)
4 Nail Pattern (non-HVHZ only)**



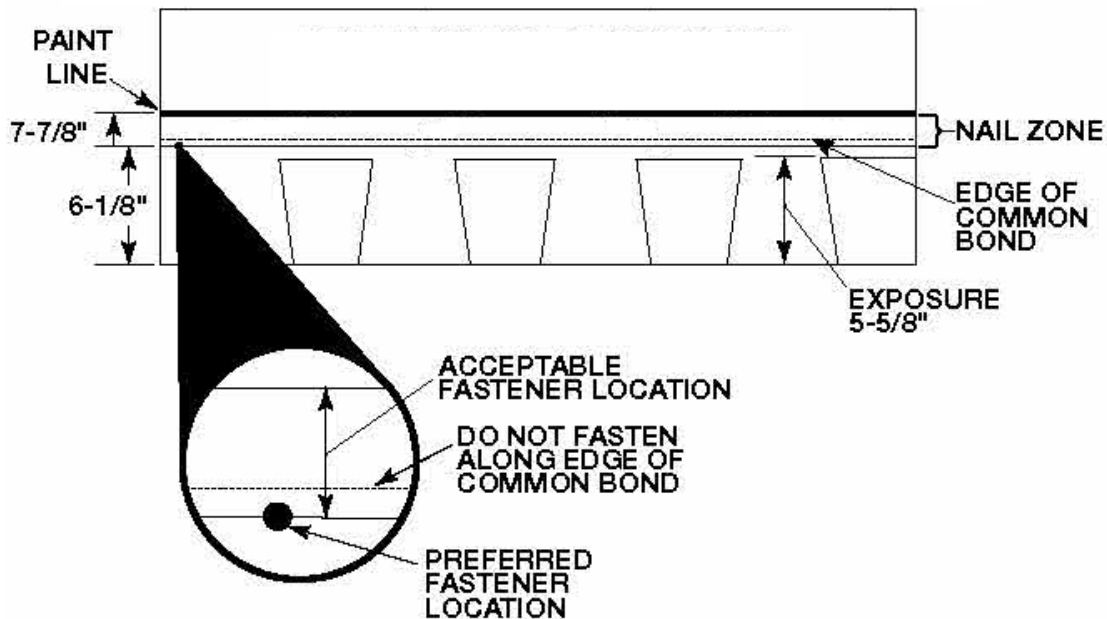
**Figure 4. Heritage® & Heritage® Premium
6 Nail Pattern**



**Figure 5. Heritage® Woodgate
6 Nail Pattern**



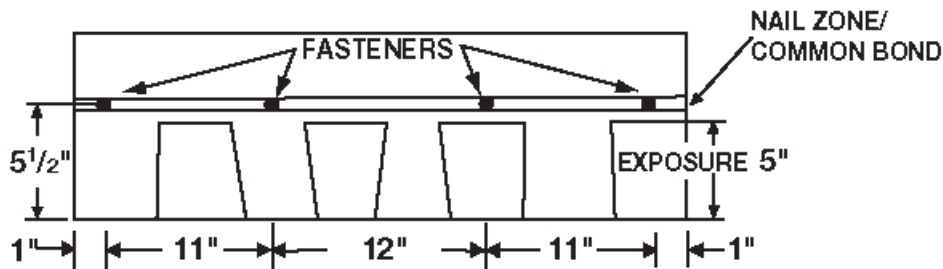
**Figure 6. Heritage®, Heritage® Premium, & Heritage® Woodgate
Alternate 6 Nail Pattern**



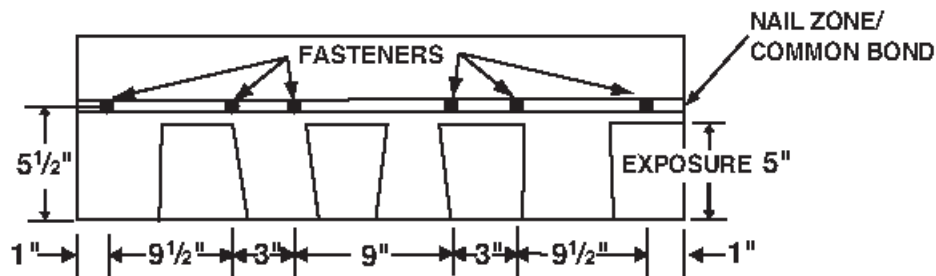
**Figure 7. Heritage® (Tuscaloosa)
Expanded Nail Zone**

Nail patterns from Figures 3, 4, and 6 may be placed in the nail zone as described above

Heritage® Premium (Frederick)	Basic Wind Speed (V_{ult}):	Max. 194 mph
	Basic Wind Speed (V_{asd}):	Max. 150 mph
	Deck (HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 19/32 in. plywood or wood plank for new construction; Min. 15/32 in. plywood existing construction.
	Deck (Non-HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 15/32 in. plywood or wood plank for new construction; Min. 7/16 in. OSB existing construction.
	Underlayment:	In accordance with FBC requirements.
	Min. slope:	2:12 and in accordance with FBC requirements. Refer to the manufacturer's application instructions when installing shingles at slopes greater than 21:12.
	Installation (HVHZ):	Installed with 5 in. exposure in accordance with RAS 115 and manufacturer's published installation instructions. Shingles shall be attached using "6 Nail Pattern" detailed below.
	Installation (Non-HVHZ):	Installed with 5 in. exposure in accordance with FBC requirements and manufacturer's published installation instructions. Shingles shall be attached using either "4 Nail Pattern" or "6 Nail Pattern" detailed below.



**Figure 8. Heritage® Premium (Frederick)
4 Nail Pattern (non-HVHZ only)**



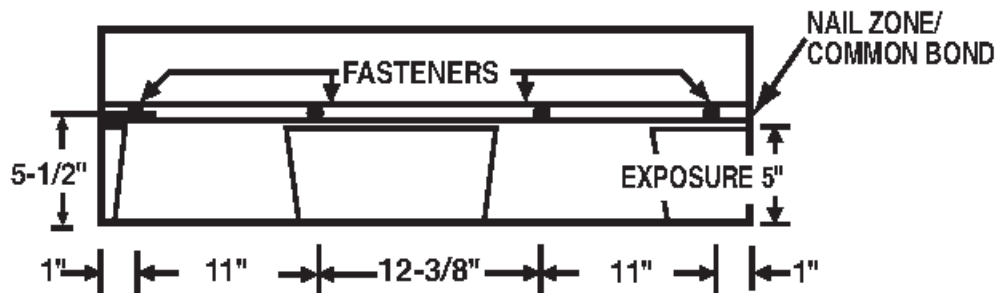
**Figure 9. Heritage® Premium (Frederick)
6 Nail Pattern**

Heritage® Woodgate
 (Frederick)

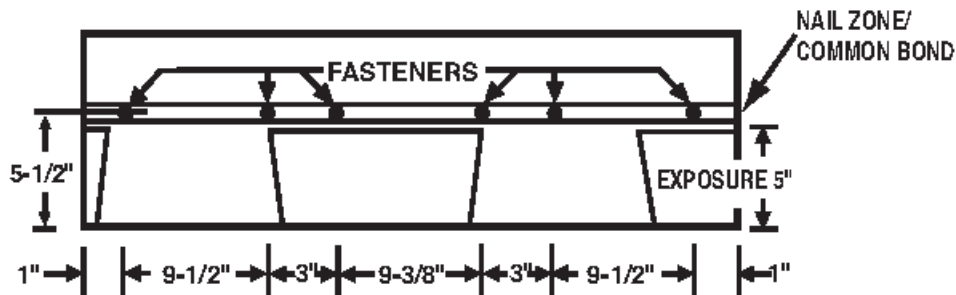
Basic Wind Speed (V_{ult}): Max. 194 mph
 Basic Wind Speed (V_{asd}): Max. 150 mph
 Deck (Non-HVHZ): In accordance with FBC requirements;
 Solidly sheathed min. 15/32 in. plywood or wood plank for
 new construction; Min. 7/16 in. OSB existing construction.

Underlayment: In accordance with FBC requirements.
 Min. slope: 2:12 and in accordance with FBC requirements. Refer to
 the manufacturer's application instructions when installing
 shingles at slopes greater than 21:12.

Installation (Non-HVHZ): Installed with 5 in. exposure in accordance with FBC
 requirements and manufacturer's published installation
 instructions. Shingles shall be attached using either "4 Nail
 Pattern" or "6 Nail Pattern" detailed below.

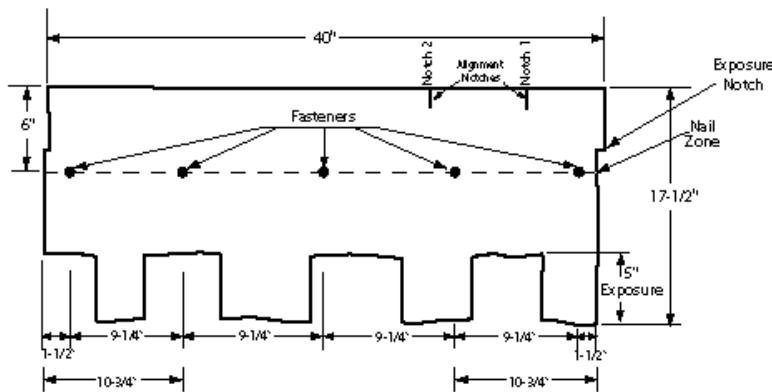


**Figure 10. Heritage® Woodgate (Frederick)
 4 Nail Pattern (non-HVHZ only)**

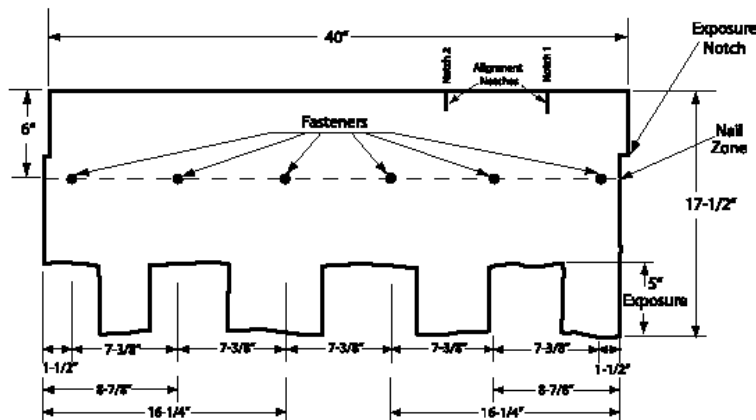


**Figure 11. Heritage® Woodgate (Frederick)
 6 Nail Pattern**

Heritage® Vintage® (Phillipsburg)	Basic Wind Speed (V_{ult}):	Max. 194 mph
	Basic Wind Speed (V_{asd}):	Max. 150 mph
	Deck (HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 19/32 in. plywood or wood plank for new construction; Min. 15/32 in. plywood existing construction.
	Deck (Non-HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 15/32 in. plywood or wood plank for new construction; Min. 7/16 in. OSB existing construction.
	Underlayment:	In accordance with FBC requirements.
	Min. slope:	2:12 and in accordance with FBC requirements. Refer to the manufacturer's application instructions when installing shingles at slopes greater than 21:12.
	Installation (HVHZ):	Installed with 5 in. exposure in accordance with RAS 115 and manufacturer's published installation instructions. Shingles shall be attached using "6 Nail Pattern" detailed below.
	Installation (Non-HVHZ):	Installed with 5 in. exposure in accordance with FBC requirements and manufacturer's published installation instructions. Shingles shall be attached using either "5 Nail Pattern" or "6 Nail Pattern" detailed below.



**Figure 12. Heritage® Vintage®
5 Nail Pattern (non-HVHZ only)**



**Figure 13. Heritage® Vintage®
6 Nail Pattern**

Hip & Ridge
 (Frederick & Joplin)

Basic Wind Speed (V_{ult}):	Max. 194 mph
Basic Wind Speed (V_{asd}):	Max. 150 mph
Deck (HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 19/32 in. plywood or wood plank for new construction; Min. 15/32 in. plywood existing construction.
Deck (Non-HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 15/32 in. plywood or wood plank for new construction; Min. 7/16 in. OSB existing construction.
Underlayment:	In accordance with FBC requirements.
Min. slope:	2:12 and in accordance with FBC requirements.
Installation:	Installed with 5-1/8 inch exposure in accordance with the FBC and manufacturer's published installation instructions. The direction of the exposed end shall be away from the prevailing wind.

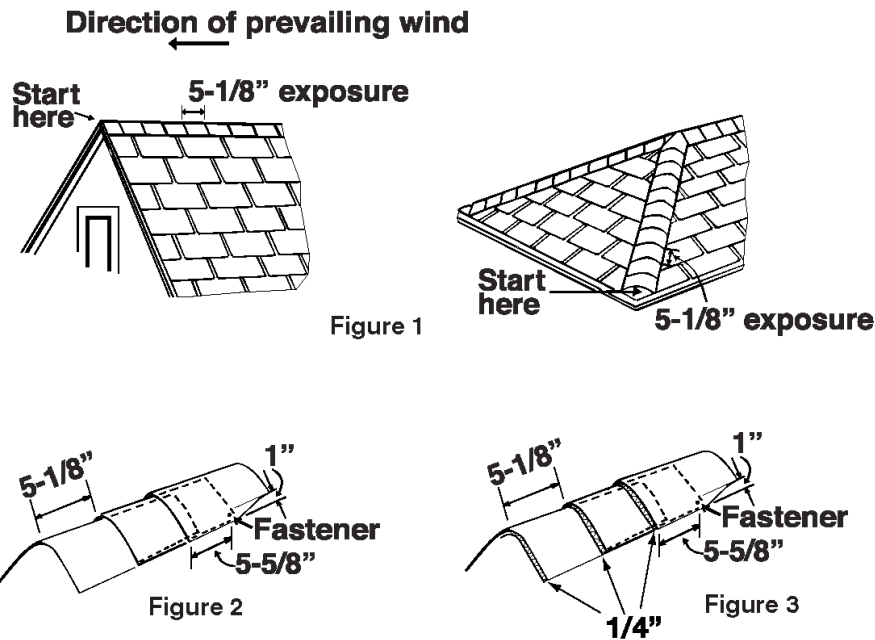


Figure 14. Hip & Ridge (Frederick & Joplin)

Vintage® Hip & Ridge
 (Phillipsburg)

Basic Wind Speed (V_{ult}):	Max. 194 mph
Basic Wind Speed (V_{asd}):	Max. 150 mph
Deck (HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 19/32 in. plywood or wood plank for new construction; Min. 15/32 in. plywood existing construction.
Deck (Non-HVHZ):	In accordance with FBC requirements; Solidly sheathed min. 15/32 in. plywood or wood plank for new construction; Min. 7/16 in. OSB existing construction.
Underlayment:	In accordance with FBC requirements.
Min. slope:	2:12 and in accordance with FBC requirements.
Installation:	Installed with 5 inch exposure in accordance with the FBC and manufacturer's published installation instructions. The direction of the exposed end shall be away from the prevailing wind.

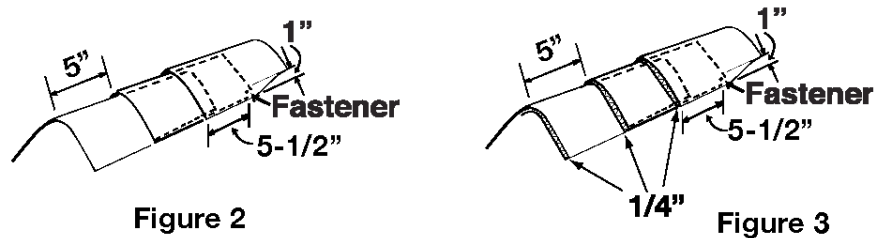
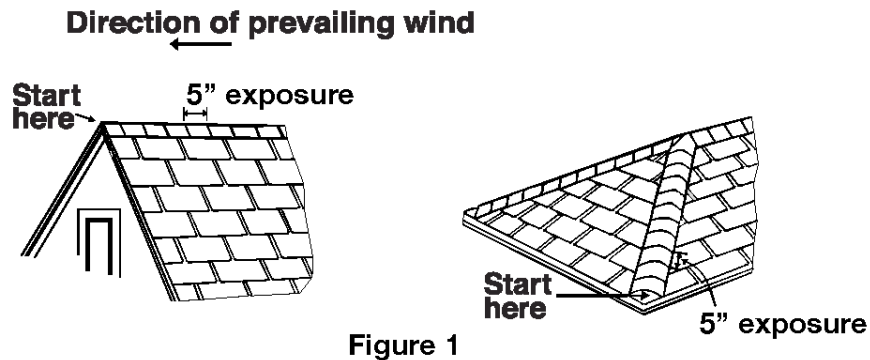


Figure 15. Vintage® Hip & Ridge (Phillipsburg)

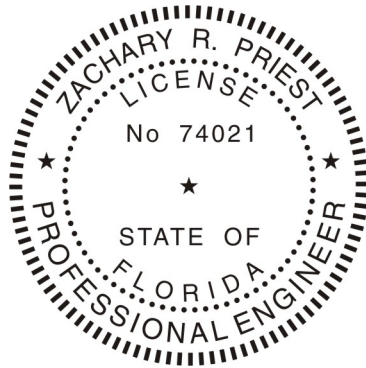


LIMITATIONS

- 1) Fire Classification is not within the scope of this evaluation.
- 2) The roof deck and the roof deck attachment shall be designed by others to meet the minimum design loads established for components and cladding and in accordance with FBC requirements.
- 3) The mean roof height shall be restricted to a maximum 33 ft in the HVHZ.
- 4) Classification to ASTM D 7158 applies to exposure B & C with a building mean roof height of 60-ft or less.
- 5) Deck substrates shall be clean, dry, and free from any irregularities and debris. All fasteners in the deck shall be checked for protrusion and corrected prior to underlayment application.
- 6) Shingles shall be installed starting at the eave in horizontal layers such that the laps shed water from the deck.
- 7) Installation of the evaluated products shall comply with this report, the FBC, and the manufacturer's published application instructions. Where discrepancies exist between these sources, the more restrictive and code compliant detail shall prevail.
- 8) All products listed in this report shall be manufactured under a quality assurance program in compliance with Rule 61G20-3.

COMPLIANCE STATEMENT

The products evaluated herein by Zachary R. Priest, P.E. have demonstrated compliance with the Florida Building Code, 6th Edition (2017) as evidenced in the referenced documents submitted by the named manufacturer.



Zachary R. Priest, P.E.
 Florida Registration No. 74021
 Organization No. ANE11669

CERTIFICATION OF INDEPENDENCE

CREEK Technical Services, LLC does not have, nor will it acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

CREEK Technical Services, LLC is not owned, operated, or controlled by any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any company manufacturing or distributing products under this evaluation.

Zachary R. Priest, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

END OF REPORT