Product Approval
USER: Public User

FL #	FL15216-R10
Application Type	Revision
Code Version	2020
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	Owens Corning Roofing and Asphalt, LLC
Address/Phone/Email	One Owens Corning Parkway Toledo, OH 43645 (740) 321-6345 Greg.Keeler@owenscorning.com
Authorized Signature	Keeler Greg Greg.Keeler@owenscorning.com
Technical Representative	Greg Keeler
Address/Phone/Email	2790 Columbus Road Granville, OH 43023 (740) 321-6345 greg.keeler@owenscorning.com
Quality Assurance Representative	
Address/Phone/Email	

Category	Roofing
Subcategory	Underlayments
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Robert Nieminen
Florida License	PE-59166
Quality Assurance Entity	Intertek Testing Services NA, Inc. - QA Entity
Quality Assurance Contract Expiration Date	12/31/2023
Validated By	John W. Knezevich, PE ☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL15216_R10_COI_2021_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D226 (physicals)	2009
ASTM D4533 (tear strength)	2015
ASTM D4798 (weathering)	2011
ASTM D4869 (liquid transmission)	2016
ASTM D5035 (tensile strength)	2011

Equivalence of Product Standards Certified By	
Sections from the Code	
Product Approval Method	Method 1 Option D
Date Submitted	08/13/2021
Date Validated	08/16/2021
Date Pending FBC Approval	08/22/2021

Date Approved 10/12/2021

Summary of Products

FL #	Model, Number or Name	Description
15216.1	RhinoRoof U10, RhinoRoof U20, ABC Pro Guard 20 and SRS TopShield TS20 Roof Underlayments	Synthetic roof underlayments
Limits of Use **Approved for use in HVHZ:** Yes **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** See ER Section 5 for Limits of Use.		**Installation Instructions** FL15216_R10_II_2021_08_13_FINAL_ER_OWENS CORNING_RHINOROOF_FL15216-R10.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL15216_R10_AE_2021_08_13_FINAL_ER_OWENS CORNING_RHINOROOF_FL15216-R10.pdf Created by Independent Third Party: Yes

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NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER **EVALUATE** **TEST** **CONSULT**

EVALUATION REPORT

Owens Corning Roofing and Asphalt, LLC
One Owens Corning Parkway
Toledo, OH 43659
(740) 321-6345

Evaluation Report I40510.02.12-R11
FL15216-R10
Date of Issuance: 02/17/2012
Revision 11: 08/13/2021

SCOPE:
This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **7th Edition (2020) Florida Building Code** sections noted herein.

DESCRIPTION: RhinoRoof U10, RhinoRoof U20, ABC Pro Guard 20 and SRS TopShield TS20 Roof Underlayments

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and FBC 1507.1.1.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "**NEMO Evaluated**" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire Evaluation Report 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 Evaluation Report consists of pages 1 through 4.

Prepared by:

Robert J.M. Nieminen, P.E.
Florida Registration No. 59166, Florida DCA ANE1983

The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 08/13/2021. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Compliance Statement: **RhinoRoof U10, RhinoRoof U20, ABC Pro Guard 20 and SRS TopShield TS20 Roof Underlayments**, as produced by **Owens Corning Roofing and Asphalt, LLC**, have demonstrated compliance with the following sections of the **7th Edition (2020) Florida Building Code** through testing in accordance with applicable sections of the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

Section	Properties	Standard	Year
1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Tear strength	ASTM D4533	2015
1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Tensile strength	ASTM D5035	2011
1507.1.1.1(5) / R905.1.1.1(5)	Liquid water transmission	ASTM D4869	2016
1518.4, RAS 115	Unrolling, Breaking Strength, Pliability	ASTM D226	2009
TAS 110	Accelerated Weathering	ASTM D4798	2011

3. REFERENCES:

Entity	Examination	Reference	Date
ITS (TST1509)	ASTM D226	100539395COQ-006	10/26/2011
ITS (TST1509)	ASTM D4869	100539395COQ-002	10/26/2011
PRI (TST5878)	ASTM D226 / D4798 / D4869	OCF-394-02-07.4	01/06/2020
PRI (TST5878)	ASTM D226 / D4798	OCF-464-02-02.2	01/06/2020
PRI (TST5878)	ASTM D4533 / D5035 / D4798	1378T0109	10/15/2020
PRI (TST5878)	ASTM D4533 / D5035	1378T0127	10/15/2020
PRI (TST5878)	ASTM D8257-20	1378T0138	02/25/2021
PRI (TST5878)	ASTM D8257-20	1378T0139	03/23/2021
ITS (QUA1673)	ITS Audit Manual	3144566COQ-006A	09/10/2020
ITS (QUA1673)	Quality Control	Service Confirmation	08/13/2021
ITS (QUA1673)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

	Product	Specification	Plant(s)	Description
4.2	RhinoRoof U10	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Qingdao, China	Multilayered polymer woven coated synthetic roof underlayment
4.1	RhinoRoof U20	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Qingdao, China Silvassa, India	Multilayered polymer woven coated synthetic roof underlayment
4.2	ABC Pro Guard 20	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Silvassa, India	Multilayered polymer woven coated synthetic roof underlayment
43	SRS TopShield TS20	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Silvassa, India	Multilayered polymer woven coated synthetic roof underlayment

5. LIMITATIONS:

5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

5.2 This Evaluation Report pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.

5.3 This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** or **FBC HVHZ 1516** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.

5.4 **RhinoRoof U10, RhinoRoof U20, ABC Pro Guard 20 and SRS TopShield TS20 Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.

5.5 Allowable roof covers:

TABLE 1: ROOF COVER OPTIONS

FBC NON-HVHZ:	*1507.2*	*1507.3*	*1507.4 & 1507.5*	*1507.7*	*1507.8 & 1507.9*
FBC HVHZ:	*TAS 110(S10), RAS 115*	*TAS 110(S11), RAS 118, 119 & 120*	*RAS 133*	*TAS 110(S11)*	*RAS 130*
Underlayment	**Asphalt Shingles**	**Clay and Concrete Tile**	**Metal**	**Slate or Slate-Type Shingles**	**Wood**
RhinoRoof U10	Yes	No	Yes	No	NON-HVHZ: No HVHZ: Yes
RhinoRoof U20	Yes	No	Yes	No	NON-HVHZ: No HVHZ: Yes
ABC Pro Guard 20	Yes	No	Yes	No	NON-HVHZ: No HVHZ: Yes
SRS TopShield TS20	Yes	No	Yes	No	NON-HVHZ: No HVHZ: Yes

5.6 Exposure Limitations:

TABLE 2: EXPOSURE LIMITATIONS

Underlayment	Maximum Exposure (days)
RhinoRoof U10	90
RhinoRoof U20	90
ABC Pro Guard 20	30
SRS TopShield TS20	30

6. INSTALLATION:

6.1 **RhinoRoof U10, RhinoRoof U20, ABC Pro Guard 20 and SRS TopShield TS20 Roof Underlayments** shall be installed in accordance with the manufacturer's published installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.2 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application.

6.3 **RhinoRoof U10, RhinoRoof U20, ABC Pro Guard 20 and SRS TopShield TS20 Roof Underlayments:**

6.3.1 **NON-HVHZ Jurisdictions:**

6.3.1.1 Shall be installed in compliance with requirements for a synthetic underlayment in **FBC 1507.1.1.1(2, Exception), 1507.1.1.1(3, Exception)** or **1507.1.1.1(5)** or **FBC Residential R905.1.1.1(2, Exception), R905.1.1.1(3, Exception)** or **R905.1.1.1(5)** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

6.3.1.2 Fasteners:

Minimum fasteners shall be corrosion resistant, ring-shank cap nails shall be as set forth in **FBC 1507.1.1.1** or **1507.1.1.3** or **FBC Residential R905.1.1.1** or **R905.1.1.3**.

6.3.2 **HVHZ Jurisdictions:**

6.3.2.1 Shall be installed in a shingle fashion with minimum 4-inch wide side (horizontal) laps and minimum 6-inch wide end laps, and fastened in accordance with FBC HVHZ 1518.2:

- grid pattern of 12 inches between the overlaps, with 6-inch spacing at the overlaps

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to Section 4 herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

Intertek Testing Services NA Inc. – QUA1673; (312) 906-7779; maura.norlander@intertek.com

- END OF EVALUATION REPORT -

Product Approval
USER: Public User

FL #	FL6267-R17
Application Type	Revision
Code Version	2020
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	GAF
Address/Phone/Email	1 Campus Drive Parisppany, NJ 07054 (800) 766-3411 mstieh@gaf.com
Authorized Signature	Robert Nieminen lreith@nemoetc.com
Technical Representative	William Broussard
Address/Phone/Email	1 Campus Drive Parsippany, NJ 07054 (800) 766-3411 TechnicalQuestionsGAF@gaf.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Roofing Accessories that are an Integral Part of the Roofing System
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Robert Nieminen
Florida License	PE-59166
Quality Assurance Entity	UL LLC
Quality Assurance Contract Expiration Date	07/12/2025
Validated By	John W. Knezevich, PE ☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL6267_R17_COI_2020_01_COI_NIEMINEN.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D1929	2016
ASTM D635	2014
ASTM E330	2002
ASTM G155	2013
TAS 100(A)	1995
TAS 114, Appendix E	2011

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	09/21/2020
Date Validated	09/26/2020
Date Pending FBC Approval	10/02/2020
Date Approved	12/15/2020

Summary of Products

FL #	Model, Number or Name	Description
6267.1	GAF Attic Ventilation Products	Low profile roof ventilation products
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-215 **Other:** 1.) The noted design pressures applies to one particular vent installation. Refer to ER Section 5.6. 2.) Refer to ER Section 5 for Limits of Use.		**Installation Instructions** FL6267_R17_II_2020_09_21_FINAL_GAF_VENTILATION_FL6267-R17.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes **Evaluation Reports** FL6267_R17_AE_2020_09_21_FINAL_GAF_VENTILATION_FL6267-R17.pdf Created by Independent Third Party: Yes

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NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER **EVALUATE** **TEST** **CONSULT**

EVALUATION REPORT

GAF
1 Campus Drive
Parsippany, NJ 07054
(800) 766-3411

Evaluation Report 01506.02.06-R17
FL6267-R17
Date of Issuance: 02/28/2006
Revision 17: 09/21/2020

SCOPE:
This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **7th Edition (2020) Florida Building Code** sections referenced herein.

DESCRIPTION: GAF Attic Ventilation Products

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire Evaluation Report 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 Evaluation Report consists of pages 1 through 11.

Prepared by:

Robert J.M. Nieminen, P.E.
Florida Registration No. 59166, Florida DCA ANE1983

The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 09/21/2020. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Roofing Accessories that are an Integral Part of the Roofing System
Compliance Statement: **GAF Attic Ventilation Products**, as produced by **GAF**, have demonstrated compliance with the following sections of the **7th Edition (2020) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

Section	Property	Standard	Year
1504.3	Wind resistance	ASTM E330	2002
1506.5, R904.5.1, 2304.10.5	Corrosion Resistance (of nails)	TAS 114, Appendix E	2011
1523.6.5.2.13	Wind Driven Rain	TAS 100(A)	1995
2606.4	Rate of burning	ASTM D635	2014
2606.4	Self-ignition temperature	ASTM D1929	2016
2615.2	Weatherometer	ASTM G155	2013

3. REFERENCES:

Entity	Examination	Reference	Date
ATI (TST 1558)	Physical Properties	01-49035.01	03/02/2004
ATI (TST 1558)	Wind Driven Rain	01-44964.01	01/15/2004
ATI (TST 1558)	Wind Driven Rain	60172.01-122-18	10/07/2005
ATI (TST 1558)	Physical Properties	59665.02-106-31	09/16/2005
ATI (TST 1558)	Wind Driven Rain	84608.01-106-18	11/12/2008
ATI (TST 1558)	Wind Driven Rain	A5250.01-109-18	02/18/2011
ATI (TST 1558)	Wind Uplift	87074.01-109-44	12/03/2008
ATI (TST 1558)	Wind Uplift	C2396.01-109-44	11/05/2012
ATI (TST 1558)	Wind Uplift	D1957.01-109-44	03/04/2014
ATI (TST 1558)	Wind Uplift	E0818.01-109-44	09/23/2014
ATI (TST 1558)	Physical Properties	D2702.01-106-18	06/30/2014
ATI (TST 1558)	Wind Uplift	E6744.01-109-44	04/30/2015
ATI (TST 1558)	Wind Driven Rain	G2331.01-109-44	01/10/2017
ATI (TST 1558)	Wind Driven Rain	G4123.01-109-18	01/10/2017
ATI (TST 1558)	Wind Uplift	G4123.02-109-44	01/10/2017
ITS (TST 1558)	Physical Properties	H5341.01-106-18 R1	01/22/2018
ITS (TST 1558)	Wind Driven Rain	G2331.03-109-18-R1	06/11/2019
PRI (TST 5878)	Weatherometer	HBP-007-02-01	06/24/2004
PRI (TST 5878)	Physical Properties	HBP-002-02-01	06/06/2001
PRI (TST 5878)	Wind Driven Rain	HBP-01-02-01	11/02/2000
PRI (TST 5878)	Wind Driven Rain	BRY-021-02-01	12/31/2003
PRI (TST 5878)	Physical Properties	BRY-025-02-01	09/17/2004
PRI (TST 5878)	Physical Properties	GAF-138-02-06	02/09/2007
PRI (TST 5878)	Wind Driven Rain	GAF-138-02-04	02/09/2007
PRI (TST 5878)	Wind Driven Rain	GAF-310-02-01	07/07/2011
PRI (TST 5878)	Wind Driven Rain	376T0008	07/25/2019
ETC Labs (TST 2411)	Physical Properties	ETC-01-718-10379.0	01/16/2000
ETC Labs (TST 2411)	Physical Properties	ETC-03-718-14602.0	01/20/2004
ETC Labs (TST 2411)	Physical Properties	ETC-07-718-19959.0	09/27/2007
Miami-Dade (CER 1592)	Various	Various NOAs	Current
Miami-Dade (CER 1592)	Corrosion Resistance (of nails)	Certification L 17-0606.01	06/26/2017
Miami-Dade (CER 1592)	Corrosion Resistance (of nails)	Certification L 17-0821.08	09/25/2017
Miami-Dade (CER 1592)	Corrosion Resistance (of nails)	Certification L 20-0423.01	05/07/2020
UL, LLC. (QUA 9625)	Quality Control	Service Confirmation	05/21/2019
UL, LLC. (QUA 9625)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

	Product	Plant(s)	Description	Published NFVA[1]
4.1	Cobra® Exhaust Vent	Acworth, GA	Low-profile attic ridge vent of mesh-construction for use in shingle roof systems with 12-inch width ridge cap shingles. The product measures 10½-inch wide supplied in 20 and 50 ft long rolls, and is supplied with corrosion resistant 1¾-inch coil nails (nail gun version) or 2½-inch Smart Nails™ (hand nail version).	14.1 (nail gun version) 16.9 (hand nail version)
4.2	Cobra® Rigid Vent 3™	Cumming, GA New Columbia, PA	Plastic, low-profile attic ridge vent for use in shingle roof systems with 12-inch width ridge caps. The product measures 13-13/16-inch wide supplied in 48-inch long sections, and is supplied with 3-inch corrosion resistant ring shank nails.	18
4.3	Cobra® Rigid Vent 3™ - 9”	Cumming, GA	Plastic, low-profile attic ridge vent for use in shingle roof systems with 10-inch width ridge caps. The product measures 11½-inch wide supplied in 48-inch long sections, and is supplied with 3-inch corrosion resistant ring shank nails.	18
4.4	Cobra® Snow Country®	Cumming, GA New Columbia, PA	Plastic, low-profile attic ridge vent with filter for use in shingle roof systems with 12-inch width ridge cap shingles. The product measures 13-13/16-inch wide supplied in 48-inch long sections.	18
4.5	Cobra® Snow Country® Advanced	Cumming, GA New Columbia, PA	Plastic, low-profile attic ridge vent with filter for use in shingle roof systems with 12-inch width ridge caps. The product measures 13-13/16-inch wide supplied in 48-inch long sections, and is supplied with 3-inch corrosion resistant ring shank nails.	18
4.6	Cobra® Snow Country® Advanced - 9”	Cumming, GA	Plastic, low-profile attic ridge vent with filter for use in shingle roof systems with 10-inch width ridge caps. The product measures 11½-inch wide supplied in 48-inch long sections, and is supplied with 3-inch corrosion resistant ring shank nails.	18
4.7	Cobra® RidgeRunner®	Cumming, GA	Polypropylene plastic, low-profile attic ridge vent for use in shingle roof systems with 12-inch width ridge cap shingles. The product measures 11½-inch wide supplied in 20 ft long rolls, and is supplied with corrosion resistant 1¾-inch coil nails.	12.5
4.8	TruSlate® Ridge Vent	Cumming, GA	Plastic, low-profile attic ridge vent for use in TruSlate® roof systems. The product measures 11.4-inch wide supplied in 48-inch long sections.	20
4.9	Cobra® Hip Vent	Cumming, GA	Plastic, low-profile attic hip vent with filter for use in shingle roof systems with 12-inch width hip shingles. The product, only for use on hips, measures nominal 11.4-inch wide supplied in 48-inch long sections, and is supplied with corrosion resistant 1¾-inch coil nails.	9
4.10	Cobra® IntakePro® Rooftop Intake Vent	Enka, NC	Woven plastic material pressed to form the molded shape. A woven fabric material is utilized on the top, bottom and front, below the vent channel of the mold. The vent is configured into a roll-out form, and is supplied with corrosion resistant 1¾-inch coil nails.	9

[1] *Net Free Ventilation Area reported herein is as published by the manufacturer at the time of evaluation. The report user should verify current published data at the time of design and/or permitting to the satisfaction of the Authority Having Jurisdiction.*

5. LIMITATIONS:

5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

5.2 This Evaluation Report is not for use in FBC High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).

5.3 This Evaluation Report pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.

5.4 This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** or **R902** for requirements and limitations regarding roof assembly fire classification.

5.5 **Minimum Roof Slopes:**

Product	Minimum Slope
Cobra® Exhaust Vent	2:12
Cobra® Rigid Vent 3™	3:12
Cobra® Rigid Vent 3™ - 9”	3:12
Cobra® Snow Country®	3:12
Cobra® Snow Country® Advanced	3:12
Cobra® Snow Country® Advanced - 9”	3:12
Cobra® RidgeRunner®	3:12
TruSlate® Ridge Vent	5:12
Cobra® Hip Vent	Min. 3:12 to max. 12:12
Cobra® IntakePro® Rooftop Intake Vent	4:12

5.6 **Wind Classification:**

5.6.1 When installed in accordance with GAF standard attachment procedures, installation of **Cobra® Exhaust Vent**, **Cobra® Rigid Vent 3**, **Cobra® Rigid Vent 3 – 9”**, **Cobra® Snow Country®**, **Cobra® Snow Country® Advanced**, **Cobra® Snow Country® Advanced – 9”**, **Cobra® RidgeRunner®, TruSlate® Ridge Vent, Cobra® Hip Vent** and **Cobra® IntakePro®** is limited to maximum 33 ft mean roof height in Exposure B or C conditions. Refer to FBC 1609 or FBCR Chapter 3 for design wind speeds and exposure categories.

5.6.2 For installation on buildings outside these limitations, the following performance limitations may be utilized. Allowable Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied). The Allowable Design Pressure shall meet or exceed critical design pressure determined by a qualified design professional in accordance with **FBC Chapter 16** or **FBCR Chapter 3**. No rational analysis is permitted.

Substrate:	Product	Allowable Design Pressure (psf)
Min. 7/16-inch plywood	Cobra® Exhaust Vent (nail gun version)	-150
Min. 7/16-inch plywood	Cobra® Exhaust Vent (hand nail version)	-180
Min. 7/16-inch plywood	Cobra® Rigid Vent 3™, Rigid Vent 3™ - 9”, Snow Country®, Snow Country® Advanced and Snow Country® Advanced - 9”	-215
Min. 7/16-inch OSB or plywood	Cobra® RidgeRunner®	-180
Min. 7/16-inch plywood	TruSlate® Ridge Vent	-190
Min. 7/16-inch plywood	Cobra® Hip Vent	-205
Min. 7/16-inch plywood	Cobra® IntakePro® Rooftop Intake Vent	-175

5.7 **GAF Attic Ventilation Products** are for use with asphalt-composition shingle roofs only.

5.8 Installation shall result in minimum net free ventilation area requirements set forth in **FBC 1203.2**.

6. INSTALLATION:

6.1 **GAF Attic Ventilation Products** shall be installed in accordance with **GAF** published installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.

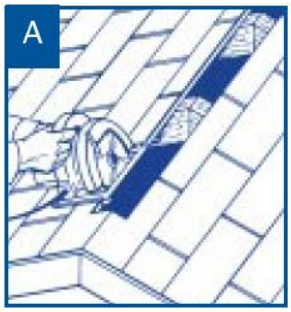
6.2 COBRA® EXHAUST VENT:

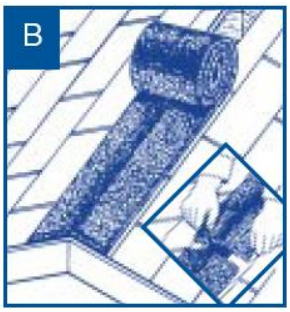
6.2.1 Chalk a cut-line 1-inch off each side of the ridge and cut a slot along the apex of the roof measuring 2-inch (for truss construction) or 3½-inch (for ridge pole construction). The slot should terminate 6-inches from each end and 12-inches from hip intersections or chimneys. Cut only the sheathing; do not cut trusses. Figure A.

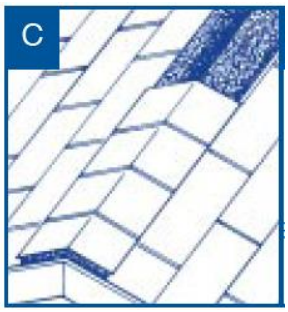
6.2.2 Unroll the vent along the entire length of the ridge, covering uncut 6-inch sheathing area on both ends. Shorter lengths can be joined by caulking and butting the ends. Figure B.

6.2.3 Apply a bead of polyurethane roof sealant to the underside of the entire perimeter of the vent and nail with min. 2½-inch galvanized roofing nails at each corner and 10-inch o.c.

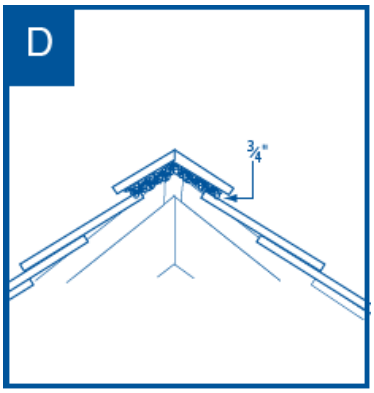
6.2.4 Apply a bead of polyurethane roof sealant in the shape of a "C" to the underside of the entire perimeter of the cap shingles, and install cap shingles directly over the vent using Smart Nails™ or 1¾-inch corrosion resistant coil nails (supplied with the vent). Figure C.



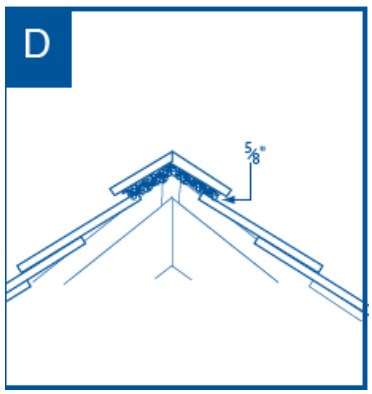




6.2.5 **Cobra® Exhaust Vent (hand nail version)** and **Cobra® Exhaust Vent (nail gun version)** have a ¾-inch or 5/8-inch nominal thickness, respectively, to facilitate ventilation. Care shall be taken not to crush or compact the product during installation. Figure D.



Hand-Nail Version

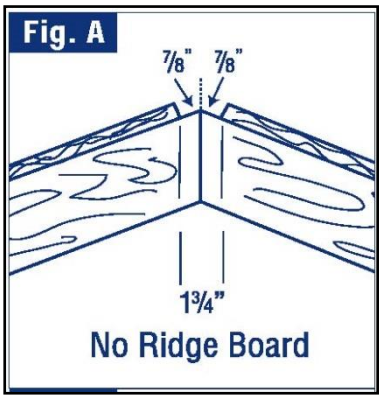


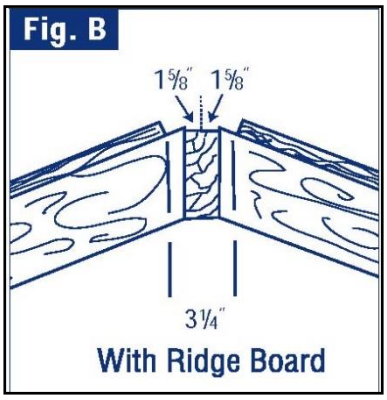
Nail Gun Version

6.3	COBRA® RIGID VENT 3™, RIGID VENT 3™ - 9”, SNOW COUNTRY®, SNOW COUNTRY® ADVANCED AND SNOW COUNTRY® ADVANCED - 9”:

6.3.1 Mark-off and cut the slot opening as follows, ensuring that the ends of the opening stop at least 6-inch from any end walls and at least 12-inch from hip and ridge intersections or chimneys.

- **No Ridge Board:** Cut a 7/8-inch opening on each side of the ridge (Figure A).
- **With Ridge Board:** Cut a 1-5/8-inch opening on each side of the ridge (Figure B).





6.3.2 **Vent Placement:** Starting at one end of the slot, place, center and conform the Cobra® rigid vent over the slot with the vent firmly against the roof surface, ensuring the vent extends past the slot opening by at least 6-inch.

6.3.3 **Fasteners:** For **Cobra® Rigid Vent 3™**, **Cobra® Rigid Vent 3™ - 9”**, **Cobra® Snow Country® Advanced** and **Cobra® Snow Country® Advanced - 9”** only, use the 3-inch corrosion resistant ring shank nails (included). For **Cobra® Snow Country®**, use corrosion resistant nails at least 3-inch or longer. Nails must always penetrate through plywood decks or at least ¾-inch into wood planks. NOTE: **GAF** recommends 3-inch corrosion resistant ring shank nails for increased uplift resistance.

6.3.4 **Spacing:** Attach the vent section through the pre-molded nailing holes located at 3, 12, 24, 36 and 45-inch from the start of each 48-inch vent piece.

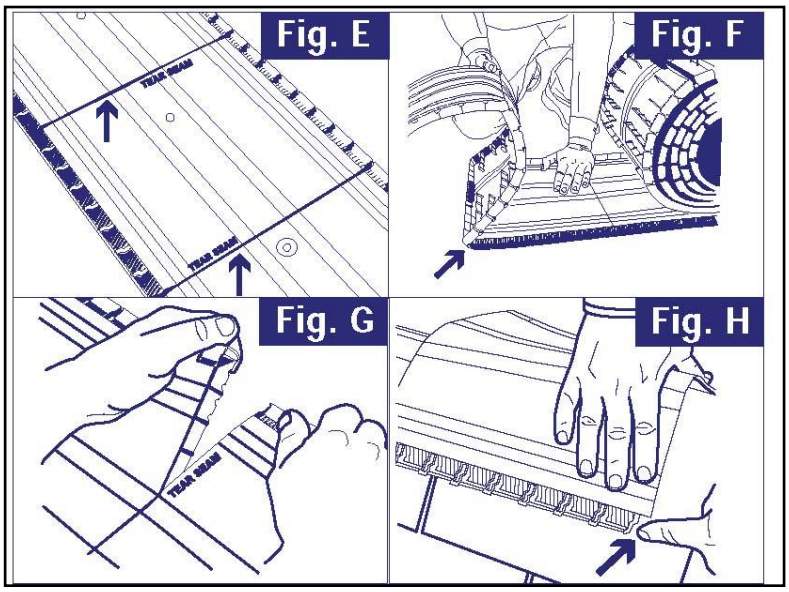
6.3.5 **Joints:** Apply the subsequent Cobra® rigid vent sections over the length of the ridge using the overlap/underlap tabs.

6.3.6 **Ridge Shingles:** Install ridge shingles in accordance with shingle manufacturer’s published installation instructions, using corrosion resistant nails detailed in 6.3.3. A nail line is inscribed on top of the Cobra® rigid vent to serve as a guide.

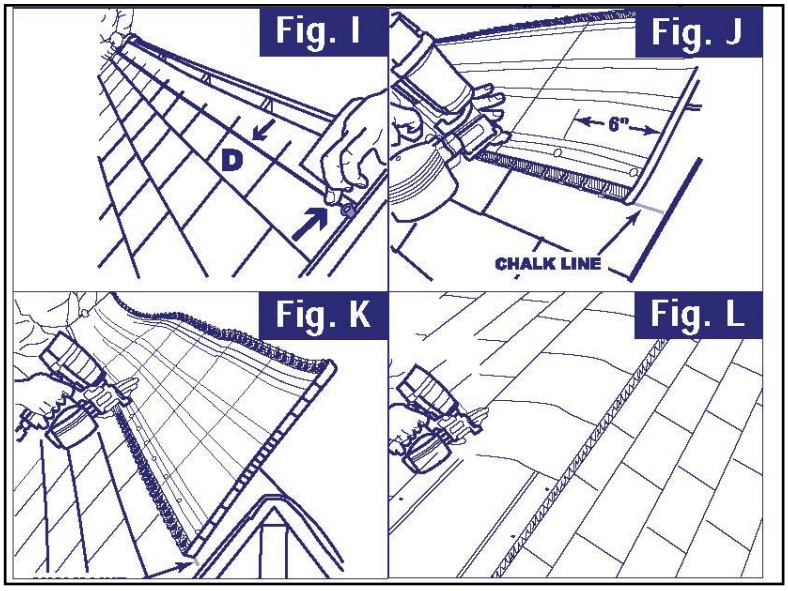
6.4 COBRA® RIDGERUNNER®

6.4.1 Cut slot per 6.3.1.

6.4.2 Tear a 1-foot section to be used as a template for laying the vent out (Figure E-G) and center the template/ locator over the ridge cap shingles at the beginning of the vent slot. Note the location of the baffle (Figure H). Make sure to do this at both ends of the installation.



6.4.3 Measure the distance from the edge of the roof slot to the exterior baffle (D). Establish a chalk line along one side of the ridge (Figure I). Unroll the vent and use the included 1-3/4-inch pneumatic corrosion resistant roofing nails to attach the first side of the ridge vent with the exterior of the baffle aligned with the chalk line (Figure J). Proceed with using the 1' interval EasyTear™ system to custom size the vent to the appropriate length. If the EasyTear™ system can not be utilized, use a utility knife to size the vent. Nail gun targets are embossed on the part as a guide for property attaching vent to the roof. The vent should be fastened on 6-inch centers (Figure K).



6.4.4 For installations over extra-thick shingles, a bead of polyurethane roof sealant may be applied to the underside of the outer baffle of the vent along both sides of the ridge and at exposed edges where the vent meets the shingles to fill any open space between the vent and shingles below.

6.4.5 **NOTE:** When fastening the vent and cap shingles, be sure that the included 1 3/4-inch corrosion resistant coil nails completely penetrate plywood or provide at least 3/4-inch penetration into wood planks. In the case they do not, you must use alternate corrosion resistant nails that provide the required penetration. Proceed with attaching the other side of the vent. When beginning to nail down the second side, do NOT begin at the end; begin between the first and second one-foot sections and then return to fasten the first one-foot section. This will allow for proper fit.

6.4.6 Install ridge shingles in accordance with shingle manufacturer's published installation instructions, using the nail-lines on top of the ridge vent for proper lapping.

6.5 TRUSLATE® RIDGE VENT:

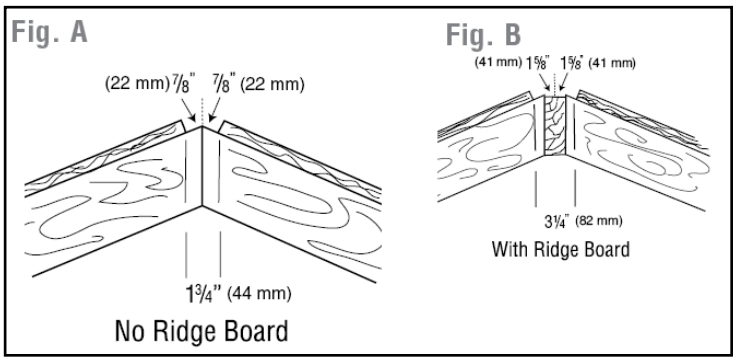
6.5.1 DO NOT use on hips.

6.5.2 Install **TruSlate® Ridge Vent** before installing the field slates.

6.5.3 After determining the total length of **TruSlate® Ridge Vent** required (for proper ventilation), determine the necessary slot opening. Mark-off and cut the slot opening, ensuring the ends of the opening stop at least 6-inch from any end walls and at least 12-inch from hip and ridge intersections or chimneys.

Roofs without a ridge board: Cut a 7/8-inch opening along the ridge on each side (Figure A).

Roofs with a ridge board: Cut a 1-5/8-inch opening along the ridge on each side (Figure B).

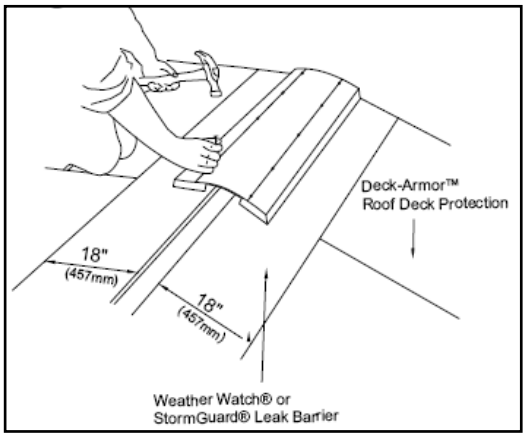


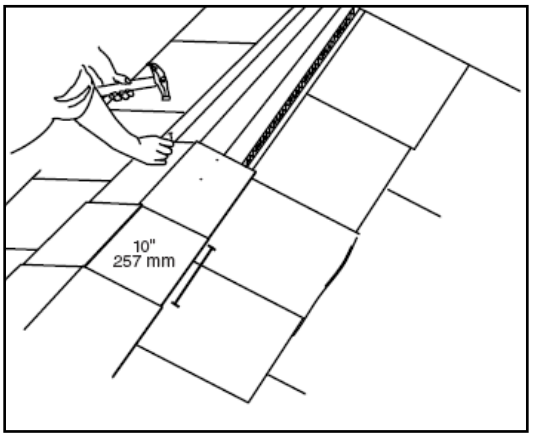
6.5.4 Install an 18-inch wide section of ASTM D1970 self-adhering leak barrier (holding Florida Statewide Product Approval or Approved on a Local Basis) from the edge of the ridge slot extending down towards the roof deck on both side of the slot.

6.5.5 Place the **TruSlate® Ridge Vent** over the ridge slot, "peaked" and centered over the ridge slot, and attach using minimum 3-inch long corrosion resistant ring-shank nails through the pre-molded nail holes on the vent, located 3-inch from the ends and 9-inch o.c. Fasteners shall penetrate through plywood decks or embed minimum ¾-inch into wood plank decks.

6.5.6 Continue over the length of the ridge, utilizing the male/female connectors to connect units. Ensure the finished ends include the pre-molded end caps. Cover all exposed nail heads on the vent with silicone caulk. Install a bead of exterior grade silicone sealant at the downslope leading edges of the ridge vent, at the junction of the leading edge and the leak-barrier below.

6.5.7 Install the top course of TruSlate® field slates, UnderBlock™ UV & Moisture Barrier and TruSlate® trim slates in accordance with GAF published installation instructions. Install **TruSlate® trim slates** with 10-inch exposure using minimum **1-5/8-inch long deck screws** through pre-drilled holes, through the ridge vent to engage the wood deck.



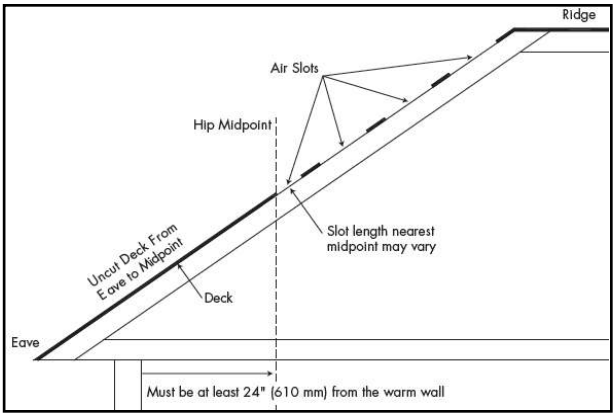


6.6 COBRA® HIP VENT

6.6.1 The roof deck shall consist of minimum of 7/16 inch thick plywood or OSB wood structural panels. Use only on roofs with slopes between 3:12 and 12:12. Install only on hips. Do not install Cobra® Hip Vent on ridges.

6.6.2 **Sequencing:** If ridge ventilation will be installed, always install the ridge vent to the end of the ridge before installing **Cobra® Hip Vent**.

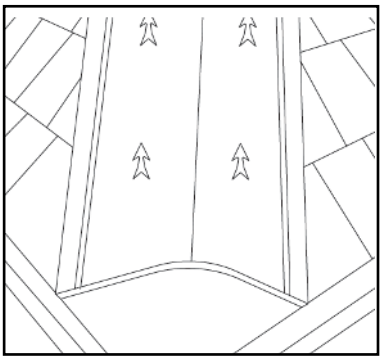
6.6.3 **Hip Air Slot:** Determine the number of **Cobra® Hip Vent** sections needed for proper ventilation and the location for cuts in the roof hip. **Cobra® Hip Vent** is installed over a 2½ inch wide slot opening centered on the hip beginning at 12 inches below the top of the hip and extending 36 inches down the hip for every 4 foot section of **Cobra® Hip Vent** needed. Leave 12 inches of the hip uncut after each 36 inch opening, and the lowest opening must stop at the mid-point of the hip and more than 24 inches in from the exterior warm wall. Wider openings and slots below the midpoint of the hip will not improve ventilation and must be avoided. Cut away the shingles first with a roofing knife, and then cut the deck with a circular saw. The saw should be adjusted so that the rafters or trusses are not cut. Note: The roof decking must be re-nailed to the rafter at the edge closest to the hip to compensate for the nails removed when the hip slot was cut.



6.6.4 On plywood or OSB roof decks, where a sheathing seam intersects the hip air slot, stop cutting the air slot 2-inches (51 mm) **before** the seam and continue cutting the slot 2-inches (51 mm) **after** the seam, leaving a total of 4-inches (102 mm) of uncut deck at the seam. Then, proceed with cutting down to the previously marked 36-inch (914 mm) point. The air slot may be widened, in this case, to 5/8-inch (16 mm) on each side of the hip rafter to maintain proper NFVA.

6.6.5 **Sealant:** Seal all cut-edges of the asphalt shingles to the roof sheathing along all sides of the hip air slot openings, using a bead of ASTM C920 polyurethane sealant, to prevent water infiltration.

6.6.6 **Orientation:** Always install **Cobra® Hip Vent** with the "Towards Peak" arrows on the top surface of the vent pointing up towards the peak of the roof.



6.6.7 **Attachment: Cobra® Hip Vent** is fastened to the deck starting at the bottom of the hip and then up along the entire length of the hip (this includes un-cut portions of the hip). Fasten **Cobra® Hip Vent** to the deck with the included 1¾-inch inch long collated galvanized steel roofing nails, or longer corrosion resistant roofing fasteners, to achieve penetration through plywood or OSB decks or minimum 3/4-inch embedment into wood planks. Attach the **Cobra® Hip Vent** section through the pre-marked 6-inch increment nail targets.

6.6.8 **Joints & Terminations:** Apply the subsequent **Cobra® Hip Vent** sections over the length of the hip using the overlap/underlap tabs. For roofs with ridge vents, lengths of the hip vent must be butted tightly to sections of ridge vents and install a 3 inch by 12-inch strip of self-adhering leak barrier over all junctions. For roofs without ridge vents, sections of hip vent from adjacent hip runs must be mitered together tightly where they intersect and install a 3 inch by 12-inch strip of self-adhering leak barrier over all junctions. Refer to GAF published installation instruction for details.

6.6.9 **Ridge Shingles: Cobra® Hip Vent** is then covered with ridge cap shingles and this entire assembly is nailed to the sheathing with the included 1¾-inch inch long collated galvanized steel roofing nails. Depending on the field and ridge cap shingles used, longer length corrosion resistant fasteners may be necessary. The ridge cap shingles are installed per the shingle manufacturer's instructions and Florida Product Approval, with a minimum of two nails per shingle and a shingle to shingle nail spacing of 8 inches on center or less. Refer to the shingle manufacturer's Florida Product Approval for ridge cap shingle fastening and sealing requirements. Do not overdrive the nails or crush/compact the product during installation.

6.7 COBRA® INTAKEPRO® ROOFTOP INTAKE VENT

6.7.1 The roof deck shall consist of minimum of 7/16 inch thick plywood or OSB wood structural panels. Use only on roofs with minimum slope of 4:12. Install only on eave edges of the roof.

6.7.2 Determine the length of Cobra® IntakePro® Rooftop Intake Vent sections needed for proper ventilation and the location for cuts near the roof eave edge. Install a metal drip edge at the eave of the roof. Measure up 6 and 7 inches up from the edge of the metal drip edge and strike chalk lines parallel to the eave of the roof. Cut a 1 inch wide air slot opening along the chalk lines, stopping a minimum of 12" (305 mm) from rake/gable edges, side/end walls, and hip intersections, and stopping a minimum of 24" (610 mm) from the center of valley intersections. The saw should be adjusted so that the rafters or trusses are not cut.

Note: After cutting the air slot, clear all debris blocking access into the attic space. Be sure to flatten attic insulation near the air slot to allow for proper intake airflow near the air slot. Attic baffles may be used to help prevent insulation from blocking intake airflow into the attic space.

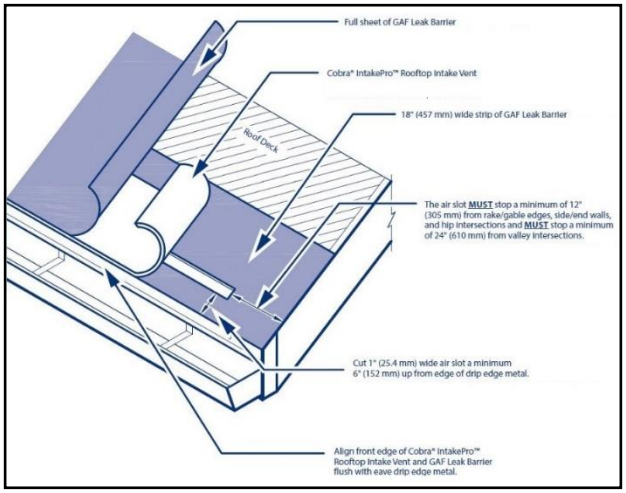
6.7.3 Install a minimum 18 inch (457mm) wide FBC Approved peel-and-stick leak barrier down to the roof deck. Align peel-and-stick leak barrier flush to the edge of the roof on top of the drip edge metal. Use a sharp utility knife to cut the leak barrier, re-opening the 1 inch (25 mm) air slot that was previously cut in the deck.

6.7.4 Each roll of Cobra® IntakePro® Rooftop Intake Vent comes with two pieces of end cap fabric. To begin the vent run, place one piece of end cap fabric overhanging halfway over the rake/gable edge and parallel to the eave drip edge. Fasten the fabric to the roof deck using two roofing nails, one high and one low. If necessary, a piece of FBC Approved peel-and-stick leak barrier can be used in lieu of end cap fabric.

6.7.5 With the pre-marked dotted nail line and GAF logo facing up toward the sky, position the vent on top of the fabric end cap and flush to the rake/gable edge and eave drip edge. The front venting face of the vent should be flush with the drip edge metal below. Using the included 1-3/4 inch (44 mm) pneumatic coil nails, fasten the vent every 6 inches (152 mm) along the pre-marked nail line and fasten every 12 inches (305 mm), approximately 1-1/2 inches (38 mm) down from the up-slope edge of the vent. Do NOT nail within 1 inch (25 mm) from the side, top, or bottom edges of the vent.

6.7.6 Continue installing vent toward the opposite gable/rake edge or termination point. When installing multiple rolls, adjoin the rolls by butting them tightly together. There should be no gap between adjoining sections. The vent must always extend a minimum of 12 inches (305 mm) past any air slots. Miter cut the vent at any valley and hip intersections, ensuring the vent sections are butted tightly together. For terminations at gable and rake edges, cover the end of the vent run using the included fabric end cap in the same manner as the start of the vent run.

6.7.7 Install FBC Approved peel-and-stick leak barrier completely covering the top of the vent and extending from the eave edge to a minimum of 24 inches (610 mm) in from the building's warm wall. The leak barrier should not overhang the vent. Install rake drip edge if necessary.



6.7.8 Begin installing the shingle starter course. The starter course and first course of field shingles should overhang the front edge of the Cobra® IntakePro® Rooftop Intake Vent by 1/4 – 3/4 inches (6 – 19 mm) to provide a drip edge. Using the included 1-3/4 inch (44 mm) pneumatic coil nails, fasten the starter strip and field shingles as per manufacturer's installation instructions. Ensure the field shingles are not fastened into the open air intake slot below.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to Section 4 herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

UL, LLC. – QUA9625; (847) 664-3281

- END OF EVALUATION REPORT -

FL #	FL18355-R6
Application Type	Revision
Code Version	2020
Application Status	Approved
	*Approved by DBPR. Approvals by DBPR shall be reviewed and ratified by the POC and/or the Commission if necessary.
Comments	
Archived	☐
Product Manufacturer	TAMKO Building Products LLC
Address/Phone/Email	PO Box 97 Galena, KS 66739 (417) 624-6644 Ext 2305 kerri_eden@tamko.com
Authorized Signature	Kerri Eden kerri_eden@tamko.com
Technical Representative	Kerri Eden
Address/Phone/Email	PO Box 1404 Joplin, MO 64802 (417) 624-6644 Ext 2305 kerri_eden@tamko.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Asphalt Shingles
Compliance Method	Evaluation Report from a Product Evaluation Entity
Evaluation Entity	UL LLC
Quality Assurance Entity	UL LLC
Quality Assurance Contract Expiration Date	06/29/2023
Validated By	Robert Nieminen, PE
	☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL18355_R6_COI_UL_Standards of Business Conduct - Independence.pdf

Referenced Standard and Year (of Standard)

Standard	Year
ASTM D3161	2016
ASTM D3462	2010
ASTMD D7158	2019

Equivalence of Product Standards Certified By	
Sections from the Code	

Product Approval Method	Method 1 Option C
Date Submitted	11/20/2020
Date Validated	11/23/2020
Date Pending FBC Approval	
Date Approved	11/24/2020

Summary of Products

FL #	Model, Number or Name	Description
18355.1	TAMKO Asphalt Shingles	ASTM D3462 asphalt shingles and hip and ridge shingles
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** N/A **Other:** See evaluation report for limits of use.		**Installation Instructions** FL18355_R6_II_2020_11_18_TAMKO UL ER2919-01.pdf Verified By: UL LLC Created by Independent Third Party: **Evaluation Reports** FL18355_R6_AE_2020_11_18_TAMKO UL ER2919-01.pdf

Back Next

UL Evaluation Report

UL ER2919-01

Issued: May 21, 2013

Revised: March 29, 2022

Visit UL, LLC's Product iQ™ database for the status of this Report.

UL Category Code: ULEZ

CSI MasterFormat®

DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Sub-level 2: 07 30 00 – Steep Slope Roofing
Sub-level 3: 07 31 00 – Shingles and Shakes
Sub-level 4: 07 31 13 – Asphalt Shingles

COMPANY:

TAMKO BUILDING PRODUCTS LLC
198 FOUR STATES DRIVE
GALENA, KANSAS 66739
(417) 624-6644
www.tamko.com

1. SUBJECT: Asphalt Shingles

ELITE GLASS-SEAL,

HERITAGE, HERITAGE IR, HERITAGE PREMIUM, HERITAGE WOODGATE, HERITAGE VINTAGE, HERITAGE PROLINE STORMFIGHTER IR, AND HERITAGE PROLINE TITAN XT

HERITAGE VINTAGE 12 X 12 HIP AND RIDGE, 12-¼ X 12 HIP AND RIDGE, AND 12-¼ X 12 HERITAGE HIP AND RIDGE IR

HERITAGE VINTAGE STARTER, TAMKO 10-INCH STARTER, TAMKO PERFORATED STARTER, TAMKO SHINGLE STARTER

2. SCOPE OF EVALUATION

- 2021, 2018, 2015, and 2012 *International Building Code* ® (IBC)
- 2021, 2018, 2015, and 2012 *International Residential Code* ® (IRC)
- 2020 Florida Building Code – Building
- 2020 Florida Building Code – Residential
- ICC ES Acceptance Criteria for Quality Documentation (AC10)

The products were evaluated for the following properties:

- Exterior Fire Exposure (UL 790)
- Wind Resistance (ASTM D3161; ASTM D7158)
- Physical Properties (ASTM D3462)
- Impact Resistance (UL 2218)

3. REFERENCED DOCUMENTS

- UL 790, Standard Test Methods for Fire Tests of Roof Coverings
- UL 2218, Standard Test Methods for Impact Resistance of Prepared Roof Covering Materials
- ASTM D3161, Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)
- ASTM D7158, Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)
- ASTM D3462, Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
- UL Subject 2375 Issue No. 2, Outline of Investigation for Hip and Ridge Shingles (UL Fire and Wind Tests)
- ICC-ES Acceptance Criteria for Quality Documentation (AC10)

4. USES

TAMKO asphalt shingles are used as roof coverings for new and existing roofs.

5. PRODUCT DESCRIPTION

TAMKO asphalt shingles are roof covering materials complying with the following properties when installed as described in this report. The products are three-tab shingles, laminated shingles, starter shingles, and hip & ridge shingles.

Fire Classification: TAMKO asphalt shingles covered under this Report have been tested for fire classification Class A in accordance with UL 790. Shingles tested in accordance with UL 790 qualify for use under Section 1505.1 of the 2020 Florida Building Code - Building, IBC, Section R902.1 of the IRC and 2020 Florida Building Code - Residential.

Wind Resistance: TAMKO asphalt shingles covered under this Report have been tested for wind resistance in accordance with ASTM D3161 or ASTM D7158.

Shingles tested in accordance with ASTM D3161 are classified as Class F and qualify for use under the exception to Section 1504.2 of the 2021 IBC, Section 1504.1.1 of the 2018 and 2015 IBC, Section 1507.2.7.1 of the 2012 IBC and 2020 Florida Building Code - Building, the exception to Section R905.2.4.1 of the IRC, and Section R905.2.4 of 2020 Florida Building Code - Residential.

Shingles tested in accordance with ASTM D7158 are classified as Class H and qualify for use in locations as shown in Table 1504.2 of the 2021 IBC, Table 1504.1.1 of 2018 and 2015 IBC, Table 1507.2.7.1 of the 2012 IBC and 2020 Florida Building Code - Building, Table R905.2.4.1 of the IRC, or Table R905.2.6.1 of the 2020 Florida Building Code - Residential, where the maximum basic wind speed is 150 mph (67 m/s) or less with exposure category of B or C (ASCE 7) and a maximum building height of 60 feet (18.3 m). Installation must be in accordance with Section 1507.2 of the 2021 and 2018 IBC, 2020 Florida Building Code - Building, and Section 1507.2.7 of the 2015, and 2012 IBC, or Section R905.2 of the IRC and 2020 Florida Building Code - Residential, as applicable.

Physical Properties: TAMKO asphalt shingles covered under this Report have been tested for physical properties in accordance with ASTM D3462. Shingles tested in accordance with ASTM D3462 qualify for use under Section 1507.2.4 of the 2021 and 2018 IBC, Section 1507.2.5 of the 2015 and 2012 IBC, Section 1507.2.5 of the 2020 Florida Building Code - Building, or Section R905.2.4 of the IRC and 2020 Florida Building Code - Residential. When installed on new construction in accordance with this report and the TAMKO Building Products LLC installation instructions, the shingles are a Class A roof covering. When the shingles are installed over existing roof coverings, the Class A fire classification is maintained.

5.1 Three-Tab Shingles – Elite Glass-Seal:

Elite Glass-Seal shingles are three-tab shingles manufactured with a single fiberglass mat, coated on both sides with asphalt, and surfaced on the weather-exposed side with mineral granules. The shingles are self-sealing and have beads of thermal-tab sealing adhesive above the shingle butt on the weather side. See Table 2 for product dimensions and manufacturing locations.

5.2 Laminated Shingles – Heritage, Heritage IR, Heritage Premium, Heritage Woodgate, Heritage Vintage, Heritage Proline Stormfighter IR, and Heritage Proline Titan XT:

Heritage, Heritage IR, Heritage Premium, Heritage Woodgate, Heritage Vintage, Heritage Proline Stormfighter IR, and Heritage Proline Titan XT shingles are laminated shingles manufactured with a double layer of fiberglass mats coated with asphalt on all sides and surfaced on the weather-exposed side with mineral granules. See Table 3, Table 4, Table 5, Table 6, Table 7, Table 10, Table 13, and Table 13A for product dimensions and manufacturing locations.

5.3 Hip & Ridge Shingles – 12-¼ X 12 Hip and Ridge, Heritage Vintage 12 X 12 Hip and Ridge, 12-¼ X 12 Heritage Hip and Ridge IR:

Hip and Ridge are prefabricated hip and ridge shingles available as 12-¼ X 12 Hip and Ridge and 12-¼ x 12 Heritage Hip and Ridge IR. Heritage Vintage Hip and Ridge are prefabricated hip and ridge shingles available as 12 X 12 Hip and Ridge. As an alternative, Elite Glass-Seal shingles are cut into three 12-¼ inch by 12-inch (305 mm by 305 mm) hip and ridge shingles. See Table 8, Table 9, and Table 11 for product dimensions and manufacturing locations.

6. INSTALLATION

TAMKO asphalt shingles must be installed in accordance with the applicable code, this report and the manufacturer's published installation instructions. The shingles must be installed in accordance with Section 1507.2 of the IBC and 2020 Florida Building Code - Building, or Section R905.2 of the IRC and 2020 Florida Building Code - Residential, as applicable, except as noted in this report.

The manufacturer's published installation instructions must be available at all times on the jobsite during installation.

Minimum roof slopes must be 2:12 (16.67% slope) for the three-tab shingles described under 5.1 of this Report and for the laminated shingles described under 5.2 of this Report.

6.1 Underlayment and Ice Barriers:

For roof slopes 4:12 and greater, the roof deck must be covered with a minimum of one layer of underlayment as described in Sections 7.2 and 7.3 of this Report. Underlayment application must be in accordance with Table 1507.1.1 of the 2021 and 2018 IBC, 2020 Florida Building Code - Building, and Section 1507.2.8 of the 2015 and 2012 IBC or Table R905.1.1(2) of the 2021 IRC, Section R905.2.7 of the 2018, 2015, and 2012 IRC, and Section 905.2.3 of the 2020 Florida Building Code - Residential, as applicable.

For roof slopes 2:12 and up to but less than 4:12, two layers of the underlayment described in Section 7.2 or one layer of the self-adhering polymer modified bitumen sheet in described in Section 7.3 of this Report are required. Underlayment application must be in accordance with Section 1507.1.1 of the 2021 and 2018 IBC, 2020 Florida Building Code - Building, and Section 1507.2.8 of the 2015 and 2012 IBC, Section R905.1.1 of the IRC, and 2020 Florida Building Code - Residential, as applicable.

In areas where there has been a history of ice forming along the eaves, causing a backup of water, an ice barrier must be provided in accordance with Section 1507.1.2 of the 2021 and 2018 IBC and Section 1507.2.8.2 of the 2020 Florida Building Code - Building, 2015 and 2012 IBC or Section R905.1.2 of the 2021 and 2018 IRC, 2020 Florida Building Code - Residential, Section R905.16.4.1 of the 2015 IRC, and Section R905.2.7.1 of the 2012 IRC, as applicable.

6.2 Starter Shingle:

A starter course, as described in Section 7.4 of this Report, must be attached to the eave edge using fasteners described in Section 7.5 of this Report, located 1-½ to 3 inches (38.1 to 76.2 mm) from the eave edge and spaced 1 inch (25.4 mm) and 12 inches (305 mm) from each end, for a total of four fasteners per shingle. Starter strips must overhang the eave and rake edges ¼ to ¾ inch (6.4 to 19.1 mm) if no drip edge flashing is present. If drip edge flashing is present, install shingles even with the drip edge or overhang the drip edge up to ¾ inch.

6.3 Asphalt Shingles:

The first course of field shingles must be installed over the starter course described in Section 7.4 of this Report.

Shingles must be installed with vertical joints offset a minimum of 4 inches (102 mm) from adjacent courses.

6.3.1 Three-Tab Shingles – Elite Glass-Seal:

For roof slopes 2:12 up to but less than 21:12 (16.67% to 175% slope), each shingle must be fastened to the roof deck using a minimum of four fasteners, spaced as shown in Table 2.

For roof slopes equal to or greater than 21:12 (175% slope), six fasteners must be used, spaced as shown in Table 2.

Fasteners must be in a nail area between 5-$^{5}/_{8}$ inches and 6-$^{7}/_{8}$ inches from the butt edge of the shingle.

Maximum exposure to the weather must be 5-⅛ inches (130 mm).

In colder climates or wind regions where it is questionable whether the thermal-sealing adhesive will activate to seal the shingles, the shingles can be hand-sealed. A 1-in diameter (25.4 mm) spot of asphalt cement complying with ASTM D4586, Type I, Class I, should be placed under the corner of each tab (two spots per tab).

6.3.2 Laminated Shingles – Heritage, Heritage IR, Heritage Premium, Heritage Woodgate, Heritage Proline Stormfighter IR, and Heritage Proline Titan XT:

For roof slopes 2:12 up to but less than 21:12 (16.67% to 175% slope), each shingle must be fastened to the roof deck using a minimum of four fasteners, spaced as shown in Tables 3, 4, 5, 6, 10, 13, and 13A.

For roof slopes equal to or greater than 21:12 (175% slope), six fasteners must be used, spaced as shown in Tables 3, 4, 5, 6, 10, 13, and 13A.

Maximum exposure to the weather must be 5-⅝ inches (143 mm).

In colder climates or wind regions where it is questionable whether the thermal-sealing adhesive will activate to seal the shingles, the shingles can be hand-sealed. Four evenly spaced 1-inch diameter (25.4 mm) spots of cement should be placed under the exposed portion of the shingle, approximately 1 inch (76 mm) above the butt edge.

6.3.3 Laminated Shingles – Heritage Vintage:

For roof slopes 2:12 up to but less than 21:12 (16.67% to 175% slope), each shingle must be fastened to the roof deck using a minimum of five fasteners, spaced as shown in Table 7.

For roof slopes equal to or greater than 21:12 (175% slope), nine fasteners must be used, spaced as shown in Table 7.

Fasteners must be located 6 and 11-1/2 inches (152 and 292 mm) above the butt edge of the shingles.

Maximum exposure to the weather must be 5 inches (127 mm).

In colder climates or wind regions where it is questionable whether the thermal-sealing adhesive will activate to seal the shingles, the shingles must be hand-sealed. Four evenly spaced 1-inch diameter (25.4 mm) spots of cement should be placed under the exposed portion of the shingle, approximately 1 inch (127 mm) above the butt edge.

6.4 Valley Construction and Other Flashing:

Valleys must consist of woven, open valley or closed-cut construction and must be flashed in accordance with Section 1507.2.8.2 of the 2021 and 2018 IBC, and Section 1507.2.9.2 of the 2020 Florida Building Code - Building, 2015 and 2012 IBC or Section R905.2.8.2 of the IRC and 2020 Florida Building Code - Residential. Other flashings must be in accordance with Sections 1503.2 and 1507.2.8 of 2020 Florida Building Code - Building, 2021 and 2018 IBC, Section 1507.2.9 of the 2015 and 2012 IBC, or Section R905.2.8 of the IRC and 2020 Florida Building Code - Residential, as applicable.

6.5 Hip and Ridge Application:

Hip and ridge shingles must be placed evenly over hips and ridges and must be fastened to the roof deck using two fasteners, one located on either side of the shingle, 5-1/2 inches (140 mm) or 5-⅝ inches (143 mm) from the exposed end, and 1 inch (25.4 mm) in from the edge as shown in Tables 8, 9, and 11. Fasteners must be a minimum ¼ inch (6.4 mm) longer than those used in the field of the roof, as specified in Section 7.5 of this report. The 12-¼ X 12 Hip and Ridge and 12-¼ x 12 Heritage Hip and Ridge IR prefabricated hip and ridge shingles must be applied with a maximum exposure of 5-⅛ inches. (130 mm). Heritage Vintage 12 X 12 Hip and Ridge prefabricated hip and ridge shingles must be installed with a maximum exposure of 5 inches (127 mm). Hip and ridge shingles are installed starting at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing wind.

6.6 Reroofing:

The existing asphalt shingle roof covering must be inspected in accordance with the provisions and limitations of Section 1512 of the 2021 IBC, Section 1511 of the 2018 and 2015 IBC, and Section 1510 of the 2012 IBC, Section 1511 of the 2020 Florida Building Code - Building, Section R908 of the IRC, or Section 901.1 of the 2020 Florida Building Code - Residential, as applicable. Prior to the reroofing, hip and ridge coverings must be removed.

Except as noted in this section, the shingles must be installed in accordance with Section 6.3 and 6.5 of this Report. Fasteners must be of sufficient length to penetrate ¾ inch (19.1 mm) into the sheathing, or through the sheathing where the sheathing is less than ¾ inch (19.1 mm) thick. Flashing and edging must comply with Section 6.4 and with Section 1512.5 of the 2021 IBC, 1511.6 of the 2018 and 2015 IBC and 2020 Florida Building Code - Building, Section 1510.6 of the 2012, IBC and Section R908.6 of the 2021, 2018 and 2015 IRC, 2020 Florida Building Code - Residential, and R907.6 of the 2012 IRC, as applicable.

7. INSTALLATION MATERIALS

7.1 Sheathing:

The roof deck must be code-complying, minimum ⅜-inch thick (9.5 mm), exterior plywood complying with DOC PS-1; rated sheathing complying with DOC PS-2; or solid sheathing using minimum nominally 1 by 6 lumber.

7.2 Underlayment:

Under the IBC or IRC, underlayment must comply with ASTM D226, Type I (minimum), ASTM D4869, Type I (minimum) , ASTM D1970, or ASTM D6757 as specified in Section 1507.2.3 of the IBC or Section 905.1.1 of the IRC. Under the 2020 Florida Building Code – Building, underlayment must comply with ASTM D226, ASTM D4869, ASTM D1970, or ASTM D6757 as specified in Section 1507.1.1. Under the IRC and 2020 Florida Building Code – Residential, underlayment must comply with ASTM D226, Type I (minimum), ASTM D4869, Type I (minimum), ASTM D1970 or ASTM D6757 as specified in Section R905.1.1.

7.3 Self-adhering Polymer Modified Bitumen Sheet:

The self-adhering polymer modified bitumen sheet must comply with ASTM D1970.

7.4 Starter Shingles:

The starter course shingle consists of either TAMKO 10-inch starter, TAMKO Shingle Starter, TAMKO Perforated Starter, or a self-sealing three-tab shingle. If self-sealing three-tab shingles are used, remove the exposed tab portion and install with factory-applied sealant adjacent to the eaves.

Heritage Vintage requires a Heritage Vintage Starter shown in Table 12 is to be installed over the starter course at the eave edge.

TAMKO Shingles require a TAMKO Shingle Starter as shown as in Table 14, Table 15, or Table 16 which must be installed over the starter course at the eave edge.

7.5 Fasteners:

Fasteners must be minimum No. 12 gage [0.105 inch (2.7 mm)], ⅜-inch diameter head (9.5 mm), galvanized, stainless steel, aluminum or copper corrosion-resistance nails. Fasteners must be of sufficient length to penetrate into the sheathing ¾-inch (19.1 mm), or through the sheathing, where the sheathing is less than ¾-inch (19.1 mm) thick. Fasteners must be compliant with ASTM F1667.

7.6 Asphalt Cement:

Asphalt cement must comply with ASTM D4586, Type I, Class I.

8. CONDITIONS OF USE

The TAMKO Asphalt Shingles described in this Report comply with, or are suitable alternatives to, what is specified in those codes listed in Section 2 of this Report, subject to the following conditions:

8.1 Materials and methods of installation shall comply with this Report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this Report, this Report governs.

8.2 The products are manufactured at the locations listed in Table 1 of this Report under the UL LLC Classification and Follow-Up Service Program, which includes regular audits in accordance with quality elements of ICC-ES Acceptance Criteria for Quality Documentation, AC10.

8.3 See UL Product iQ™ database for Prepared Roof-Covering Materials (TFWZ).

9. SUPPORTING EVIDENCE

9.1 Manufacturer's descriptive product literature, including installation instructions.

9.2 See UL Product iQ™ database for the following:

9.2.1 UL test reports and Classification in accordance with UL 790, Class A and UL Subject 2375 for Roof-Covering Materials (TFWZ).

9.2.2 UL test reports and Classification in accordance with ASTM D3462 for Prepared Roof-Covering Materials (TFWZ).

9.2.3 UL test reports and Classification in accordance with ASTM D7158, Class H for Prepared Roof-Covering Materials (TGAH).

9.2.4 UL test reports and Classification in accordance with ASTM D3161, Class F Prepared Roof-Covering Materials (TFWZ).

9.2.5 UL test reports and Classification in accordance with UL 2218A Roof-covering Materials, Impact Resistance (TGAM).

9.3 Quality Documentation in accordance with ICC-ES Acceptance Criteria for Quality Documentation, AC10.

10. IDENTIFICATION

TAMKO asphalt shingles described in this Evaluation Report are identified by a marking on each package bearing the report holder's name (TAMKO Building Products LLC), the plant identification, the product name, the UL Listing/Classification Mark and the evaluation report number UL ER2919-01. The validity of this Evaluation Report is contingent upon this identification appearing on the package.

11. USE OF UL EVALUATION REPORT

11.1 The approval of building products, materials or systems is under the responsibility of the applicable authorities having jurisdiction.

11.2 UL Evaluation Reports shall not be used in any manner that implies an endorsement of the product, material or system by UL.

11.3 The status of this report, as well as a complete directory of UL Evaluation Reports may be found at UL.com via the Product iQ™ database.

Table 1 – Manufacturing Locations

LISTEE	LOCATION	FACTORY ID
TAMKO BUILDING PRODUCTS LLC	7910 S CENTRAL EXPY DALLAS TX 75216	D
TAMKO BUILDING PRODUCTS LLC	4500 TAMKO DR FREDERICK MD 21704	F
TAMKO BUILDING PRODUCTS LLC	601 N HIGH ST JOPLIN MO 64801	J
TAMKO BUILDING PRODUCTS LLC	1598 HWY 183 PHILLIPSBURG KS 67661	P
TAMKO BUILDING PRODUCTS LLC	KAUL INDUSTRIAL PARK 2300 35TH ST TUSCALOOSA AL 35401	T

Table 2 – Elite Glass-Seal

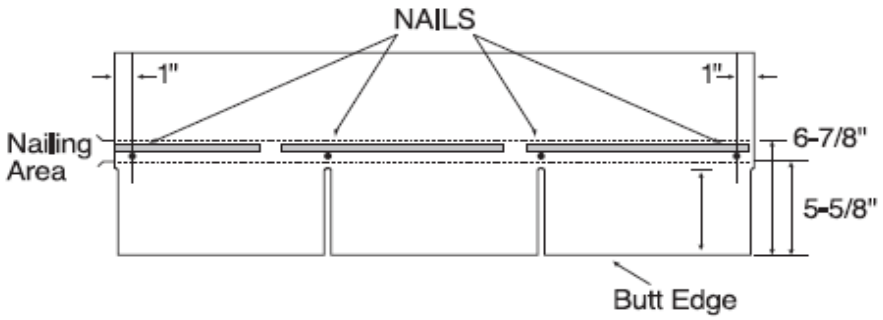
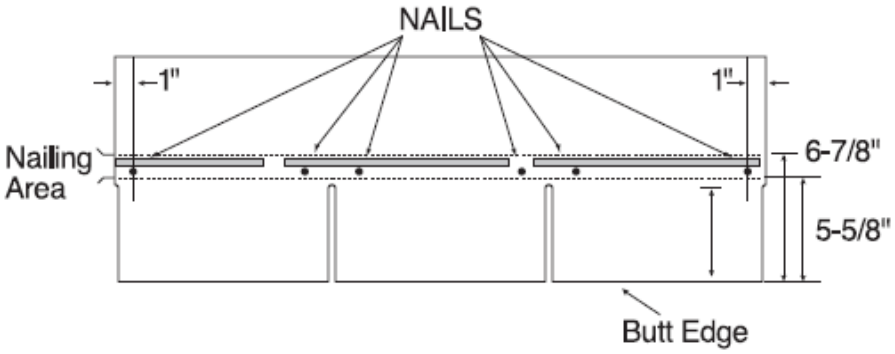
Dimensions:	12-¼" x 36"
Plant Location(s):	Frederick, Joplin
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 3 – Heritage

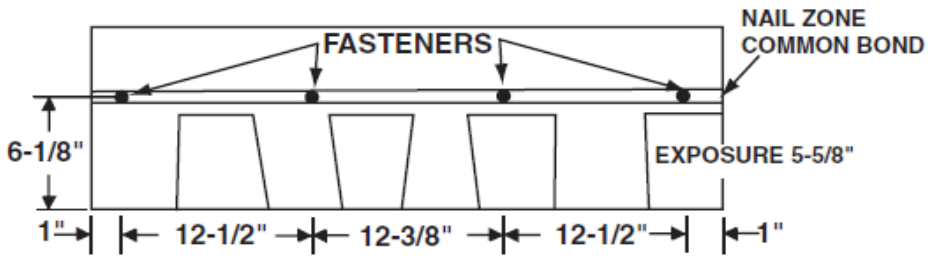
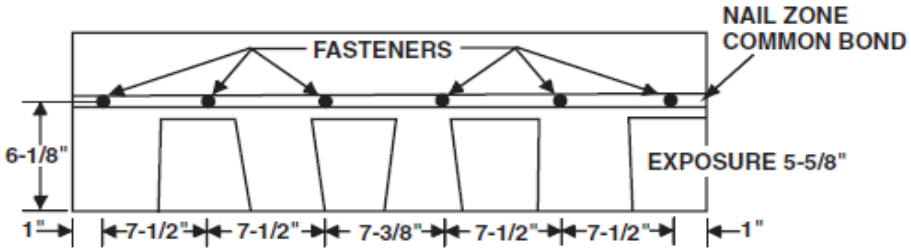
Dimensions:	13-¼" x 39-3/8"
Plant Location(s):	Dallas, Frederick, Joplin, Phillipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 4 – Heritage

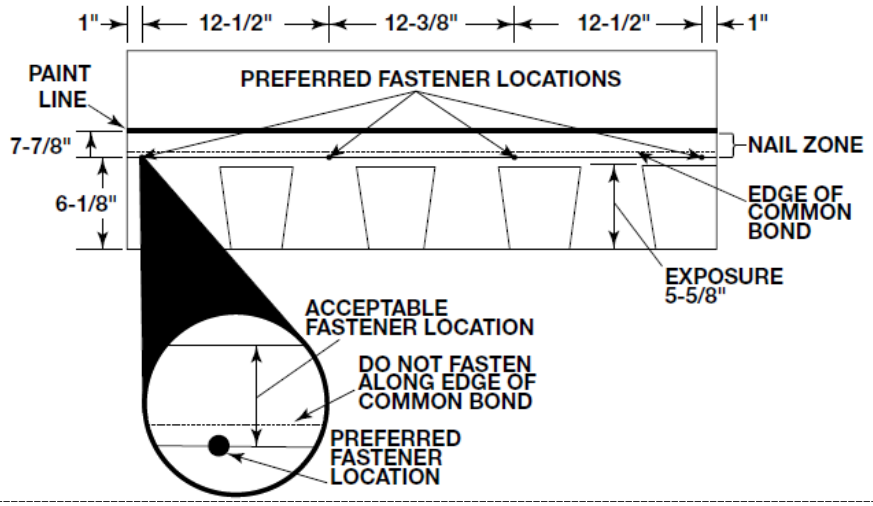
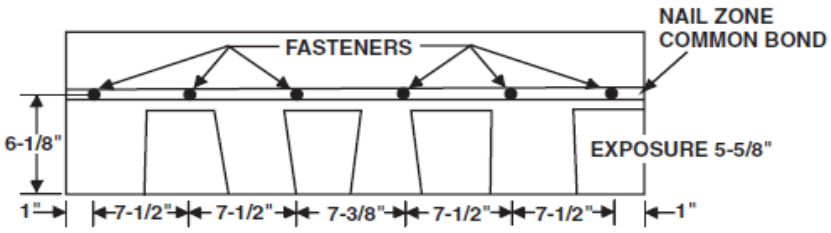
Dimensions:	13-¼" x 39-3/8"
Plant Location(s):	Tuscaloosa
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 5 – Heritage Premium

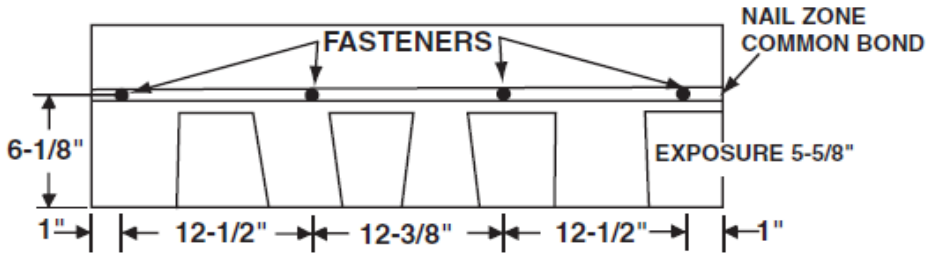
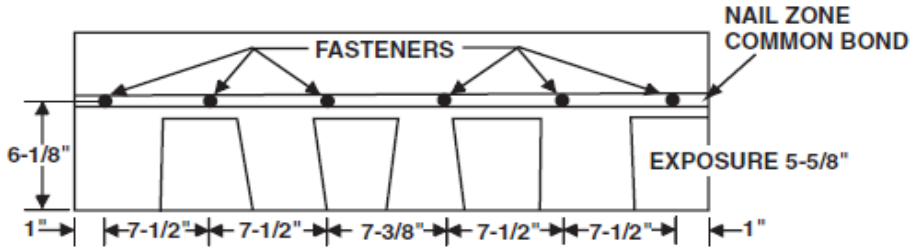
Dimensions:	13-¼" x 39-3/8"
Plant Location(s):	Phillipsburg, Frederick
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 6 – Heritage Woodgate

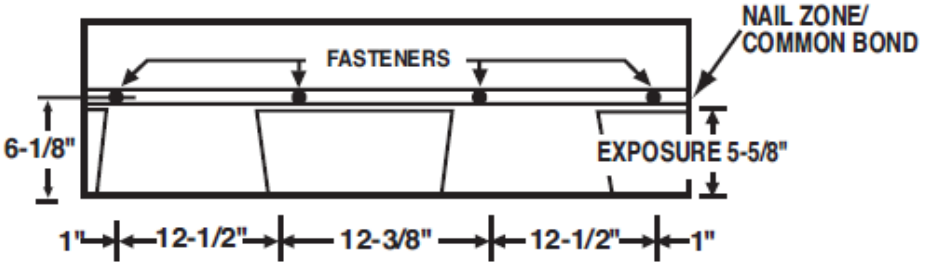
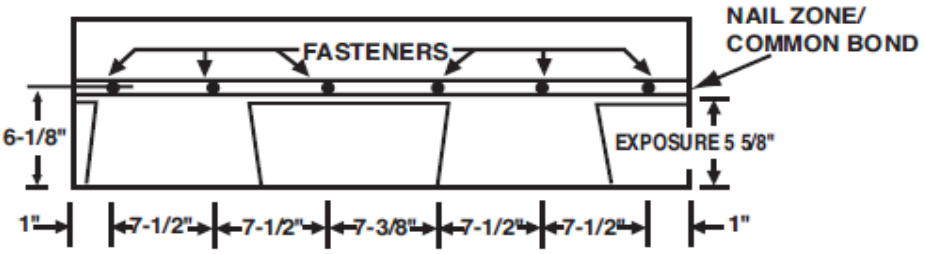
Dimensions:	13-¼" x 39-3/8"
Plant Location(s):	Dallas, Frederick
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 7 – Heritage Vintage

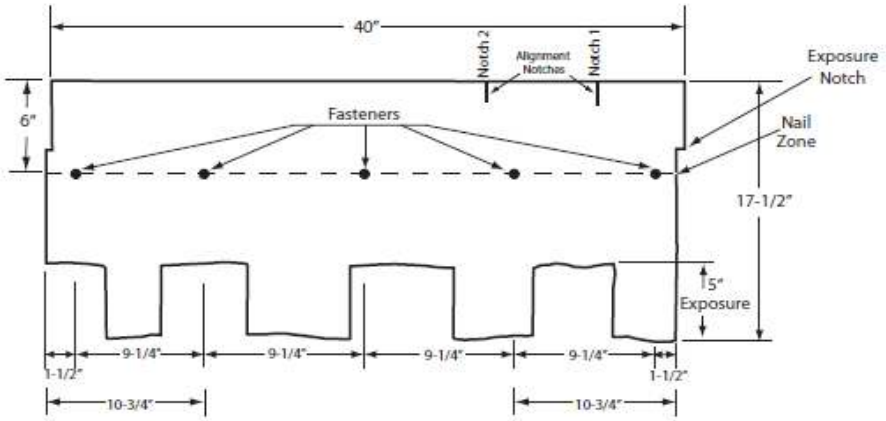
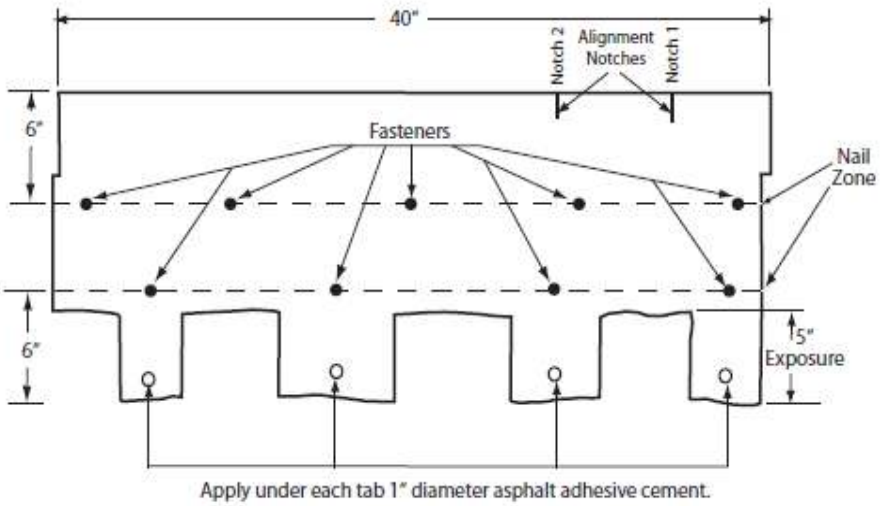
Dimensions:	17-1/2" x 40"
Plant Location(s):	Phillipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12  Apply under each tab 1" diameter asphalt adhesive cement.

Table 8 – Heritage Vintage 12 X 12 Hip and Ridge

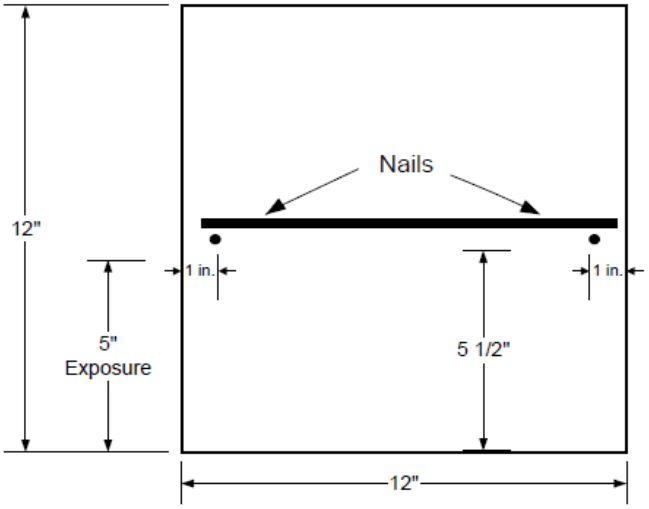
Dimensions:	12” x 12”
Plant Location(s):	Phillipsburg
Fastening Pattern:	

Table 9 – 12-¼ X 12 Hip and Ridge

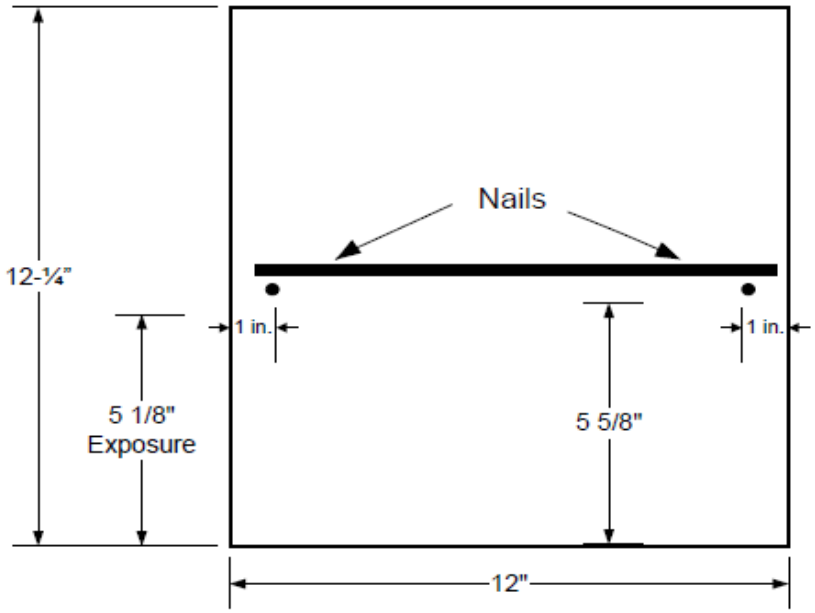
Dimensions:	12-¼" x 12"
Plant Location(s):	Frederick, Joplin
Fastening Pattern:	

Table 10 **– Heritage IR**

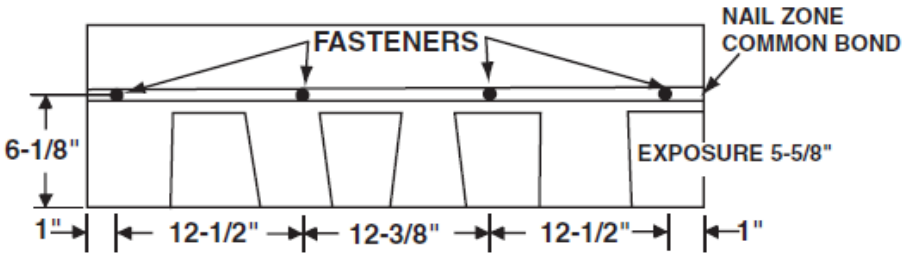
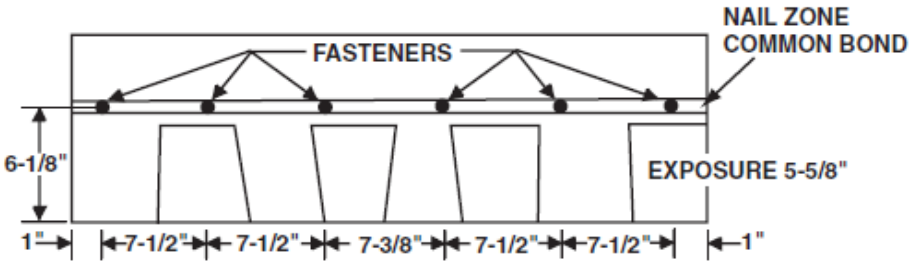
Dimensions:	13-¼" x 39-3/8"
Plant Location(s):	Joplin, Philipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than21:12 

Table 11 Heritage Hip and Ridge IR

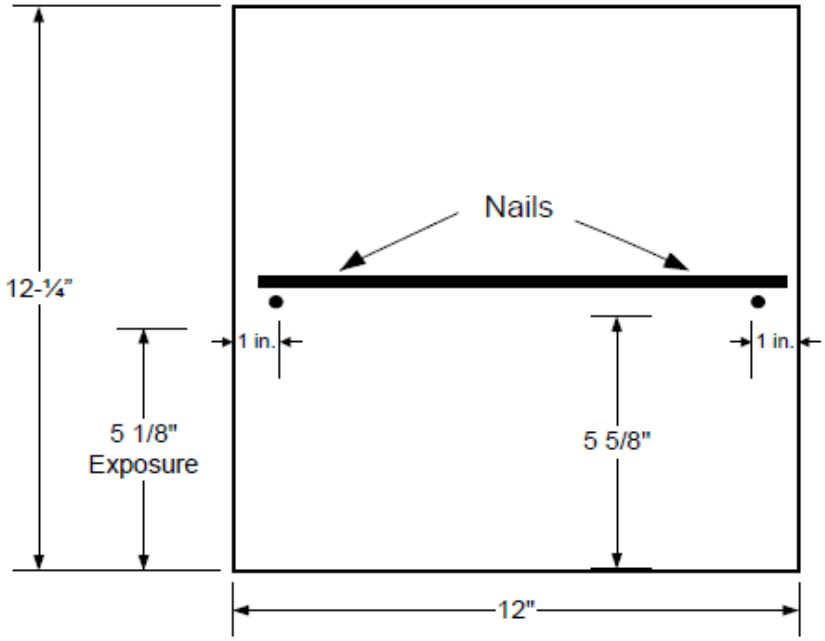
Dimensions:	12-¼" x 12"
Plant Location(s):	Joplin
Fastening Pattern:	

Table 12 Heritage Vintage Starter

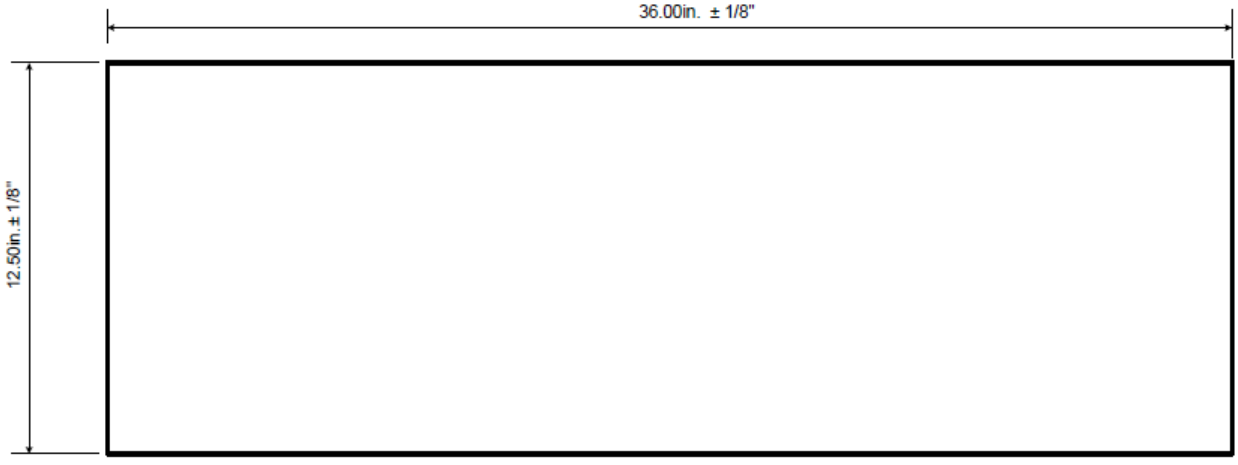


Table 13– Heritage Proline Titan XT

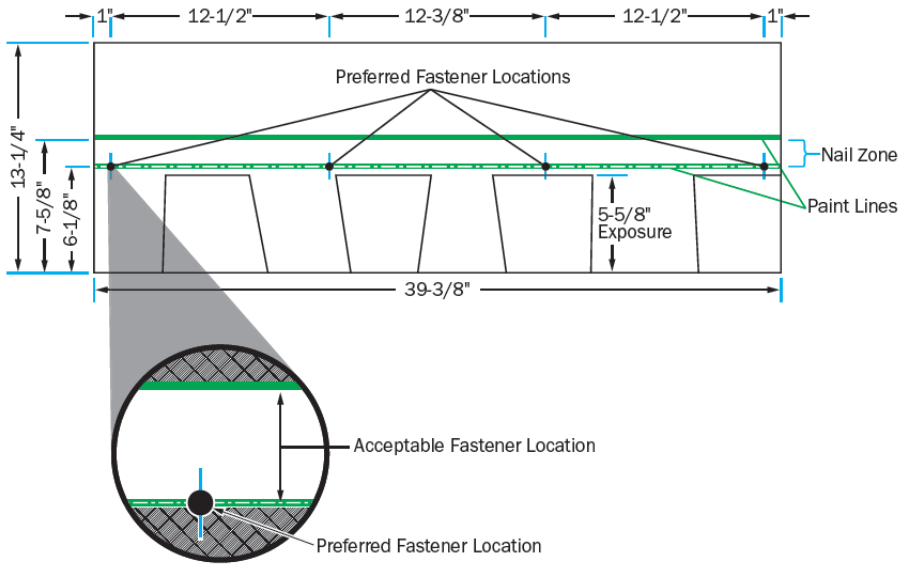
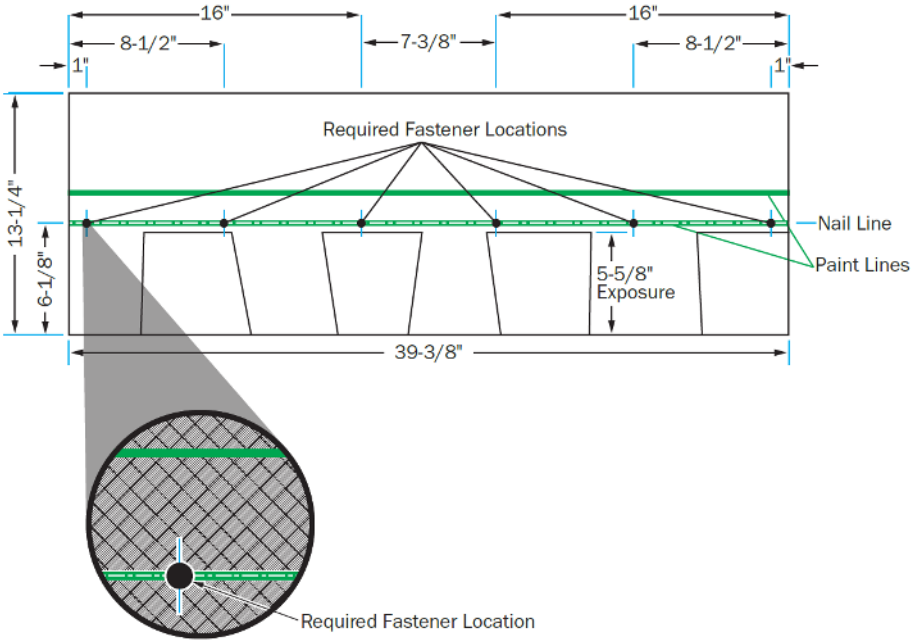
Dimensions:	13-¼" x 39-⅜"
Plant Location(s):	Frederick, Joplin, Tuscaloosa, Philipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 13A– Heritage Proline Stormfighter IR

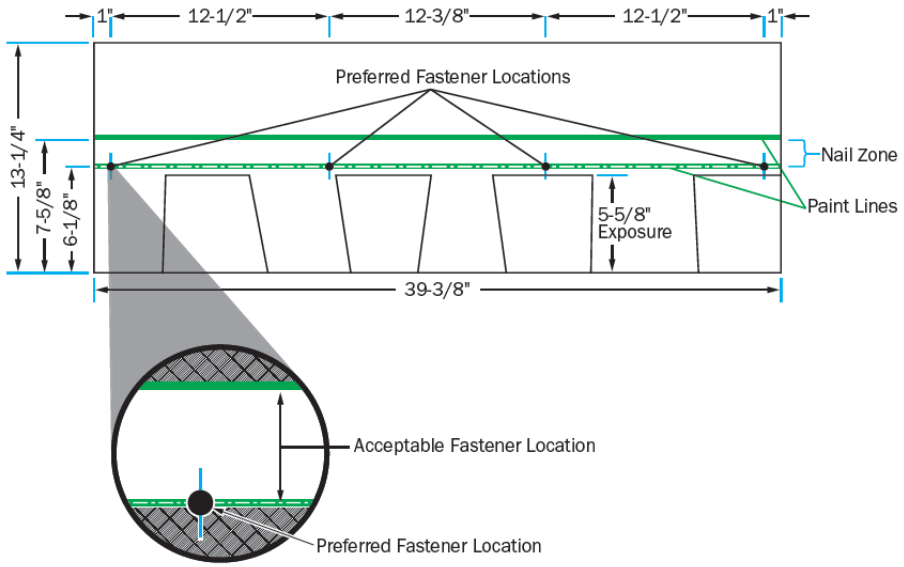
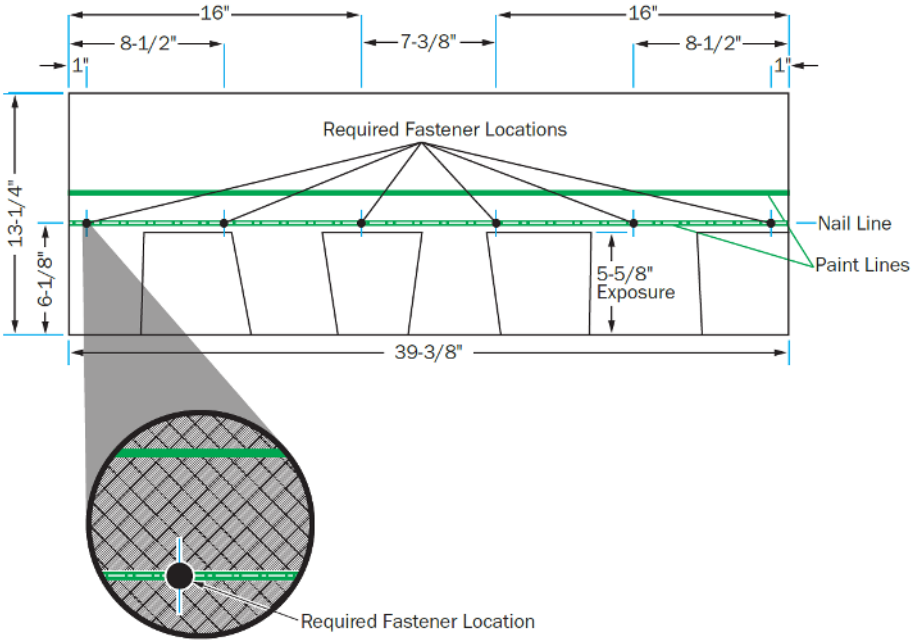
Dimensions:	13-¼" x 39-3/8"
Plant Location(s):	Joplin, Philipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 14– TAMKO 10-Inch Starter

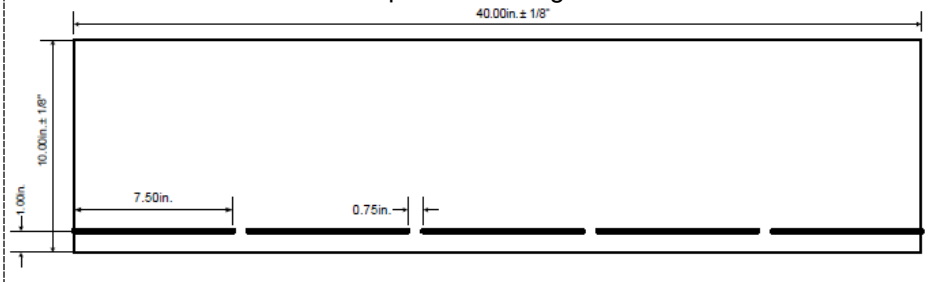
Dimensions:	10” x 40”
Plant Location:	Philipsburg
	For slopes 2:12 and greater 

Table 15– TAMKO Perforated Starter

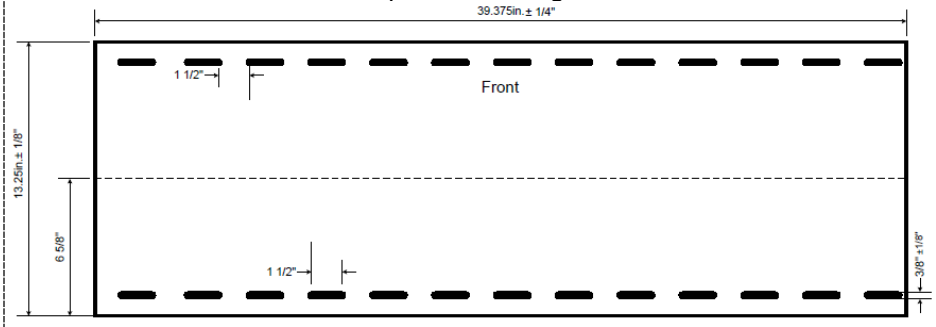
Dimensions:	13-¼” x 39-⅜”
Plant Location:	Frederick
	For slopes 2:12 and greater 

Table 16– TAMKO Shingle Starter

Dimensions:	7” x 36”
Plant Location:	Joplin
	For slopes 2:12 and greater