

DATE: 6/06/2022

Page: 6

BID NO.: 50-00138196

BID FORM
Non Public Works

All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO X

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____ %

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF _____.

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

10 DAYS

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable)

43074

THIS SECTION MUST BE COMPLETED BY BIDDER:

FIRM NAME: SIEVERDING CONSTRUCTION, INC

ADDRESS: 278 GENERAL PATTON AVENUE, SUITE 600

CITY, STATE: MANDEVILLE, LA ZIP: 70471

TELEPHONE: (985) 626-8360 FAX: ()

EMAIL ADDRESS: mark@sieverdingconstruction.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form by placing the addendum number as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: #1 6/6/22

NUMBER: _____

NUMBER: _____

NUMBER: _____

TOTAL PRICE OF ALL BID ITEMS: \$ 26,240.00

AUTHORIZED

DocuSigned by:

SIGNATURE: Mark Sieverding

Mark Sieverding

668BE43B3B664D7...

Printed Name

TITLE: owner

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

DATE: 6/06/2022

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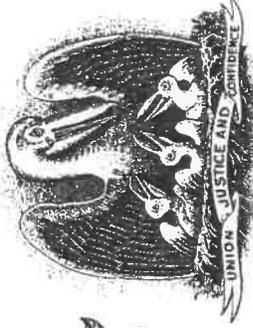
INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00138196

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1.00	JOB	<p>Furnish Labor, Material, Equipment, Tool and Other Incidentals to Replace the Roof at the Children's Advocacy Center. The Center is located at 128 Wright Ave for the Jefferson Parish Dept of Gen Svc</p> <p>0010 - PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO REPLACE THE EXISTING ROOF AT THE CHILDREN'S ADVOCACY CENTER LOCATED AT 128 WRIGHT AVENUE, GRETNA, LA 70053.</p> <p>SPECIFICATIONS ATTACHED</p> <p>REF NO. 2101 22</p> <p>ORDERED BY/FOR: K.KENNEDY</p> <p>CONTACT: J.P. GENERAL SERVICES ATTN: KRAIG KENNEDY (504)364-2692</p>	26,240. ⁰⁰	
2	1.00	SQFT	<p>0020 - ANCILLARY WORK PROVIDE A COST PER SQUARE FOOT TO REMOVE, REPAIR AND REPLACE WATER-DAMAGED ROOFING DECK. THIS IDENTIFIED COST WILL NOT BE PART OF THE BASE BID AND WILL NOT BE USED TO DETERMINE THE LOW BIDDER. THIS LINE ITEM WILL ONLY BE USED IF NEEDED.</p> <p>REF BID #50-138196 DONNA EVANS</p>	3.00/sq ft	

State of Louisiana



State Licensing Board for Contractors

SIEVERDING CONSTRUCTION, INC.
278 General Patton Drive, Suite 600
Mandeville, LA 70471

This is to Certify that:

is duly licensed and entitled to practice the following classifications

BUILDING CONSTRUCTION; ELECTRICAL WORK (STATEWIDE); HEAVY CONSTRUCTION; MECHANICAL WORK (STATEWIDE); MUNICIPAL AND PUBLIC WORKS CONSTRUCTION



Expiration Date: February 10, 2024

License No: 43074

Witness our hand and seal of the Board dated,
Baton Rouge, LA 11th day of February 2021

Will S. MacP

Director

See Mallett

Chairman

Andy Demme

Treasurer

This License Is Not Transferrable

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

DALLAS, TX • FREDERICK, MD • JOPLIN, MO • PHILLIPSBURG, KS



SHINGLES BEGIN TO AGE AS SOON AS THEY ARE EXPOSED TO NATURE. BUILDINGS EXPERIENCE AGING FACTORS DIFFERENTLY, SO IT IS DIFFICULT TO PREDICT HOW LONG SHINGLES WILL LAST. TAMKO PROVIDES A LIMITED WARRANTY FOR MANY PRODUCTS, THAT INCLUDES A BINDING ARBITRATION CLAUSE AND OTHER TERMS AND CONDITIONS WHICH ARE INCORPORATED HEREIN BY REFERENCE. YOU MAY OBTAIN A COPY OF THE LIMITED WARRANTY AT TAMKO.COM OR BY CALLING 1-800-641-4691.

WARNING: Use of this product in an assembly that includes polyurethane foam insulation (including without limitation an application directly to the underside of a roof deck or within a wall assembly) may cause premature degradation or failure of this product. We continue to evaluate compatibility of polyurethane foams with our asphalt building products. Chemical incompatibility, off-gassing after application and excess heat during and after application of polyurethane foams may affect the performance of asphalt and modified asphalt building products and metal fasteners used with those products.



IMPORTANT SAFETY INFORMATION: Do not install until all appropriate safety precautions have been read and understood. The TAMKO Safety Data Sheet (SDS) is available at tamko.com/sds. Always use appropriate fall protection equipment and wear appropriate personal protective equipment (PPE) when working with this product. Moisture, frost, debris or other material will decrease the traction and can cause slippery conditions when walking on the product. **Applicator safety is of utmost importance.**

THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR ROOFING CONDITIONS DESCRIBED. TAMKO BUILDING PRODUCTS LLC ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL ADVERSELY AFFECT COVERAGE UNDER THE LIMITED WARRANTY AND ARBITRATION AGREEMENT. SEE THE LIMITED WARRANTY FOR DETAILS.

CHECK LOCAL BUILDING CODES TO DETERMINE SUITABILITY OF THIS PRODUCT FOR YOUR INTENDED USE.

INFORMATION INCLUDED IN THESE APPLICATION INSTRUCTIONS WAS CURRENT AT THE TIME OF PRINTING. TO OBTAIN A COPY OF THE MOST CURRENT VERSION OF THESE APPLICATION INSTRUCTIONS, VISIT US ONLINE AT WWW.TAMKO.COM OR CALL US AT 1-800-641-4691.

THIS TAMKO® PRODUCT IS COVERED BY A LIMITED WARRANTY AND ARBITRATION AGREEMENT, THE TERMS OF WHICH ARE PRINTED ON THE WRAPPER.

IN COLD WEATHER (BELOW 40°F), CARE MUST BE TAKEN TO AVOID DAMAGE TO THE EDGES AND CORNERS OF THE SHINGLES.

IT IS NOT NECESSARY TO REMOVE THE PLASTIC STRIP FROM THE SHINGLES.

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

DALLAS, TX • FREDERICK, MD • JOPLIN, MO • PHILLIPSBURG, KS

**1. ROOF DECK**

These shingles are for application to roof decks consisting of plywood, oriented strand board (OSB) or sheathing boards capable of receiving and retaining fasteners, and to inclines of not less than 2" per foot.

Shingles must be applied in strict accordance with the application instructions. TAMKO assumes no responsibility for leaks or defects resulting from improper application, or failure to properly prepare the surface to be roofed over.

STANDARD ROOF: For roofs having pitches equal to or greater than 4" per foot and up to but less than 21" per foot (4:12 and up to but less than 21:12).

LOW-SLOPE: For roofs having pitches 2" per foot up to but less than 4" per foot (2:12 up to but less than 4:12), refer to special instructions titled "Low Slope Application."

MANSARD ROOF OR STEEP SLOPE: For roofs having pitches equal to or greater than 21" per foot, refer to special instructions titled "Mansard Roof or Steep Slope Roof."

NEW ROOF DECK CONSTRUCTION: Roof deck must be smooth, dry and free from warped surfaces. It is recommended that metal drip edges be installed at eaves and rakes.

PLYWOOD: All plywood shall be exterior grade as defined by APA - The Engineered Wood Association. Plywood shall be a minimum of 3/8" thickness and applied in accordance with the recommendations of APA - The Engineered Wood Association.

ORIENTED STRAND BOARD: Oriented strand board shall be exterior grade as defined by APA - The Engineered Wood Association, minimum 7/16" thickness, APA-rated in accordance with Voluntary Standard PS 2 and applied in accordance with the recommendations of APA - The Engineered Wood Association.

SHEATHING BOARDS: Boards shall be well-seasoned tongue-and-groove boards and not over 6" nominal width. Boards shall be a 1" nominal minimum thickness. Boards shall be properly spaced and nailed.

2. VENTILATION

Inadequate ventilation of attic spaces can cause accumulation of moisture in winter months and a build-up of heat in the summer. These conditions can lead to:

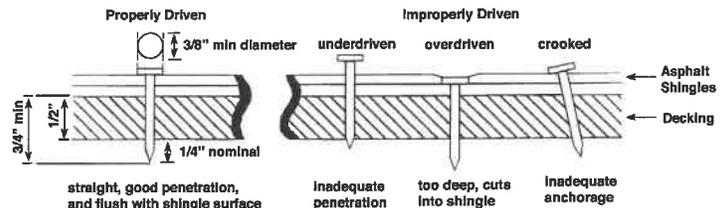
1. Vapor condensation.
2. Buckling of shingles due to deck movement.
3. Rotting of wood components.
4. Premature failure of roof.

To ensure adequate ventilation and circulation of air, the ventilation system must include inlets and outlets. This may be accomplished with a combination of ridge and soffit vents or by using gable end vents. FHA minimum property standards require one square foot of net free ventilation area to each 150 square feet of space to be vented.

This may be reduced to one square foot of ventilation area per 300 square feet if at least 40% and not more than 50% of venting is provided not more than 3 feet below the ridge and if a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling in climate zones 6, 7, and 8 as recommended by the 2018 International Residential Code. For more information consult your design professional. If the ventilation openings are screened, the total area should be doubled.

**IT IS PARTICULARLY IMPORTANT TO
PROVIDE ADEQUATE VENTILATION.****3. FASTENERS**

NAILS: TAMKO requires the use of nails as the method of application. Standard type roofing nails should be used. Nail shanks should be made of minimum 12 gauge wire, and a minimum head diameter of 3/8". Nails should be long enough to penetrate 3/4" into the roof deck. Where the deck is less than 3/4" thick, the nails should be long enough to penetrate completely through decking and extend at least 1/8" through the roof deck. Drive nail head flush with the shingle surface.



WIND CAUTION: Extreme wind velocities can damage these shingles after application when proper sealing of the shingles does not occur. This can especially be a problem if the shingles are applied in cooler months or in areas on the roof that do not receive direct sunlight. These conditions may impede the sealing of the adhesive strips on the shingles. The inability to seal down may be compounded by prolonged cold weather conditions and/or blowing dust. In these situations, hand sealing of the shingles is required. To ensure quicker sealing, apply 4 quarter-sized dabs of any adhesive meeting ASTM D4586, Type I, on the back of the shingle 1" and 13" in from each side and 1" up from the bottom of the shingle. Press shingle firmly into the adhesive. For maximum wind resistance along rakes, install any TAMKO starter shingle including sealant or cement shingles to the underlayment and each other in a 4" width of any adhesive meeting ASTM D4586, Type I. Caution: Apply ONLY a thin uniform layer of adhesive less than 1/8" thick. Excessive amounts can cause blistering of the shingles and may soften the asphalt in certain underlayments resulting in the asphalt flowing, dripping and staining. Shingles must also be fastened according to the fastening instructions described below.

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

DALLAS, TX • FREDERICK, MD • JOPLIN, MO • PHILLIPSBURG, KS

**3. FASTENERS** (continued)

Correct placement of the fasteners is critical to the performance of the shingle. **If the fasteners are not placed as shown in the diagram as described below, this will result in the termination of TAMKO's liabilities under the Limited Warranty and Arbitration Agreement.** TAMKO will not be responsible for damage to shingles caused by winds in excess of the applicable MPH as stated in the Limited Warranty and Arbitration Agreement. See Limited Warranty and Arbitration Agreement on the wrapper or tamko.com for details.

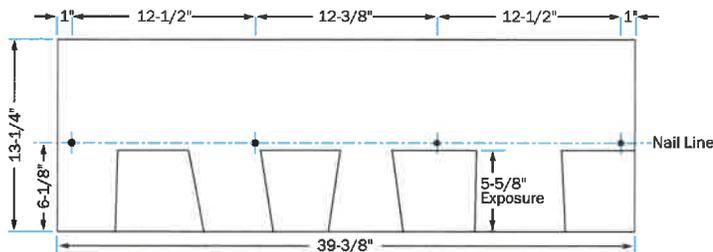
FASTENING PATTERNS:

FASTENERS MUST BE PLACED 6-1/8" FROM THE BOTTOM EDGE OF THE SHINGLE, PENETRATING THROUGH THE COMMON BOND, AND LOCATED HORIZONTALLY AS FOLLOWS:

1) STANDARD FASTENING PATTERN:

For use on decks with slopes 2" per foot up to but less than 21" per foot.

One fastener 1" from each end and one fastener 13-1/2" from each end for a total of 4 fasteners per shingle. (See Standard Fastening Pattern illustrated below.)

STANDARD FASTENING PATTERN**2) MANSARD ROOF OR STEEP SLOPE FASTENING PATTERN:**

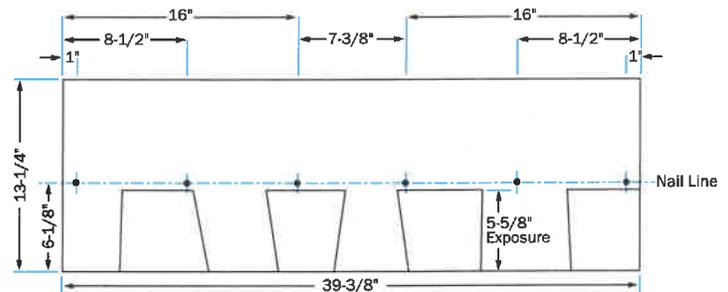
For use on decks with slopes equal to or greater than 21" per foot.

One fastener 1" from each end, one fastener 8-1/2" from each end and one fastener 16" from each end for a total of **6 fasteners** per shingle. (See High Wind Warranty, Mansard Roof or Steep Slope Fastening Pattern illustrated below.)

3) HIGH WIND WARRANTY FASTENING PATTERN:

One fastener 1" from each end, one fastener 8-1/2" from each end and one fastener 16" from each end for a total of **6 fasteners** per shingle. (See High Wind Warranty, Mansard Roof or Steep Slope Fastening Pattern illustrated below.)

CAUTION: ALL FASTENERS FOR MANSARD AND HIGH WIND APPLICATIONS MUST BE DRIVEN INTO THE COMMON BOND AS SHOWN IN THE HIGH WIND WARRANTY, MANSARD ROOF OR STEEP SLOPE FASTENING PATTERN DIAGRAM BELOW.

HIGH WIND WARRANTY, MANSARD ROOF OR STEEP SLOPE FASTENING PATTERN**4) ADDITIONAL REQUIREMENTS FOR HIGH WIND WARRANTY:**

TAMKO also requires the use of TAMKO® starter shingles including sealant strip at eaves and rakes. Alternatively, along rakes, cement shingles to the underlayment and each other in a 4" width of any adhesive meeting ASTM D4586, Type I. Caution: Apply **ONLY** a thin uniform layer of adhesive less than 1/8" thick. Excessive amounts can cause blistering of the shingles and may soften the asphalt in certain underlayments resulting in the asphalt flowing, dripping and staining.

High Wind Application is offered on new construction or complete tear-off applications only. It is not offered for re-cover applications. If High Wind Application requirements are not followed, the High Wind Application Warranty MPH, as stated on Table I in the Limited Warranty and Arbitration Agreement, reverts to the Standard Application Wind Warranty MPH limit. (See High Wind Warranty, Mansard Roof or Steep Slope Fastening Pattern illustrated above.)

"High Wind Application" means application of shingles in strict accordance with the High Wind Warranty Fastening Pattern application instructions stated previously. See local building codes for additional nailing requirements.

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
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**4. UNDERLAYMENT**

UNDERLAYMENT: An underlayment must be applied over the entire deck before the installation of TAMKO® shingles. Failure to add underlayment can cause premature failure of the shingles, which is not covered by TAMKO's Limited Warranty and Arbitration Agreement.

Products which are acceptable for use as underlayment are:

Asphalt Saturated Felt Underlayments

- Any TAMKO® non-perforated asphalt saturated organic felt
- A non-perforated asphalt saturated organic felt which meets ASTM D226 or ASTM D4869

Specialty Underlayments

- Synthetic Guard™ Plus Underlayment or Synthetic Guard™ Underlayment
- A polymeric underlayment designed for use with asphalt shingles which meets ASTM D8257
- TAMKO® Moisture Guard® Ice & Rain Underlayment, TW Underlayment or TW Metal and Tile Underlayment (additional ventilation may be required—contact TAMKO's Technical Services Department for more information)
- A self-adhesive underlayment designed for use with asphalt shingles which meets ASTM D1970

For Asphalt Saturated Felt Underlayments

Apply the felt when the deck is dry. On roof decks with slopes 4" per foot and greater apply the felt parallel to the eaves lapping each course of the felt over the lower course at least 2". Where ends join, lap the felt 4". If left exposed, the felt may be adversely affected by moisture and weathering. Laying of the felt and the shingle application must be done together.

For All Other Specialty Underlayments

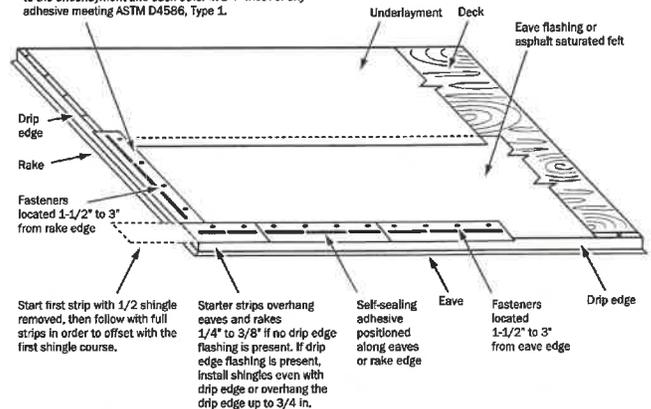
On roof decks with slopes 4" per foot and greater, apply the underlayment parallel to the eaves in accordance with underlayment application written instructions. The underlayment should not be left exposed for a longer period of time than is specified in the underlayment application written instructions. The final roof covering must be installed before the structure is exposed to adverse weather conditions, such as wind driven rain, high wind, hail, ice storms, etc.

In areas where ice builds up along the eaves or a back-up of water from frozen or clogged gutters is a potential problem, TAMKO® Moisture Guard®, TW Metal and Tile Underlayment or TW Underlayment (or any specialty eaves flashing product) may be applied to eaves, rakes, ridges, valleys, around chimneys, skylights or dormers to help prevent water damage. Contact TAMKO's Technical Services Department for more information.

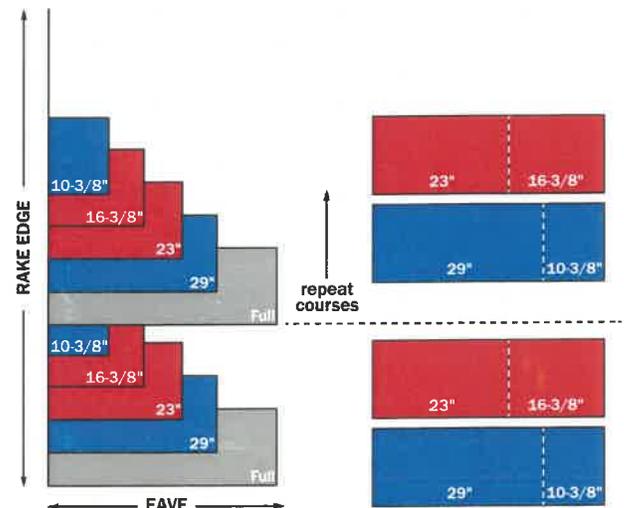
5. APPLICATION INSTRUCTIONS

STARTER COURSE: A starter course may consist of TAMKO® Shingle Starter, TAMKO® 10-inch Starter, TAMKO® Perforated Starter, or self-sealing 3-tab shingles. If self-sealing 3-tab shingles are used, remove the exposed tab portion and install with the factory applied adhesive adjacent to the eaves. Attach the starter course with approved fasteners along a line parallel to and 1-1/2" to 3" above the eaves edge. The starter course should overhang the eave edge 1/4" to 3/4" and the rake edge 3/8" to 3/4" if drip edge flashing is not used along the eaves or rakes. If drip edge flashing is present, install shingles even with the drip edge or overhang the starter course over the drip edge up to 3/4". Minimizing overhang at eaves and rakes is recommended to improve wind resistance of the installed system.

For maximum wind resistance along rakes, install any TAMKO starter shingle including sealant or cement shingles to the underlayment and each other in a 4" width of any adhesive meeting ASTM D4586, Type 1.



2 CUTS, 5 COURSES, NO-WASTE SHINGLE APPLICATION: Start the first course with a full-size shingle placed directly over the starter course. Cut 10-3/8" from a full shingle to form a shingle 29" long. Use this to start the second course (see diagram below). Cut a 23" long shingle to start the third course. Use the remaining 16-3/8" piece of shingle to start the fourth course and use the remaining 10-3/8" piece to begin the fifth course. Continue up the rake in as many rows as necessary using the same formula as outlined below.



APPLICATION INSTRUCTIONS FOR

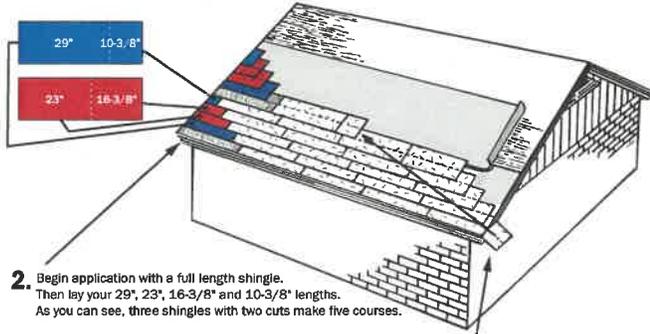
**HERITAGE®
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**5. APPLICATION INSTRUCTIONS** (continued)

The butt of the shingle should be aligned with the top edge of the sawtooth of the underlying shingle for a 5-5/8" exposure. When you make your final cut at the roof's edge, flip any pieces that are 8" or longer back onto the roof. These pieces can be worked in anywhere without creating zippers or color variations.

1. Cut your first course shingle to make 29" and a 10-3/8" length.
Cut a second shingle to make a 23" and a 16-3/8" length.



2. Begin application with a full length shingle.
Then lay your 29", 23", 16-3/8" and 10-3/8" lengths.
As you can see, three shingles with two cuts make five courses.
3. Continue working your way across the roof. When you make your final cut at the roof's edge, flip any pieces that are 8" or longer back onto the roof. These pieces can be worked in anywhere without creating zippers or color variations.

NOTE: do not align joints of shingle courses when working in cut pieces.
Joints should be no closer than 4" from one another.

6. LOW SLOPE APPLICATION

On pitches 2" per foot up to but less than 4" per foot (2:12 up to but less than 4:12) cover the deck with two layers of underlayment. Begin by applying the underlayment in a 1/2-sheet width plus 1/2 width of the side lap (i.e. for 36" wide asphalt saturated felt with a 2" side lap, the width would be 19") along the eaves. Place a full sheet width over the starter piece, completely overlapping it. All succeeding courses will be positioned to overlap the preceding course by 1/2-width sheet plus 1/2 width of the side lap. If winter temperatures average 25°F or less, thoroughly cement the laps of the entire underlayment to each other with any adhesive meeting ASTM D4586 Type I from eaves and rakes to a point of at least 24" inside the interior wall line of the building. As an alternative, one layer of TAMKO® Moisture Guard®, TW Metal and Tile Underlayment, or TW Underlayment self-adhering underlayment may be used in lieu of the double coverage underlayment.

7. MANSARD ROOF OR STEEP SLOPE ROOF

If the slope is equal to or exceeds 21" per foot (60°), each shingle must be sealed with any adhesive meeting ASTM D4586 Type I immediately upon installation. Quarter-sized dabs of cement must be applied to shingles. Use 6 fasteners per shingle — see Section 3 for the Mansard Roof or Steep Slope Fastening Pattern.

8. RE-COVERING

High Wind Warranty is offered on new construction or complete tear-off applications only. It is not offered for re-cover applications.

Before re-covering a roof be certain to inspect the roof decks. All decking shall meet the requirements listed in Section 1.

It is not recommended to install laminated asphalt shingles directly over existing laminated shingles due to the unevenness of the existing multi-layered shingles. The performance of the sealant feature may be compromised, preventing the shingles from sealing properly. It is acceptable to install laminated shingles over existing three-tab strip shingles which are flat and essentially intact. Nail down or remove curled or broken shingles from the existing roof. Replace all missing shingles with new ones to provide a smooth base. Shingles that are buckled usually indicate warped decking or protruding nails. Hammer down all protruding nails or remove them and refasten in a new location. Remove all drip edge metal and replace with new.

If re-covering over an existing roof where new flashing is required to protect against ice dams (freeze/thaw cycle of water and/or the backup of water in frozen or clogged gutters), remove the old roofing to a point at least 24" beyond the interior wall line and apply TAMKO® Moisture Guard®, TW Metal and Tile Underlayment, or TW Underlayment. For more information contact TAMKO's Technical Services Department at 800-641-4691.

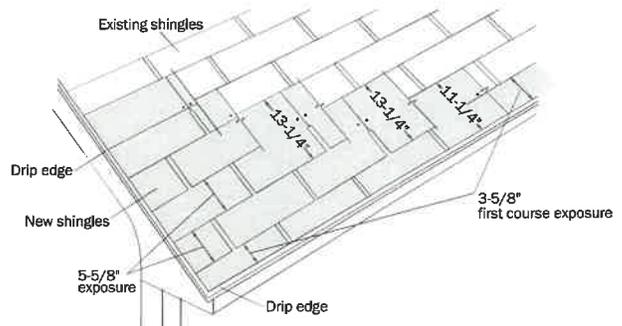
Measurements will vary when nesting over an existing 5" exposure shingled roof. Call TAMKO's Technical Services for further information.

The nesting procedure described below is the preferred method for re-covering over existing metric size shingles with a 5-5/8" exposure. See description below:

Starter Course: Remove the tabs and an additional portion from the head of a full-size shingle so that its height is equal to the exposure of the existing shingles. Position the resulting strip over the existing roof edge (with the factory-applied adhesive strip along the eaves). Cut approximately 6" from the rake end and apply the remaining portion at the eaves. Continue the starter strip by applying full length shingle strips cut to height as above, evenly along the existing roof at the eaves. The existing roof should overhang the eaves far enough to carry water off into the gutter. If this is not the case, cut and apply the starter strip so that it will provide sufficient overhang for proper drainage.

First Course: Remove an amount from the butt edge of a full-size shingle so that the remaining portion of the shingle fits between the butts of the existing third course. This course must also be applied evenly along the eaves edge of the new starter strip.

Second and Succeeding Courses: Remove 10-3/8" from the rake end of the first shingle in the second course, and continue with full width shingles for the remainder of the course, placing the top edge of each new shingle against the butt edge of the old shingle in the course above. This method should create an exposure of 5-5/8" after the first course. When beginning the succeeding courses continue to follow the application instructions. (See section 5).



APPLICATION INSTRUCTIONS FOR

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**9. VALLEY APPLICATION**

Center a minimum 36" wide sheet of TAMKO® Moisture Guard®, TW Metal and Tile Underlayment, any self-adhesive underlayment designed for use with asphalt shingles which meets ASTM D1970, or a minimum 50 lb. roll roofing in the valley. Nail the underlayment only where necessary to hold it in place and then only nail the outside edges. Install shingle underlayment and extend over valley flashing by 6".

IMPORTANT: PRIOR TO INSTALLATION, WARM SHINGLES TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLES TO FORM VALLEY.

- The first course and only the first course of shingles from the intersecting roof surface should be woven with the first course of shingles on the starting roof.
- Apply the first course of shingles along the eaves on one of the intersecting roof planes and across the valley.

Note: For proper flow of water over the trimmed shingle, always start applying the shingles on the roof plane that has the lower slope or less height.

- Extend the end shingle at least 12" onto the adjoining roof. Apply succeeding courses in the same manner, extending them across the valley and onto the adjoining roof.
- Press the shingles tightly into the valley.
- Use normal shingle fastening methods.

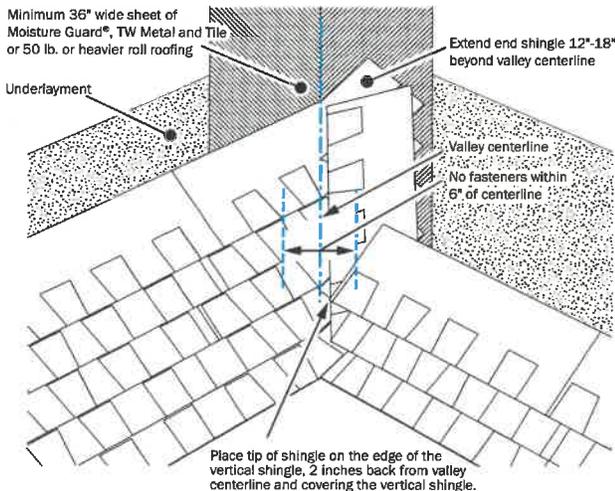
Note: No fastener should be within 6" of the valley centerline, and two fasteners should be placed at the end of each shingle crossing the valley.

- To the adjoining roof plane, apply one row of shingles vertically facing the valley and 2" back from the valley centerline.

Note: For a neater installation, snap a chalkline over the shingles for guidance.

- To complete the valley, apply shingles on the adjoining roof plane by positioning the tip of the first shingle of each row at the 2" point from the centerline where the edge of the vertical shingle has been applied, covering the vertical shingle.

For alternate valley application methods, please contact TAMKO's Technical Services Department at 800-641-4691.

**10. HIP AND RIDGE FASTENING DETAIL**

TAMKO recommends the use of TAMKO® Hip and Ridge shingle products. Where matching colors are available, it is acceptable to use TAMKO® Elite Glass-Seal® shingles cut down to 12" pieces.

IMPORTANT: PRIOR TO INSTALLATION, CARE NEEDS TO BE TAKEN TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLES IN COLD WEATHER.

Apply shingles up to a hip or ridge from both sides of the roof before finishing the intersection. To facilitate finishing, adjust the last few courses so that the ridge capping will adequately cover the top courses of shingles equally on both sides of the ridge.

To apply the capping, bend each shingle along the centerline so that it will extend an equal distance on each side of the hip or ridge. Chalk lines may assist in proper alignment. In cold weather, warm the shingle until it is pliable before bending.

Apply the shingles with a 5-1/8" exposure, beginning at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing winds. See Figure 1. Secure each shingle as illustrated in Figure 2 with one fastener on each side, 5-5/8" back from the exposed end and 1" up from the edge. DO NOT NAIL BELOW THIS LINE 1" UP FROM THE EDGE. The length of the fastener should be long enough to penetrate through the roofing material and 3/4" into the wood decking or completely through the decking.

In high wind areas, it may be advisable, at the discretion of the roofing contractor, to use a spot of sealant to minimize blow off problems.

Alternatively, a 2-layer application of TAMKO® hip and ridge shingles with dimension 12-1/4" x 12" may be applied to all Heritage® roofs to enhance the overall appearance. When the second layer is applied, offset this layer by 1/4" to create a "shadow" effect. See Figure 3.

For a high profile appearance, TAMKO recommends Heritage® Designer Ridge. The application instructions are available at tamko.com or by calling TAMKO's Technical Services Department at 800-641-4691.

Figure 1

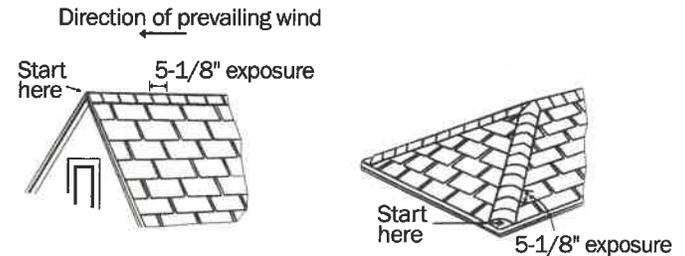


Figure 2

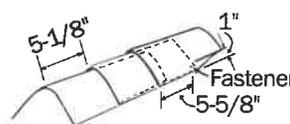
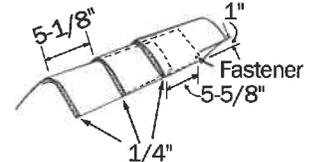


Figure 3



APPLICATION INSTRUCTIONS FOR

HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES

TUSCALOOSA, AL



SHINGLES BEGIN TO AGE AS SOON AS THEY ARE EXPOSED TO NATURE. BUILDINGS EXPERIENCE AGING FACTORS DIFFERENTLY, SO IT IS DIFFICULT TO PREDICT HOW LONG SHINGLES WILL LAST. TAMKO PROVIDES A LIMITED WARRANTY FOR MANY PRODUCTS, THAT INCLUDES A BINDING ARBITRATION CLAUSE AND OTHER TERMS AND CONDITIONS WHICH ARE INCORPORATED HEREIN BY REFERENCE. YOU MAY OBTAIN A COPY OF THE LIMITED WARRANTY AT TAMKO.COM OR BY CALLING 1-800-641-4691.

WARNING: Use of this product in an assembly that includes polyurethane foam insulation (including without limitation an application directly to the underside of a roof deck or within a wall assembly) may cause premature degradation or failure of this product. We continue to evaluate compatibility of polyurethane foams with our asphalt building products. Chemical incompatibility, off-gassing after application and excess heat during and after application of polyurethane foams may affect the performance of asphalt and modified asphalt building products and metal fasteners used with those products.



IMPORTANT SAFETY INFORMATION: Do not install until all appropriate safety precautions have been read and understood. The TAMKO Safety Data Sheet (SDS) is available at tamko.com/sds. Always use appropriate fall protection equipment and wear appropriate personal protective equipment (PPE) when working with this product. Moisture, frost, debris or other material will decrease the traction and can cause slippery conditions when walking on the product. **Applicator safety is of utmost importance.**

THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR ROOFING CONDITIONS DESCRIBED. TAMKO BUILDING PRODUCTS LLC ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS. FAILURE TO FOLLOW THESE INSTRUCTIONS WILL ADVERSELY AFFECT COVERAGE UNDER THE LIMITED WARRANTY AND ARBITRATION AGREEMENT. SEE THE LIMITED WARRANTY FOR DETAILS.

CHECK LOCAL BUILDING CODES TO DETERMINE SUITABILITY OF THIS PRODUCT FOR YOUR INTENDED USE.

INFORMATION INCLUDED IN THESE APPLICATION INSTRUCTIONS WAS CURRENT AT THE TIME OF PRINTING. TO OBTAIN A COPY OF THE MOST CURRENT VERSION OF THESE APPLICATION INSTRUCTIONS, VISIT US ONLINE AT WWW.TAMKO.COM OR CALL US AT 1-800-641-4691.

THIS TAMKO® PRODUCT IS COVERED BY A LIMITED WARRANTY AND ARBITRATION AGREEMENT, THE TERMS OF WHICH ARE PRINTED ON THE WRAPPER.

IN COLD WEATHER (BELOW 40°F), CARE MUST BE TAKEN TO AVOID DAMAGE TO THE EDGES AND CORNERS OF THE SHINGLES.

IT IS NOT NECESSARY TO REMOVE THE PLASTIC STRIP FROM THE SHINGLES.

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

TUSCALOOSA, AL

**I. ROOF DECK**

These shingles are for application to roof decks consisting of plywood, oriented strand board (OSB) or sheathing boards capable of receiving and retaining fasteners, and to inclines of not less than 2" per foot.

Shingles must be applied in strict accordance with the application instructions. TAMKO assumes no responsibility for leaks or defects resulting from improper application, or failure to properly prepare the surface to be roofed over.

STANDARD ROOF: For roofs having pitches equal to or greater than 4" per foot and up to but less than 21" per foot (4:12 and up to but less than 21:12).

LOW-SLOPE: For roofs having pitches 2" per foot up to but less than 4" per foot (2:12 up to but less than 4:12), refer to special instructions titled "Low Slope Application."

MANSARD ROOF OR STEEP SLOPE: For roofs having pitches equal to or greater than 21" per foot, refer to special instructions titled "Mansard Roof or Steep Slope Roof."

NEW ROOF DECK CONSTRUCTION: Roof deck must be smooth, dry and free from warped surfaces. It is recommended that metal drip edges be installed at eaves and rakes.

PLYWOOD: All plywood shall be exterior grade as defined by APA - The Engineered Wood Association. Plywood shall be a minimum of 3/8" thickness and applied in accordance with the recommendations of APA - The Engineered Wood Association.

ORIENTED STRAND BOARD: Oriented strand board shall be exterior grade as defined by APA - The Engineered Wood Association, minimum 7/16" thickness, APA-rated in accordance with Voluntary Standard PS 2 and applied in accordance with the recommendations of APA - The Engineered Wood Association.

SHEATHING BOARDS: Boards shall be well-seasoned tongue-and-groove boards and not over 6" nominal width. Boards shall be a 1" nominal minimum thickness. Boards shall be properly spaced and nailed.

2. VENTILATION

Inadequate ventilation of attic spaces can cause accumulation of moisture in winter months and a build-up of heat in the summer. These conditions can lead to:

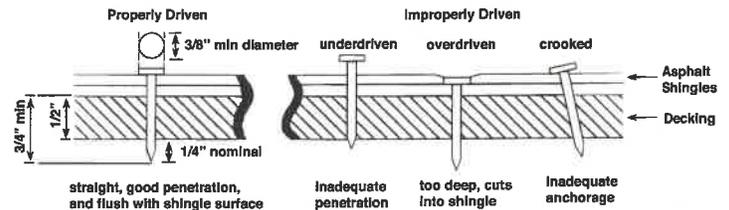
1. Vapor condensation.
2. Buckling of shingles due to deck movement.
3. Rotting of wood components.
4. Premature failure of roof.

To ensure adequate ventilation and circulation of air, the ventilation system must include inlets and outlets. This may be accomplished with a combination of ridge and soffit vents or by using gable end vents. FHA minimum property standards require one square foot of net free ventilation area to each 150 square feet of space to be vented.

This may be reduced to one square foot of ventilation area per 300 square feet if at least 40% and not more than 50% of venting is provided not more than 3 feet below the ridge and if a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling in climate zones 6, 7, and 8 as recommended by the 2018 International Residential Code. For more information consult your design professional. If the ventilation openings are screened, the total area should be doubled.

**IT IS PARTICULARLY IMPORTANT TO
PROVIDE ADEQUATE VENTILATION.****3. FASTENERS**

NAILS: TAMKO requires the use of nails as the method of application. Standard type roofing nails should be used. Nail shanks should be made of minimum 12 gauge wire, and a minimum head diameter of 3/8". Nails should be long enough to penetrate 3/4" into the roof deck. Where the deck is less than 3/4" thick, the nails should be long enough to penetrate completely through decking and extend at least 1/8" through the roof deck. Drive nail head flush with the shingle surface.



WIND CAUTION: Extreme wind velocities can damage these shingles after application when proper sealing of the shingles does not occur. This can especially be a problem if the shingles are applied in cooler months or in areas on the roof that do not receive direct sunlight. These conditions may impede the sealing of the adhesive strips on the shingles. The inability to seal down may be compounded by prolonged cold weather conditions and/or blowing dust. In these situations, hand sealing of the shingles is required. To ensure quicker sealing, apply 4 quarter-sized dabs of any adhesive meeting ASTM D4586, Type I, on the back of the shingle 1" and 13" in from each side and 1" up from the bottom of the shingle. Press shingle firmly into the adhesive. For maximum wind resistance along rakes, install any TAMKO starter shingle including sealant or cement shingles to the underlayment and each other in a 4" width of any adhesive meeting ASTM D4586, Type I. Caution: Apply ONLY a thin uniform layer of adhesive less than 1/8" thick. Excessive amounts can cause blistering of the shingles and may soften the asphalt in certain underlayments resulting in the asphalt flowing, dripping and staining. Shingles must also be fastened according to the fastening instructions described below.

CAUTION: Fasteners must not be driven into the edge of the common bond area.

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

TUSCALOOSA, AL

**3. FASTENERS** (continued)

Correct placement of the fasteners is critical to the performance of the shingle. **If the fasteners are not placed as shown in the diagram as described below, this will result in the termination of TAMKO's liabilities under the Limited Warranty and Arbitration Agreement.** TAMKO will not be responsible for damage to shingles caused by winds in excess of the applicable MPH as stated in the Limited Warranty and Arbitration Agreement. See Limited Warranty and Arbitration Agreement on the wrapper or tamko.com for details. **CAUTION:** Fasteners must not be driven into the edge of the common bond area.

FASTENING PATTERNS:

1) NAIL ZONE: The Nail Zone for standard fastening is defined as the 1-3/4" area beginning at 6-1/8" from the bottom edge of the shingle and ending at the paint line located at 7-7/8" from the bottom edge of the shingle.

**DO NOT PLACE FASTENERS ON OR ABOVE
THE PAINT LINE OF THE SHINGLE.**

2) STANDARD FASTENING PATTERN OPTIONS:

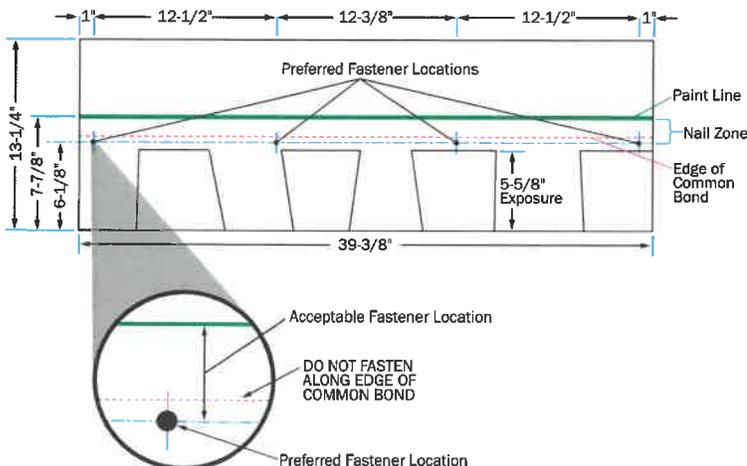
For use on decks with slopes 2" per foot up to but less than 21" per foot.

A. PREFERRED FASTENER LOCATION: Fasteners should be placed 6-1/8" from the bottom edge of the shingle, penetrating through the common bond, and located horizontally as shown in the Standard Fastening Pattern diagram.

B. ACCEPTABLE FASTENER LOCATION: Fasteners must be placed in the 1-3/4" nailing area beginning at 6-1/8" from the bottom edge of the shingle and ending at the paint line located 7-7/8" from the bottom edge of the shingle. Nails shall be located horizontally as shown in the Standard Fastening Pattern diagram.

3) STANDARD FASTENING PATTERN:

One fastener 1" from each end and one fastener 13-1/4" from each end for a total of 4 fasteners per shingle. (See Standard Fastening Pattern illustrated below.)

STANDARD FASTENING PATTERN**4) MANSARD ROOF OR STEEP SLOPE FASTENING PATTERN:**

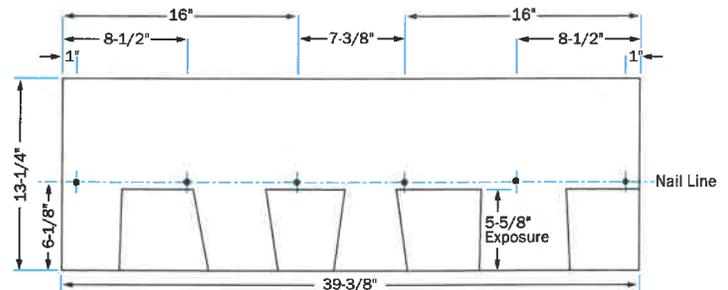
For use on decks with slopes equal to or greater than 21" per foot.

One fastener 1" from each end, one fastener 8-1/2" from each end and one fastener 16" from each end for a total of **6 fasteners** per shingle. (See High Wind Warranty, Mansard Roof or Steep Slope Fastening Pattern illustrated below.)

5) HIGH WIND WARRANTY FASTENING PATTERN:

One fastener 1" from each end, one fastener 8-1/2" from each end and one fastener 16" from each end for a total of **6 fasteners** per shingle. (See High Wind Warranty, Mansard Roof or Steep Slope Fastening Pattern illustrated below.)

CAUTION: ALL FASTENERS FOR MANSARD AND HIGH WIND APPLICATIONS MUST BE DRIVEN INTO THE COMMON BOND AS SHOWN IN THE HIGH WIND WARRANTY, MANSARD ROOF OR STEEP SLOPE FASTENING PATTERN DIAGRAM BELOW.

**HIGH WIND WARRANTY, MANSARD ROOF OR
STEEP SLOPE FASTENING PATTERN****6) ADDITIONAL REQUIREMENTS FOR HIGH WIND WARRANTY:**

TAMKO also requires the use of TAMKO® starter shingles including sealant strip at eaves and rakes. Alternatively, along rakes, cement shingles to the underlayment and each other in a 4" width of any adhesive meeting ASTM D4586, Type I. Caution: Apply **ONLY** a thin uniform layer of adhesive less than 1/8" thick. Excessive amounts can cause blistering of the shingles and may soften the asphalt in certain underlayments resulting in the asphalt flowing, dripping and staining.

High Wind Application is offered on new construction or complete tear-off applications only. It is not offered for re-cover applications. If High Wind Application requirements are not followed, the High Wind Application Warranty MPH, as stated on Table I in the Limited Warranty and Arbitration Agreement, reverts to the Standard Application Wind Warranty MPH limit. (See High Wind Warranty, Mansard Roof or Steep Slope Fastening Pattern illustrated above.)

"High Wind Application" means application of shingles in strict accordance with the High Wind Warranty Fastening Pattern application instructions stated previously. See local building codes for additional nailing requirements.

APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

TUSCALOOSA, AL

**4. UNDERLAYMENT**

UNDERLAYMENT: An underlayment must be applied over the entire deck before the installation of TAMKO® shingles. Failure to add underlayment can cause premature failure of the shingles, which is not covered by TAMKO's Limited Warranty and Arbitration Agreement.

Products which are acceptable for use as underlayment are:

Asphalt Saturated Felt Underlayments

- Any TAMKO® non-perforated asphalt saturated organic felt
- A non-perforated asphalt saturated organic felt which meets ASTM D226 or ASTM D4869

Specialty Underlayments

- Synthetic Guard™ Plus Underlayment or Synthetic Guard™ Underlayment
- A polymeric underlayment designed for use with asphalt shingles which meets ASTM D8257
- TAMKO® Moisture Guard® Ice & Rain Underlayment, TW Underlayment or TW Metal and Tile Underlayment (additional ventilation may be required—contact TAMKO's Technical Services Department for more information)
- A self-adhesive underlayment designed for use with asphalt shingles which meets ASTM D1970

For Asphalt Saturated Felt Underlayments

Apply the felt when the deck is dry. On roof decks with slopes 4" per foot and greater apply the felt parallel to the eaves lapping each course of the felt over the lower course at least 2". Where ends join, lap the felt 4". If left exposed, the felt may be adversely affected by moisture and weathering. Laying of the felt and the shingle application must be done together.

For All Other Specialty Underlayments

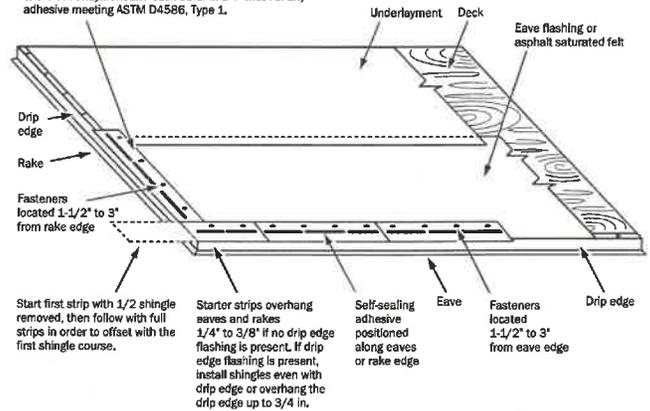
On roof decks with slopes 4" per foot and greater, apply the underlayment parallel to the eaves in accordance with underlayment application written instructions. The underlayment should not be left exposed for a longer period of time than is specified in the underlayment application written instructions. The final roof covering must be installed before the structure is exposed to adverse weather conditions, such as wind driven rain, high wind, hail, ice storms, etc.

In areas where ice builds up along the eaves or a back-up of water from frozen or clogged gutters is a potential problem, TAMKO® Moisture Guard®, TW Metal and Tile Underlayment or TW Underlayment (or any specialty eaves flashing product) may be applied to eaves, rakes, ridges, valleys, around chimneys, skylights or dormers to help prevent water damage. Contact TAMKO's Technical Services Department for more information.

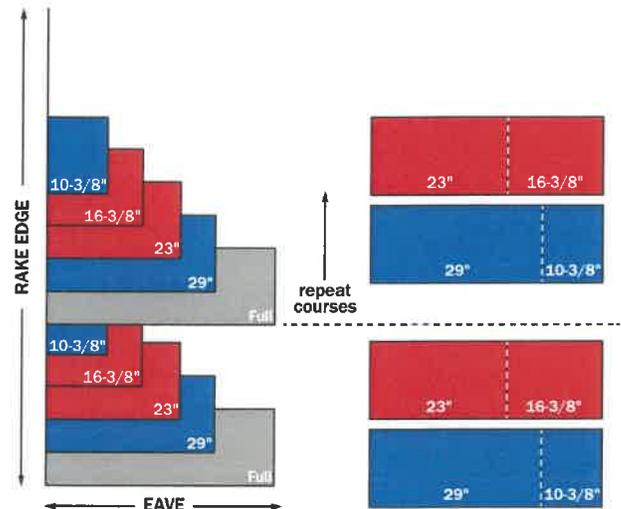
5. APPLICATION INSTRUCTIONS

STARTER COURSE: A starter course may consist of TAMKO® Shingle Starter, TAMKO® 10-inch Starter, TAMKO® Perforated Starter, or self-sealing 3-tab shingles. If self-sealing 3-tab shingles are used, remove the exposed tab portion and install with the factory applied adhesive adjacent to the eaves. Attach the starter course with approved fasteners along a line parallel to and 1-1/2" to 3" above the eaves edge. The starter course should overhang the eave edge 1/4" to 3/4" and the rake edge 3/8" to 3/4" if drip edge flashing is not used along the eaves or rakes. If drip edge flashing is present, install shingles even with the drip edge or overhang the starter course over the drip edge up to 3/4". Minimizing overhang at eaves and rakes is recommended to improve wind resistance of the installed system.

For maximum wind resistance along rakes, install any TAMKO starter shingle including sealant or cement shingles to the underlayment and each other in a 4" width of any adhesive meeting ASTM D4586, Type 1.



2 CUTS, 5 COURSES, NO-WASTE SHINGLE APPLICATION: Start the first course with a full-size shingle placed directly over the starter course. Cut 10-3/8" from a full shingle to form a shingle 29" long. Use this to start the second course (see diagram below). Cut a 23" long shingle to start the third course. Use the remaining 16-3/8" piece of shingle to start the fourth course and use the remaining 10-3/8" piece to begin the fifth course. Continue up the rake in as many rows as necessary using the same formula as outlined below.



APPLICATION INSTRUCTIONS FOR

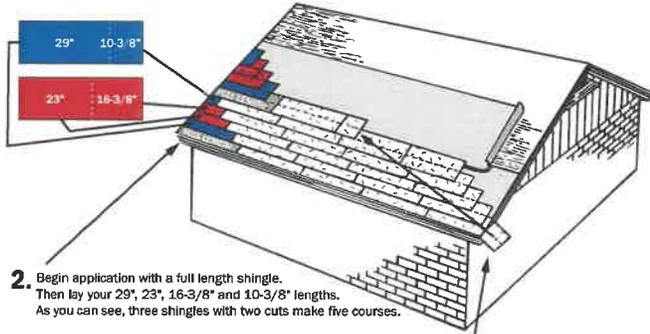
**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

TUSCALOOSA, AL

**5. APPLICATION INSTRUCTIONS** (continued)

The butt of the shingle should be aligned with the top edge of the sawtooth of the underlying shingle for a 5-5/8" exposure. When you make your final cut at the roof's edge, flip any pieces that are 8" or longer back onto the roof. These pieces can be worked in anywhere without creating zippers or color variations.

1. Cut your first course shingle to make 29" and a 10-3/8" length. Cut a second shingle to make a 23" and a 16-3/8" length.



2. Begin application with a full length shingle. Then lay your 29", 23", 16-3/8" and 10-3/8" lengths. As you can see, three shingles with two cuts make five courses.
3. Continue working your way across the roof. When you make your final cut at the roof's edge, flip any pieces that are 8" or longer back onto the roof. These pieces can be worked in anywhere without creating zippers or color variations.

NOTE: do not align joints of shingle courses when working in cut pieces. Joints should be no closer than 4" from one another.

6. LOW SLOPE APPLICATION

On pitches 2" per foot up to but less than 4" per foot (2:12 up to but less than 4:12) cover the deck with two layers of underlayment. Begin by applying the underlayment in a 1/2-sheet width plus 1/2 width of the side lap (i.e. for 36" wide asphalt saturated felt with a 2" side lap, the width would be 19") along the eaves. Place a full sheet width over the starter piece, completely overlapping it. All succeeding courses will be positioned to overlap the preceding course by 1/2-width sheet plus 1/2 width of the side lap. If winter temperatures average 25°F or less, thoroughly cement the laps of the entire underlayment to each other with any adhesive meeting ASTM D4586 Type I from eaves and rakes to a point of at least 24" inside the interior wall line of the building. As an alternative, one layer of TAMKO® Moisture Guard®, TW Metal and Tile Underlayment, or TW Underlayment self-adhering underlayment may be used in lieu of the double coverage underlayment.

7. MANSARD ROOF OR STEEP SLOPE ROOF

If the slope is equal to or exceeds 21" per foot (60°), each shingle must be sealed with any adhesive meeting ASTM D4586 Type I immediately upon installation. Quarter-sized dabs of cement must be applied to shingles. Use 6 fasteners per shingle — see Section 3 for the Mansard Roof or Steep Slope Fastening Pattern.

8. RE-COVERING

High Wind Warranty is offered on new construction or complete tear-off applications only. It is not offered for re-cover applications.

Before re-covering a roof be certain to inspect the roof decks. All decking shall meet the requirements listed in Section 1.

It is not recommended to install laminated asphalt shingles directly over existing laminated shingles due to the unevenness of the existing multi-layered shingles. The performance of the sealant feature may be compromised, preventing the shingles from sealing properly. It is acceptable to install laminated shingles over existing three-tab strip shingles which are flat and essentially intact. Nail down or remove curled or broken shingles from the existing roof. Replace all missing shingles with new ones to provide a smooth base. Shingles that are buckled usually indicate warped decking or protruding nails. Hammer down all protruding nails or remove them and refasten in a new location. Remove all drip edge metal and replace with new.

If re-covering over an existing roof where new flashing is required to protect against ice dams (freeze/thaw cycle of water and/or the backup of water in frozen or clogged gutters), remove the old roofing to a point at least 24" beyond the interior wall line and apply TAMKO® Moisture Guard®, TW Metal and Tile Underlayment, or TW Underlayment. For more information contact TAMKO's Technical Services Department at 800-641-4691.

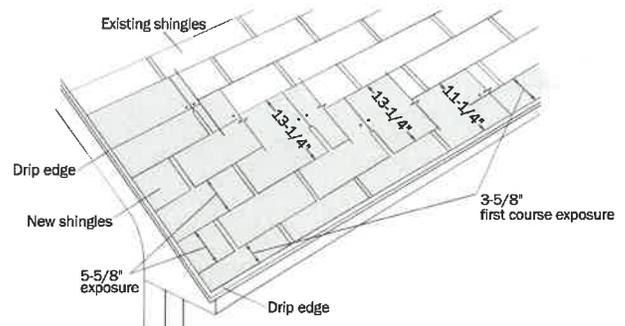
Measurements will vary when nesting over an existing 5" exposure shingled roof. Call TAMKO's Technical Services for further information.

The nesting procedure described below is the preferred method for re-covering over existing metric size shingles with a 5-5/8" exposure. See description below:

Starter Course: Remove the tabs and an additional portion from the head of a full-size shingle so that its height is equal to the exposure of the existing shingles. Position the resulting strip over the existing roof edge (with the factory-applied adhesive strip along the eaves). Cut approximately 6" from the rake end and apply the remaining portion at the eaves. Continue the starter strip by applying full length shingle strips cut to height as above, evenly along the existing roof at the eaves. The existing roof should overhang the eaves far enough to carry water off into the gutter. If this is not the case, cut and apply the starter strip so that it will provide sufficient overhang for proper drainage.

First Course: Remove an amount from the butt edge of a full-size shingle so that the remaining portion of the shingle fits between the butts of the existing third course. This course must also be applied evenly along the eaves edge of the new starter strip.

Second and Succeeding Courses: Remove 10-3/8" from the rake end of the first shingle in the second course, and continue with full width shingles for the remainder of the course, placing the top edge of each new shingle against the butt edge of the old shingle in the course above. This method should create an exposure of 5-5/8" after the first course. When beginning the succeeding courses continue to follow the application instructions. (See section 5).



APPLICATION INSTRUCTIONS FOR

**HERITAGE®
ARCHITECTURAL ASPHALT SHINGLES**

TUSCALOOSA, AL

**9. VALLEY APPLICATION**

Center a minimum 36" wide sheet of TAMKO® Moisture Guard®, TW Metal and Tile Underlayment, any self-adhesive underlayment designed for use with asphalt shingles which meets ASTM D1970, or a minimum 50 lb. roll roofing in the valley. Nail the underlayment only where necessary to hold it in place and then only nail the outside edges. Install shingle underlayment and extend over valley flashing by 6".

IMPORTANT: PRIOR TO INSTALLATION, WARM SHINGLES TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLES TO FORM VALLEY.

- The first course and only the first course of shingles from the intersecting roof surface should be woven with the first course of shingles on the starting roof.
- Apply the first course of shingles along the eaves on one of the intersecting roof planes and across the valley.

Note: For proper flow of water over the trimmed shingle, always start applying the shingles on the roof plane that has the lower slope or less height.

- Extend the end shingle at least 12" onto the adjoining roof. Apply succeeding courses in the same manner, extending them across the valley and onto the adjoining roof.
- Press the shingles tightly into the valley.
- Use normal shingle fastening methods.

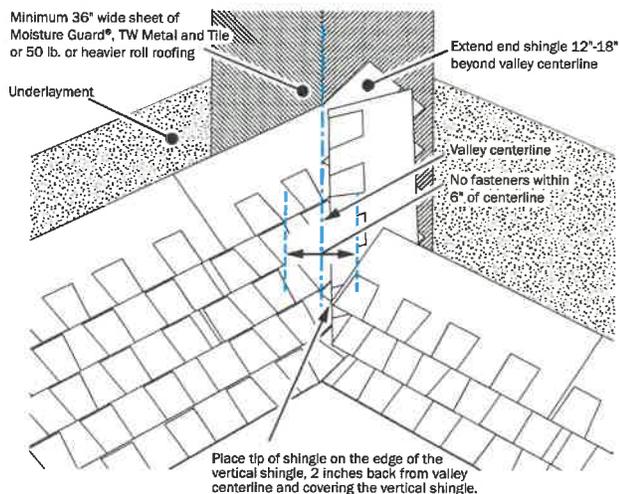
Note: No fastener should be within 6" of the valley centerline, and two fasteners should be placed at the end of each shingle crossing the valley.

- To the adjoining roof plane, apply one row of shingles vertically facing the valley and 2" back from the valley centerline.

Note: For a neater installation, snap a chalkline over the shingles for guidance.

- To complete the valley, apply shingles on the adjoining roof plane by positioning the tip of the first shingle of each row at the 2" point from the centerline where the edge of the vertical shingle has been applied, covering the vertical shingle.

For alternate valley application methods, please contact TAMKO's Technical Services Department at 800-641-4691.

**10. HIP AND RIDGE FASTENING DETAIL**

TAMKO recommends the use of TAMKO® Hip and Ridge shingle products. Where matching colors are available, it is acceptable to use TAMKO® Elite Glass-Seal® shingles cut down to 12" pieces.

IMPORTANT: PRIOR TO INSTALLATION, CARE NEEDS TO BE TAKEN TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLES IN COLD WEATHER.

Apply shingles up to a hip or ridge from both sides of the roof before finishing the intersection. To facilitate finishing, adjust the last few courses so that the ridge capping will adequately cover the top courses of shingles equally on both sides of the ridge.

To apply the capping, bend each shingle along the centerline so that it will extend an equal distance on each side of the hip or ridge. Chalk lines may assist in proper alignment. In cold weather, warm the shingle until it is pliable before bending.

Apply the shingles with a 5-1/8" exposure, beginning at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing winds. See Figure 1. Secure each shingle as illustrated in Figure 2 with one fastener on each side, 5-5/8" back from the exposed end and 1" up from the edge. DO NOT NAIL BELOW THIS LINE 1" UP FROM THE EDGE. The length of the fastener should be long enough to penetrate through the roofing material and 3/4" into the wood decking or completely through the decking.

In high wind areas, it may be advisable, at the discretion of the roofing contractor, to use a spot of sealant to minimize blow off problems.

Alternatively, a 2-layer application of TAMKO® hip and ridge shingles with dimension 12-1/4" x 12" may be applied to all Heritage® roofs to enhance the overall appearance. When the second layer is applied, offset this layer by 1/4" to create a "shadow" effect. See Figure 3.

For a high profile appearance, TAMKO recommends Heritage® Designer Ridge. The application instructions are available at tamko.com or by calling TAMKO's Technical Services Department at 800-641-4691.

Figure 1

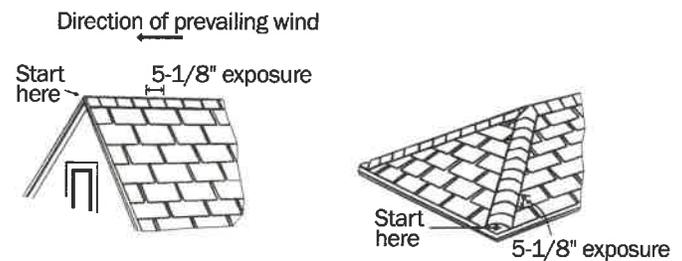


Figure 2

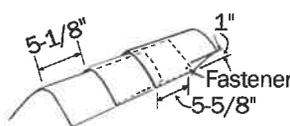
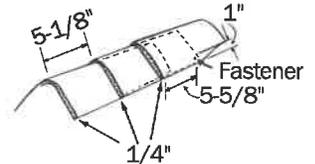


Figure 3





HERITAGE[®]

ARCHITECTURAL ASPHALT SHINGLES



TUSCALOOSA

WHATEVER YOUR TASTE OR STYLE, TAMKO HAS YOU COVERED.

With two distinct color palettes to choose from,
TAMKO has just the right color to beautify your home.



AMERICA'S NATURAL COLORS

America's Natural Colors bring the vibrant tones of the American landscape to your home. If you want your roof to make a bold and beautiful visual statement, choose from America's Natural Colors.

BOLD AND BEAUTIFUL



Black Walnut



CLASSIC COLORS

For those who prefer a softer, more even-toned look for their roof, choose one of TAMKO's Classic Colors featuring the subtle, sophisticated color blends that have long made TAMKO an industry favorite.

SUBTLE AND SOPHISTICATED



Rustic Black

The shingle images above show the difference between America's Natural Colors and Classic Colors. Black Walnut and Rustic Black are both "black" shingles. Look closely and you can see Black Walnut includes vibrant splashes of color that will draw the eye of the roof.

SHINGLE COLOR SELECTION TIPS

For more information on shingle color selection tips and available colors by zip code, visit tamko.com



View An Actual Roof Installation. Shingles may look different installed on a roof compared to viewing only one shingle. Also, shingle colors can appear differently during different times of day, in different amounts of sunlight (full, partial, etc.).



View Actual Shingles. Viewing actual shingles is the only way to see all the nuances in color that will be represented on your roof once the project is complete.



Start your Color Search with Brochures and Visualization Programs. The printed colors you see in any brochure or digital visualization program are only as accurate as current printing and digital technology allows.

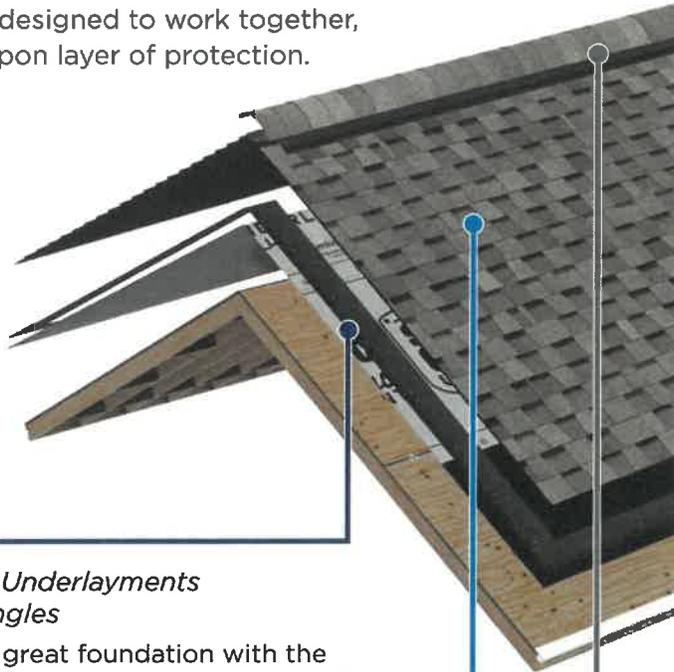


Check Your Shingles Before Installation. TAMKO is not responsible for color claims where the wrong color is installed on a roof. It is better to be safe and perform a final in-person check of the shingles to confirm product and color before they are installed.



PROTECT | PERFORM | PROLONG

Insist on TAMKO® products for the full TAMKO Complete™ Roof System. TAMKO products are specifically designed to work together, building layer upon layer of protection.



PROTECT

Waterproofing, Underlayments and Starter Shingles

Give your roof a great foundation with the right products and application considering your local and state building codes.

PERFORM

Shingles

Choose the performance you need for your roofing job from TAMKO's inclusive line of asphalt shingles. Whatever your job calls for, TAMKO has your shingle.

HERITAGE® • VINTAGE® • TITAN XT™
STORMFIGHTER IR™ • ELITE GLASS-SEAL®

PROLONG

Ventilation and Hip & Ridge Shingles

Finish your job off right with crucial roof ventilation that can help prolong the life of your roof, while capping it all off with hip and ridge shingles to protect the most vulnerable ridges and provide a beautiful, finished look for the entire project.

*Learn more about the requirements for an extended Full Start® period by upgrading to a TAMKO WXTShield Enhanced System Warranty™ at www.tamko.com/enhancedwarranties.



SINCE 1944

WHY CHOOSE TAMKO HERITAGE® SHINGLES?

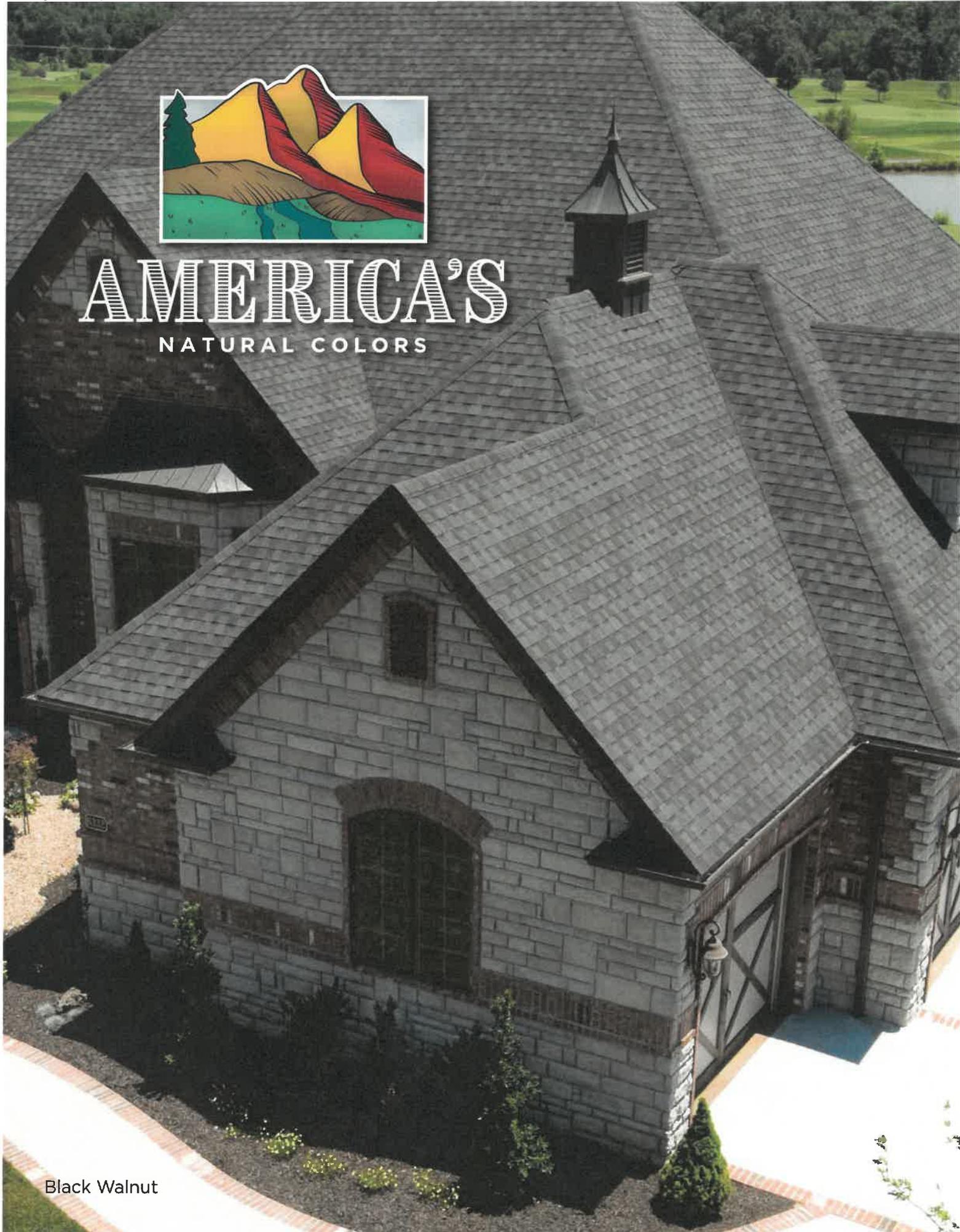
With more than 75 years of roofing manufacturing, TAMKO Building Products LLC is one of the largest and most trusted manufacturers of asphalt shingles in the nation. Every year, thousands of homeowners choose TAMKO shingles for their roofs, and many of those roofs are covered with Heritage architectural asphalt shingles - TAMKO's most popular product.

For more than 40 years, Heritage shingles have been a classic in the roofing industry, recommended by contractors, builders and homeowners for their quality construction, Limited Lifetime Warranty, beautiful woodshake cut, and the best colors available in the market.

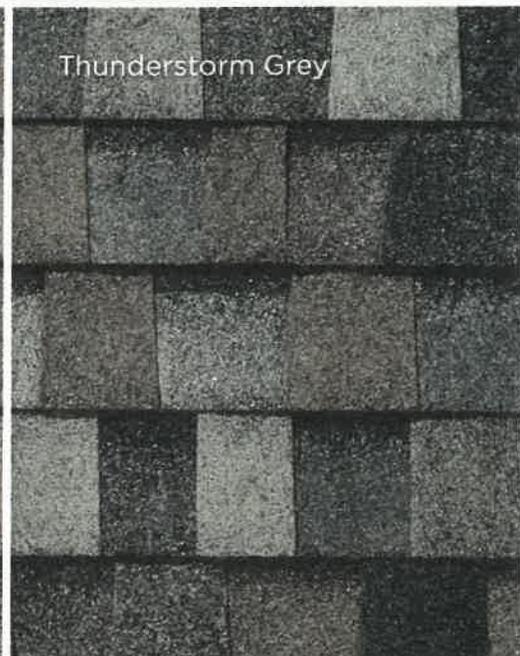
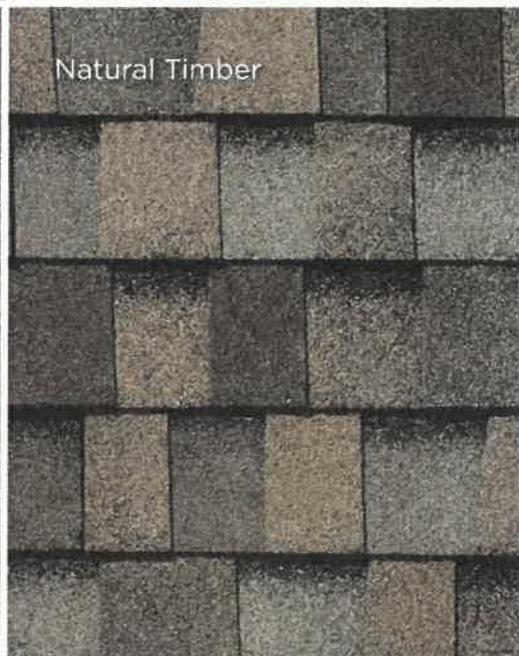
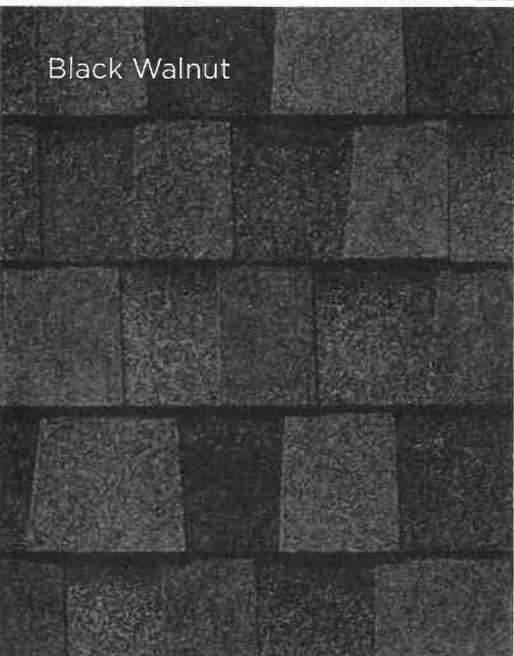


AMERICA'S

NATURAL COLORS



Black Walnut





CLASSIC

COLORS



Oxford Grey

Desert Sand



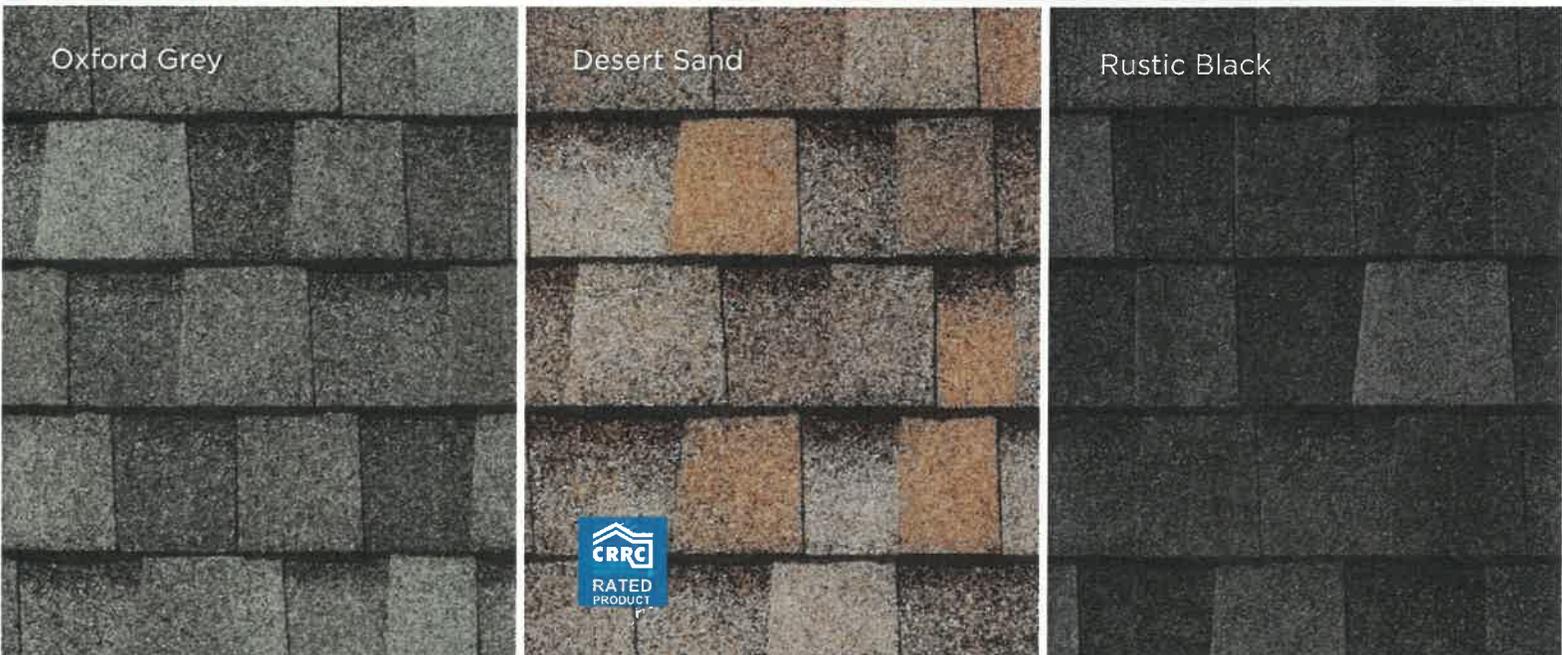
Rustic Black



Oxford Grey

Desert Sand

Rustic Black

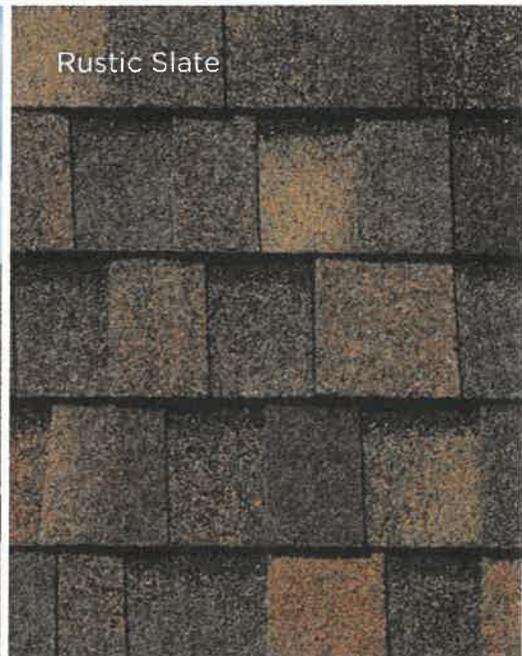




Rustic Cedar

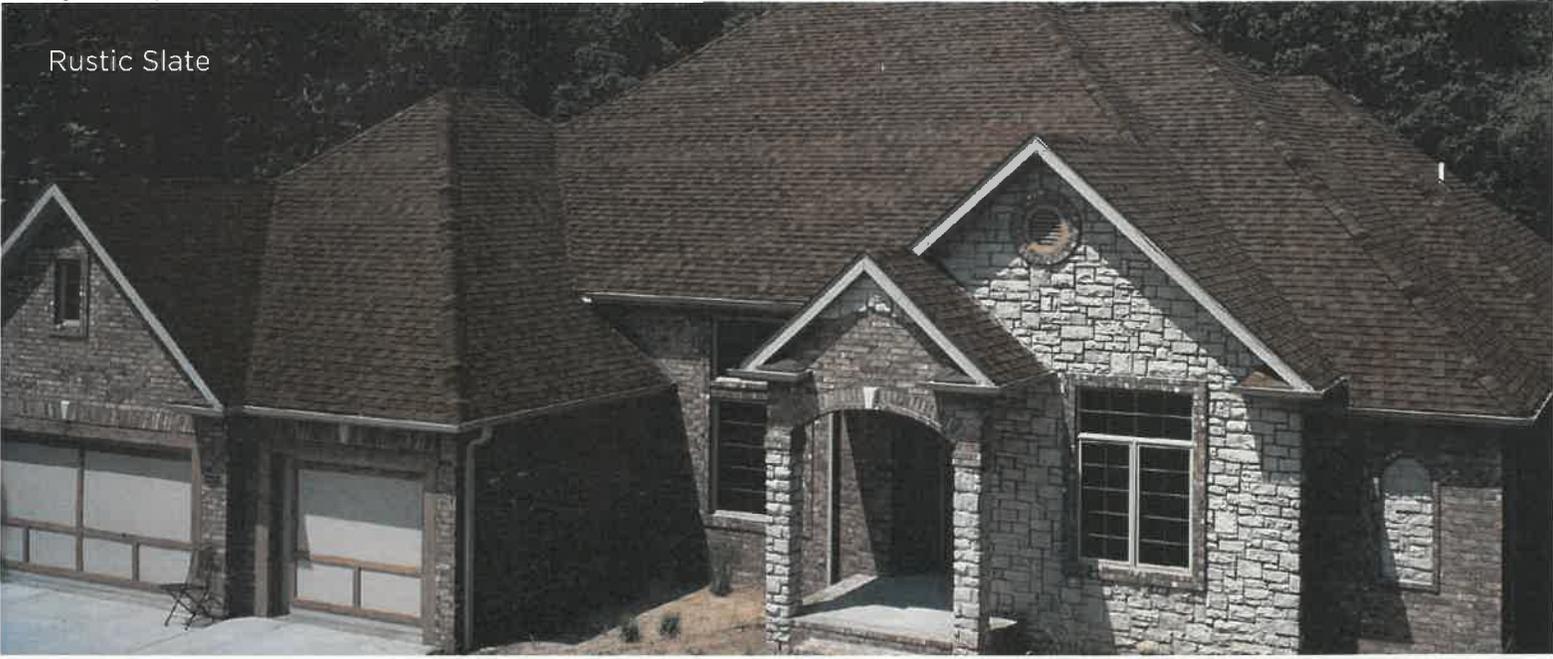


Weathered Wood



Rustic Slate

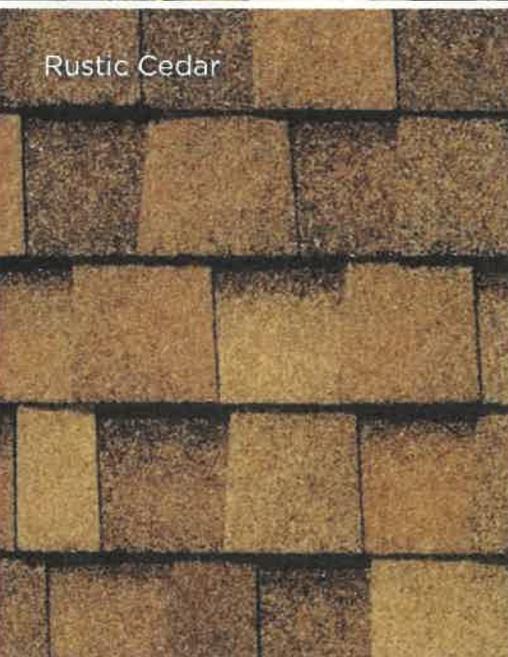
Rustic Slate



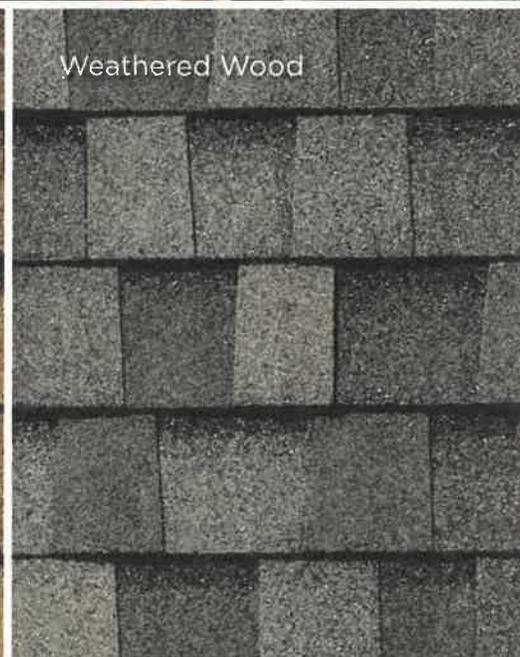
Rustic Hickory



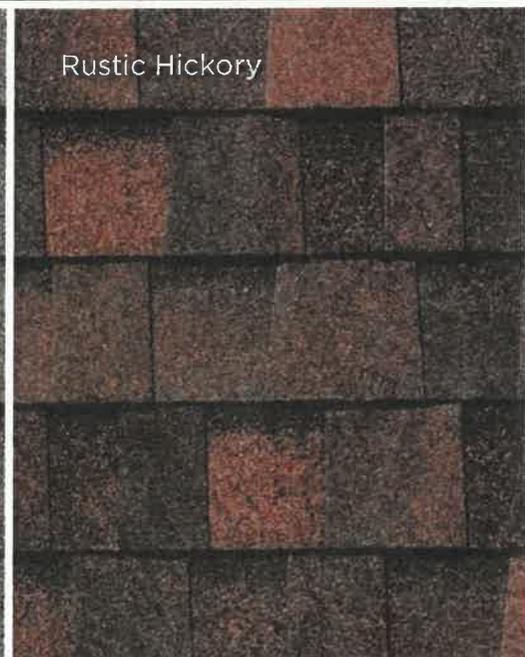
Rustic Cedar



Weathered Wood



Rustic Hickory



Shadow Grey







SINCE 1944

AMERICA'S SHINGLE™ IS YOUR HERITAGE.

We are proud of our Heritage – More than 75 years of U.S. manufacturing, family-owned, founded in the heartland of America. With a long history of vertical integration to control the quality of our raw materials, at TAMKO, we think better materials make better shingles. And it's not just an advanced proprietary mix of fiberglass mat, asphalt and ceramic granules that go into our shingles – our support for veterans, first responders, our communities and our employees means you can feel good about choosing a TAMKO® Heritage® shingle – America's Shingle™.

Heritage shingles meet the following classifications

UL Listed for:

Class A Fire Resistance

UL Classified:

Wind Resistance

ASTM D3462 and ICC-ES

Acceptance Criteria AC438

Tested in Compliance with:

UL 790/ASTM E 108, Class A

ASTM D3161, Class F

ASTM D7158, Class H

ASTM D3462

ICC-ES Acceptance Criteria AC438

Florida Building Code

Product Approval

FL 18355

FL 35321

Miami-Dade County

Product Control Approved

UL Evaluation Reports:

UL Evaluation Report ER2919-01

UL Evaluation Report ER2919-02

Desert Sand, Glacier White and Olde English Pewter are listed by the Cool Roof Rating Council* (CRRC)

Certain colors and products may not be available in your area. Information included in this item was current at the time of printing. To obtain a copy of the most current version of this item, visit us online at tamko.com or call us at 1-800-641-4691.

1-800-641-4691

tamko.com

SHINGLES BEGIN TO AGE AS SOON AS THEY ARE EXPOSED TO NATURE. BUILDINGS EXPERIENCE AGING FACTORS DIFFERENTLY, SO IT IS DIFFICULT TO PREDICT HOW LONG SHINGLES WILL LAST. TAMKO PROVIDES A LIMITED WARRANTY FOR MANY PRODUCTS, THAT INCLUDES A BINDING ARBITRATION CLAUSE AND OTHER TERMS AND CONDITIONS WHICH ARE INCORPORATED HEREIN BY REFERENCE. YOU MAY OBTAIN A COPY OF THE LIMITED WARRANTY AT TAMKO.COM OR BY CALLING 1-800-641-4691.



TUSCALOOSA

41001571 0222

HERITAGE®

ARCHITECTURAL ASPHALT SHINGLES

MANUFACTURED IN TUSCALOOSA, AL

PRODUCT DATA

DESCRIPTION

Information included in this product data sheet was current at time of printing.

To obtain a copy of the most current version of this product data sheet, visit us online at tamko.com or call us at 800-641-4691.

HERITAGE® shingles have a fiberglass mat construction with a random-cut sawtooth design. Two layers of mat are coated with asphalt, surfaced with mineral granules and then laminated together. Also includes a self-sealing strip of asphalt.

- Wood-shake look and beauty
- Shadowtone feature adds dimension, depth of appearance and curb appeal
- Limited Lifetime Warranty*
- 10-year Full Start® non-prorated warranty period
- 10-year Algae Cleaning Limited Warranty

USES: For application to roof decks with inclines of 2 inches per foot or greater.

- For slopes between 2" and up to but less than 4" per foot—see "Low Slope Application" section of the Application Instructions.
- For slopes equal to or greater than 21" per foot—see "Mansard Roof or Steep Slope Roof" section of the Application Instructions.

SHINGLES BEGIN TO AGE AS SOON AS THEY ARE EXPOSED TO NATURE. BUILDINGS EXPERIENCE AGING FACTORS DIFFERENTLY, SO IT IS DIFFICULT TO PREDICT HOW LONG SHINGLES WILL LAST. TAMKO PROVIDES A LIMITED WARRANTY FOR MANY PRODUCTS, THAT INCLUDES A BINDING ARBITRATION CLAUSE AND OTHER TERMS AND CONDITIONS WHICH ARE INCORPORATED HEREIN BY REFERENCE. YOU MAY OBTAIN A COPY OF THE LIMITED WARRANTY AT TAMKO.COM OR BY CALLING 1-800-641-4691.

*Limited Lifetime only applies to single-family structures. See TAMKO's Limited Warranty for complete details.

COLORS

AMERICA'S NATURAL COLORS

- Black Walnut
- Natural Timber
- Thunderstorm Grey

CLASSIC HERITAGE COLORS

- Desert Sand
- Glacier White*
- Olde English Pewter
- Oxford Grey
- Rustic Black
- Rustic Cedar
- Rustic Hickory
- Rustic Slate
- Shadow Grey
- Weathered Wood



*Glacier White is rated by the Cool Roof Rating Council.

TECHNICAL INFORMATION

UL Listed for Class A Fire Rating:	UL 790/ASTM E108, Class A
UL Classified for Wind Resistance:	ASTM D7158, Class H and ASTM D3161, Class F
UL Classified in accordance with:	ASTM D3462 and ICC-ES Acceptance Criteria AC438
UL Evaluation Reports:	UL ER2919-01 and UL ER2919-02
Florida Building Code Approved:	FL18355 and FL35321
Miami Dade County Product Control Approved	

(CONTINUED ON NEXT PAGE)

WARNING: Use of this product in an assembly that includes polyurethane foam insulation (including without limitation an application directly to the underside of a roof deck or within a wall assembly) may cause premature degradation or failure of this product. We continue to evaluate compatibility of polyurethane foams with our asphalt building products. Chemical incompatibility, off-gassing after application and excess heat during and after application of polyurethane foams may affect the performance of asphalt and modified asphalt building products and metal fasteners used with those products.



IMPORTANT SAFETY INFORMATION: Do not install until all appropriate safety precautions have been read and understood. The TAMKO Safety Data Sheet (SDS) is available at tamko.com/sds. Always use appropriate fall protection equipment and wear appropriate personal protective equipment (PPE) when working with this product. Moisture, frost, debris or other material will decrease the traction and can cause slippery conditions when walking on the product. **Applicator safety is of utmost importance.**

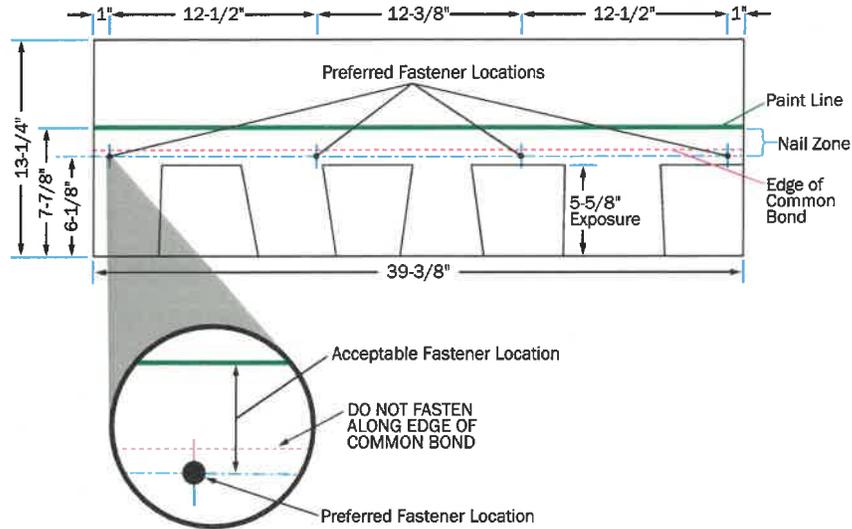
WARNING: This product contains crystalline silica and formaldehyde. Crystalline silica and formaldehyde have been classified as "known human carcinogens" by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. This product also contains oxidized asphalt. Occupational exposure to oxidized asphalt and its emissions during roofing have been classified by IARC as a "probable human carcinogen". Oxidized asphalt also contains Polycyclic Aromatic Hydrocarbons some of which have been classified by IARC as "known" or "probable human carcinogen". The physical nature of this product may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of this product. Take precautions to prevent breathing and contact with skin.



P.O. Box 97
Galena, KS 66739-0097
800-641-4691
tamko.com

HERITAGE[®]**ARCHITECTURAL ASPHALT SHINGLES**

MANUFACTURED IN TUSCALOOSA, AL

PRODUCT DATA**PRODUCT DATA****Standard Fastening Pattern in Nail Zone**

Shingle size [†]	13-1/4" × 39-3/8"
Exposure	5-5/8"
Each bundle contains	Minimum of 20 shingles
20 shingles covers ^{††}	30.76 sq. ft.
One Sales Square covers ^{††}	98.4 sq. ft.
Bundles per Sales Square	3
Shingles per Sales Square	64 (1 bundle of 20 shingles and 2 bundles of 22 shingles)

[†] Subject to manufacturing variation

^{††} When applied according to application instructions

TAMKO[®]
BUILDING PRODUCTS LLC

P.O. Box 97
Galena, KS 66739-0097
800-641-4691
tamko.com

TAMKO BUILDING PRODUCTS LLC SAFETY DATA SHEET - T01A2022**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****TRADE NAME:** TAMKO Shingle Products**LABEL:** Heritage, Heritage Vintage, Elite Glass-Seal, Heritage Vintage 12 x 12 Hip and Ridge, 12 ¼ x 12 Hip and Ridge, Heritage Vintage Starter, TAMKO Shingle Starter, TAMKO 10 Inch Starter, TAMKO Perforated Starter, 12 ¼ x 12 Heritage Hip and Ridge IR, Titan XT, StormFighter IR.**USE & DESCRIPTION:** Oxidized Asphalt Shingles used for roofing**CHEMICAL FAMILY:** Mixture**MANUFACTURED BY:**
TAMKO Building Products LLC
P. O. Box 97
Galena, KS 66739-0097
www.TAMKO.com**EMERGENCY TELEPHONE NUMBERS:**
General Information: 1-417-624-6644 (8 a.m. - 5 p.m. CST)
Chemtrec: 1-800-424-9300 (24 HOURS)**2. HAZARDS IDENTIFICATION****SIGNAL WORD:** Danger**GHS CLASSIFICATION:** Carcinogenicity – Category 1A
Skin Irritation – Category 2
Sensitization (Skin) – Category 1B
Eye Irritation – Category 2B
Specific Target Organ Toxicity, Repeated Exposure – Category 1**HAZARD STATEMENTS:**

- May cause cancer.
- Causes skin and eye irritation.
- May cause an allergic skin reaction.
- Causes damage to organs through prolonged or repeated exposure.

Additional hazard information: Can cause silicosis and other permanent lung damage.

PRECAUTIONARY STATEMENTS:Prevention

- Obtain special instructions before use.
- Do not breathe dust.
- Do not eat, drink or smoke when using this product.
- Do not handle until all safety precautions have been read and understood.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash hands and exposed skin thoroughly after handling.
- Contaminated work clothing must not be allowed out of the workplace.

Response

- Specific treatment: See section 4-First Aid
- In case of fire: See Section 5.
- If on skin: Wash with plenty of water.
- Take off contaminated clothing and wash it before reuse.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Get medical advice/attention: If exposed or concerned or you feel unwell, if eye and or skin irritation persists.

Storage

Store locked up.

Disposal

Dispose in accordance with Federal, State, and Local regulations. (See section 13 for additional information).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS No.	% by Weight
Limestone*	1317-65-3	35-45
Oxidized Asphalt	64742-93-4	15-25
Mineral Granules*	NE	20-30
Fiberglass Mat**	NE	1-5
**Contains Fiberglass	65997-17-3	4-7
**Contains Urea Formaldehyde Binder	9011-05-6	0.5-2.0
**Contains Formaldehyde	50-00-0	0.01-0.2
Sand*	NE	0-10
Headlap*	NE	0-30
Polyester Mat	NE	0-5
*Contains Crystalline Silica (Quartz)	14808-60-7	0.1-5

NE = Not established

4. FIRST AID MEASURES**EYE CONTACT:** Immediately flush eyes with plenty of cool water for at least 20 minutes, occasionally lifting the eye lids to ensure thorough rinsing. Get medical attention if irritation persists.**SKIN CONTACT:** Clean any exposed skin with warm soapy water if possible. If not, and a waterless hand cleaner is used, it should be without pumice. Do not use solvents or thinners to remove material from skin. Get medical attention if irritation persists or develops.**INGESTION:** If swallowed, do not induce vomiting. If vomiting occurs, keep head lower than hips to avoid aspiration of vomit into the lungs which can cause inflammation or pneumonitis. Call poison control center or get immediate medical attention.**INHALATION:** If inhalation of dust occurs, remove person to fresh air. Drink water to clear throat or blow nose to clear. If not breathing, give artificial respiration or give oxygen by trained personnel and get immediate medical attention.

SDS Number: T01A2022 – Shingles

Date: February 2022

NOTES TO PHYSICIAN: Treatment should be based on removing the source of irritation with treatment of symptoms as necessary.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Dry chemical, CO₂, or foam fire extinguisher should be used for controlling small fires. Avoid use of straight-stream water.**SPECIAL FIRE FIGHTING PROCEDURES:** Avoid breathing fumes. Firefighters should not enter confined spaces without wearing NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.**UNUSUAL FIRE OR EXPLOSION HAZARDS:** When heated, fumes may burn if ignition source is provided. Petroleum asphalt fumes can explode if emitted in an enclosed environment and supplied with an ignition source. Burning product will cause thick black smoke.**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, carbon dioxide, ozone, hydrogen sulfide, oxides of sulfur and various hydrocarbons during heating or burning. These combustion products are not expected unless product is heated or burned.

6. ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED: Pick up large pieces. Leather or cotton gloves must be worn when handling. Do not dry sweep dusts or blow with air in confined area.**WASTE DISPOSAL METHODS:** Dispose in accordance with applicable Federal, State, and Local regulations. Do not burn.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE: Store away from heat and all ignition sources and open flames in accordance with applicable laws and regulations.**PRODUCT SHOULD NOT BE BURNED OR HEATED USING A DIRECT FLAME DEVICE.****PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** Follow recommended work practices and use recommended personal protective clothing and equipment. See Section 8 of this SDS.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Components	CAS No.	OSHA		ACGIH		Unit
		TWA	STEL	TWA	STEL	
Raw Products						
Oxidized Asphalt	64742-93-4	NE	NE	0.5*	NE	mg/m ³
Limestone†	1317-65-3	15/5**	NE	10/3**	NE	mg/m ³
Sand†	NE	15/5**	NE	10/3**	NE	mg/m ³
Headlap†	68476-96-0	15/5**	NE	10/3**	NE	mg/m ³
Fiberglass††	65997-17-3	15/5**	NE	5***	NE	mg/m ³
††Contains Formaldehyde	50-00-0	0.75	2	0.1	0.3	ppm
†Contains Crystalline Silica Quartz	14808-60-7	0.05	NE	0.025	NE	mg/m ³

NE= Not established.

Note: Due to the form of the product, hazardous exposures from this product are not expected to occur under normal conditions of use. Gloves must be worn when handling and adequate ventilation must be provided during roofing related activities.

* Asphalt Fume as benzene-soluble inhalable aerosol (Bitumen); TWA for inhalable fraction.

** OSHA: Total Nuisance Dust / Respirable Dust. ACGIH: Particles (insoluble or poorly soluble) not otherwise specified.

*** Synthetic vitreous fibers – continuous filament glass fibers.

RESPIRATORY PROTECTION: Normally not needed in well-ventilated areas. If applicable exposure standards are exceeded or can be exceeded introduce ventilation to remove dust. If increased ventilation is not possible, use a NIOSH approved air-purifying respirator. If concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator/SCBA use, fitting, and training standards and regulations.**VENTILATION:** Use only with adequate ventilation to maintain exposures below applicable exposure limits.**EYE PROTECTION:** Safety glasses with side shields must be used if eye contact is possible.**SKIN:** Must wear leather or cotton gloves during application and/or tear off activities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Granular surface on oxidized asphalt coated mat.	Upper/Lower Flammability or Explosive Limits:	Not Applicable
Odor Threshold	Not Applicable	Vapor Pressure:	Not Applicable
pH:	Not Applicable	Vapor Density (Air = 1):	Not Applicable
Boiling Point:	>700 °F	Specific Gravity/Relative Density:	Variable
Melting Point:	>200 °F	Solubility (IES):	No data available
Flash Point:	Not Applicable	Initial Boiling Point and Boiling Range:	Not Applicable
Autoignition Temperature:	>460°C/860°F	Evaporation Rate (Butyl Acetate = 1):	<0.1
Viscosity:	Not Applicable	Flammability (Solid and Gas):	Not Applicable
Decomposition Temperature:	Not Applicable	Partition Coefficient: N-Octanol/Water:	Not Applicable

10. STABILITY AND REACTIVITY

STABILITY: Stable**REACTIVITY:** Reactivity will not occur.**CONDITIONS TO AVOID:** Keep from heat, sparks, open flame and other sources of ignition. Avoid contact with strong oxidizing agents.**PRODUCT SHOULD NOT BE BURNED OR HEATED USING A DIRECT FLAME DEVICE.****HAZARDOUS REACTION:** Polymerization will not occur.**INCOMPATIBILITY (MATERIALS TO AVOID):** Strong acids or bases, oxidizing agents and selected amines.**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, carbon dioxide, ozone, hydrogen sulfide, oxides of sulfur and various hydrocarbons during heating or burning. These combustion products are not expected unless product is heated or burned.

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11. TOXICOLOGICAL INFORMATION

See information in Section 2. Likely routes of exposure:

EYE – May cause eye irritation.

SKIN – May cause skin irritation.

INHALATION – Dust may cause upper respiratory irritation.

INGESTION – May cause harmful effects if swallowed.

THE FOLLOWING COMPONENT DATA IS PROVIDED FOR USER INFORMATION:

FORMALDEHYDE

Cancer - This product may contain formaldehyde. IARC and NTP have classified formaldehyde as a human carcinogen based on sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, limited evidence for cancer of the nasal cavity and paranasal sinuses, and "strong but not sufficient evidence" for leukemia. The finding for leukemia reflects the epidemiologists' finding of strong evidence in human studies coupled with an inability to identify a mechanism for induction of leukemia. The physical nature of this product may help limit any inhalation hazard from formaldehyde during application and in its hardened state.

Acute Effects - The major acute toxic effects caused by formaldehyde exposure via inhalation are eye, nose, and throat irritation and effects on the nasal cavity. Other effects seen from exposure to high levels of formaldehyde in humans are coughing, wheezing, chest pains, and bronchitis. Ingestion exposure to formaldehyde in humans has resulted in corrosion of the gastrointestinal tract and inflammation and ulceration of the mouth, esophagus, and stomach.

Chronic Effects - In addition to cancer, exposure to formaldehyde by inhalation in humans has been associated with respiratory symptoms and eye, nose, and throat irritation. Repeated contact with liquid solutions of formaldehyde has resulted in skin irritation and allergic contact dermatitis in humans.

SILICA

Cancer - This product contains crystalline silica (quartz). IARC has determined that crystalline silica inhaled in the form of quartz from occupational sources is carcinogenic to humans (Group 1). IARC concluded that there was sufficient evidence in humans and animals for the carcinogenicity of inhaled crystalline silica in the form of quartz from occupational sources. The NTP has classified silica as known to be a human carcinogen. The physical nature of this product may help limit any inhalation hazard from crystalline silica during application and in its hardened state. However, physical forces such as grinding, drilling and other demolition work on this product may liberate crystalline silica dust.

Acute Effects - Exposure to silica dust can cause irritation of the eyes, nose and throat. Exposure to high concentrations can also cause Accelerated Silicosis causing progressive shortness of breath, fever, coughing, and weight loss.

Chronic Effects – In addition to cancer, breathing of silica over a period of time can cause damage to the lung tissue and silicosis after long exposure at low concentrations causing shortness of breath, fever, coughing, and weight loss. Prolonged and repeated exposure to respirable silica-containing dust may also cause autoimmune disease, kidney disease, tuberculosis, nonmalignant respiratory disease, and bronchitis.

OXIDIZED ASPHALT

Cancer - This product contains oxidized asphalt. Occupational exposures to oxidized asphalt and its emissions during roofing activities have been classified by the International Agency for Research on Cancer (IARC) as "probably carcinogenic to humans" (Group 2A). IARC based this classification on its finding that available data from studies in humans points to an association between exposures to oxidized asphalts during roofing and cancers of the lung and upper aerodigestive tract. IARC also determined that there was sufficient evidence of carcinogenicity of extracts and condensates of oxidized asphalts in experimental animals. The oxidized asphalt in this product may contain small amounts of Polycyclic Aromatic Hydrocarbons (PAH's) some of which are recognized carcinogens in humans or experimental animals. Oxidized asphalt may also cause irritation of the respiratory tract. The physical nature of this product may help limit any inhalation hazard from oxidized asphalt during application in its hardened state. However, physical forces such as grinding, drilling and other demolition work on this product may liberate dust containing oxidized asphalt. Burning or heating of the product may cause fumes, vapors or mists.

Acute Effects - Inhalation of dust may cause nose, throat, respiratory tract, and mucous membrane irritation. Eye contact may cause severe irritation, redness, tearing, and blurred vision. If ingested, may cause mouth, throat and gastrointestinal tract irritation and upset with possible nausea, vomiting and diarrhea. See Section 8 for exposure controls.

Chronic Effects - In addition to cancer, prolonged or repeated skin contact may result in dryness and irritation of the skin. Long term skin exposure to asphalt can increase sensitivity to the sun and may cause discoloration. Oxidized asphalt may also cause irritation of the upper respiratory tract.

12. ECOLOGICAL INFORMATION

Ecological information: No information available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with Federal, State, and Local regulations.

14. TRANSPORT INFORMATION

This product is not regulated as a hazardous material for transport under 49 CFR or for vessel transport under the IMDG Code.

SDS Number: T01A2022 – Shingles

Date: February 2022

15. REGULATORY INFORMATION**TOXIC SUBSTANCES CONTROL ACT (TSCA):** Some components in this product are listed on the TSCA Inventory.**CERCLA/SARA:****Section 302 / Section 304 / Section 313:** Product composition is listed in Section 3 of the SDS**Section 311 / Section 312:** See Section 2 of the SDS**California Proposition 65:**  **WARNING:** Cancer and Reproductive Harm – <https://www.P65Warnings.ca.gov>.**16. OTHER INFORMATION**

HMIS Rating:	NFPA Rating:
Health - * 1	Health - 1
Flammability - 1	Flammability - 1
Reactivity - 0	Reactivity - 0

SDS Date of Preparation / Revision: February 2022**Disclaimer of Liability**

The information and recommendations contained herein are to the best of **TAMKO Building Products LLC** knowledge and belief, accurate and reliable as of the date issued. **TAMKO Building Products LLC** does not warrant or guarantee their accuracy or reliability, and **TAMKO Building Products LLC** shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy his or herself that they are suitable and complete for the user's particular use.

The Original Owner of TAMKO® Laminated Shingles may transfer this Limited Warranty one time during the first five (5) years of the Term to a Purchaser. The Original Owner of Elite Glass-Seal shingles may transfer this Limited Warranty one time during the first two (2) years of the Term to a Purchaser. All other transfers are "AS-IS" with no warranty of any kind.



PO Box 97
Galena, KS 66739-0097 USA
800-641-4691
www.tamko.com

TAMKO FIBERGLASS/ASPHALT SHINGLE LIMITED WARRANTY

The Limited Warranty for your Shingles is the version in effect on the date of retail purchase. Information included in this version of the Limited Warranty was current at time of printing. To obtain a copy of the most current version of this Limited Warranty, visit us online at tamko.com or call us at 800-641-4691.

THE REMEDIES CONTAINED IN THIS LIMITED WARRANTY ("Limited Warranty") APPLY ONLY TO SHINGLES INSTALLED IN THE FORTY-EIGHT (48) CONTIGUOUS UNITED STATES AND CANADA (EXCLUDING QUEBEC AND NEW BRUNSWICK). ALL SHINGLES INSTALLED IN LOCATIONS WHERE THE REMEDIES CONTAINED IN THIS LIMITED WARRANTY DO NOT APPLY ARE SOLD "AS IS" AND WITHOUT WARRANTY OF ANY KIND, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

How Long Will Your Shingles Last? It is natural for your roof to age. The process begins as soon as your Shingles are installed and exposed to the harsh elements of nature. The length of time your Shingles will continue to perform their intended purpose of shedding water will depend on many factors, including weather, snow, intensity of ultra-violet radiation from the sun, pollution, and debris from nearby trees and many other factors. Because no two buildings experience these and other aging factors in the same way, it is difficult to accurately predict the period of time your Shingles will last. This Limited Warranty, subject to its terms and conditions, provides you a remedy during the Term (as defined below) in the event a manufacturing defect causes your Shingles to fail to perform their intended purpose of shedding water.

Definitions - In this Limited Warranty certain capitalized words have specific meanings:

"Application Instructions" are the full and official application instructions found at tamko.com, which should be reviewed prior to and followed during any installation.

"For your convenience, abbreviated application instructions are printed on the wrapper. WARRANTY DO NOT APPLY ARE SOLD "AS IS" AND WITHOUT WARRANTY OF ANY KIND, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE."

"Full Start Period" means the initial period of the Term during which TAMKO's obligation is not prorated and includes the reasonable cost of labor necessary to install applicable replacement Shingles. The length of the Full Start Period is listed in Table 1.

"High Wind Application" means application of your TAMKO Laminated Shingles in strict accordance with the High Wind Warranty Fastening Pattern Application Instructions. (See local building codes for additional nailing requirements.) If all High Wind Application requirements are not followed, the Standard Application Wind Warranty (as set forth below) will apply.

"Laminated Shingles" means the laminated asphalt shingles as set forth in Table 1, which includes Heritage, Heritage Vintage, Heritage Proline Titan XT, and Heritage StormFighter IR.

"Labor Payment Certificate" means a certificate issued by TAMKO that may be redeemed to pay some or all of the reasonable cost of labor for roof repairs, cleaning algae from the roof, or replacement of any defective Shingles according to this Limited Warranty. Certificates must be redeemed within 12 months after issuance to prevent expiration.

"Lifetime" means the period of time beginning with the date of retail purchase of the Shingles and continuing as long as the Original Owner or a Purchaser, as defined below, owns the building upon which the Shingles are installed.

"Limited Wind Warranty Term" means the period of time the Limited Wind Warranty lasts, beginning on the date of retail purchase of the Shingles and continuing for the length of time set forth in Table 1.

"Material Certificate" means a certificate issued by TAMKO and redeemable at participating distributors for a stated quantity of replacement Shingles of the same type and color as the defective Shingles which are to be replaced. If Shingles of the same type or color are no longer available, the Material Certificate will be for the closest TAMKO substitute available. Replacement shingles may not match the original shingles due to many factors, including but not limited to, normal weathering and manufacturing conditions. Certificates must be redeemed within 12 months after issuance to prevent expiration.

"Original Owner" means the owner of the building at the time the Shingles are installed on that building. If you purchase a new residence from its builder and are the first person to occupy the residence after its construction, TAMKO will consider you to be the Original Owner even though the Shingles were already installed.

"Purchaser" means someone who purchases from the Original Owner the building upon which the Shingles are installed, but only if the purchase occurs within the first five (5) years for TAMKO Laminated Shingles or within the first two (2) years for Elite Glass-Seal Shingles and the Original Owner and Purchaser comply with the requirements in this Limited Warranty in the section labeled "Transferability."

"Shingles" means the TAMKO Shingles identified in Table 1 in this Limited Warranty which were installed on a building owned by the Original Owner.

"Single-Family Structure" means owner occupied, single family, residential structures and does not include: (a) multifamily, non-residential or non-owner-occupied structures; (b) structures owned by a corporation, partnership, limited liability company, trust, governmental entity, religious entity, school district, condominium, homeowner association, or cooperative housing management; or (c) buildings such as schools, apartment buildings, office buildings, multi-use structures or any other type of building or premises not owned by an individual homeowner for his or her own residence.

"TAMKO" means TAMKO Building Products LLC.

"Term" means the period of time this Limited Warranty lasts. The Term begins on the date of retail purchase of the Shingles and continues, unless sooner terminated, for the length of time set forth in Table 1. For TAMKO Laminated Shingles installed on a Single-Family Structure, the Term is the period of time during which the Original Owner or Purchaser owns the building. For TAMKO Laminated Shingles installed on structures other than Single-Family Structures, the Term is 480 months. For Elite Glass-Seal Shingles, the Term is 300 months.

TAMKO Full Start Period: If, during the Full Start Period, Shingles that have been installed in strict accordance with the Application Instructions are determined to have manufacturing defects which have directly caused leaks, TAMKO will provide a Material Certificate for replacement Shingles to repair or replace such defective Shingles (or, at TAMKO's option, the reasonable cost of replacement Shingles) and a Labor Payment Certificate that may be used to pay the reasonable cost of installing such replacement Shingles, according to the terms of this Limited Warranty. Any cost of replacement Shingles; cost of repair or replacement of defective Shingles; and cost of installing replacement Shingles will be reasonably determined by TAMKO. This is TAMKO's maximum obligation during the Full Start Period.

After the Full Start Period: If, after the end of the Full Start Period, Shingles that have been installed in strict accordance with the Application Instructions are determined to have manufacturing defects which have directly caused leaks, TAMKO's obligation is limited to providing the Original Owner or Purchaser with a Material Certificate for replacement Shingles to repair or replace such defective Shingles (or, at TAMKO's option, the reasonable cost of replacement Shingles), as reasonably determined by TAMKO. The reasonable cost of replacement Shingles and the quantity of such replacement Shingles will be prorated. This is TAMKO's maximum obligation after the Full Start Period. TAMKO is not responsible for any cost of labor after the Full Start Period.

For Elite Glass-Seal Shingles, proration shall be determined by dividing the number of months remaining in the Term by the total number of months of the Term. For example, if TAMKO is notified of a warranty claim at a time when 100 months remain in a 300-month warranty Term, TAMKO's maximum obligation is to provide a Material Certificate for one third of the replacement Shingles or, at TAMKO's option, payment of one third of the reasonable cost of replacement Shingles. The remaining cost shall be the responsibility of the Original Owner or Purchaser.

For TAMKO Laminated Shingles, after the Full Start Period and until the end of the 40th year of the Term, the prorated remedy will be equal to the reasonable cost of replacement Shingles of the quantity of such replacement Shingles reduced by 2% for each year elapsed during the Term. Beginning with the 41st year and continuing for the remainder of the Term, the prorated remedy will be equal to 20% of the reasonable cost of replacement Shingles or the quantity of such replacement Shingles. The remaining cost shall be the responsibility of the Original Owner or Purchaser.

Both during and after the Full Start Period, the extent of replacement is at the sole discretion of TAMKO. TAMKO is not responsible for the cost of any materials (including, but without limitation, underlayment, flashing, metal work, etc.) or labor to install any materials other than the replacement Shingles (as provided herein) TAMKO is not responsible for the cost of tear-off, removal or disposing of Shingles which are to be replaced. TAMKO reserves the right to arrange directly for your Shingles to be repaired, replaced or cleaned. The remedy under this Limited Warranty is available only for Shingles actually exhibiting manufacturing defects at the time the claim is settled. Replacement Shingles will be warranted only for the remainder of the original Term. Tender of TAMKO's Maximum Obligation shall extinguish all obligations of TAMKO under this Limited Warranty and all applicable implied warranties and conditions.

Notification to TAMKO: The Original Owner or Purchaser must notify TAMKO of claims under this Limited Warranty within thirty (30) days following discovery of the potential problem with the Shingles. Visit the TAMKO Warranty Center at www.tamko.com/warrantycenter or contact by telephone at 800-441-7190 to learn more about submitting a claim. The notice must include documentary proof of purchase. Failure to notify TAMKO as provided herein shall extinguish all obligations of TAMKO under this Limited Warranty and all applicable implied warranties and conditions. NOTE: Notice to your contractor, dealer, or home builder is NOT notice to TAMKO. You should keep this Limited Warranty for your records in the event you need to file a claim.

Right of Inspection and Time for Payment: TAMKO shall have a reasonable time after notification of a claim to inspect the Shingles. The Original Owner or Purchaser shall provide TAMKO with reasonable access to the Shingles for purposes of inspection. If requested by TAMKO, the Original Owner or Purchaser must complete and deliver to TAMKO, at the Original Owner's or Purchaser's expense, a warranty questionnaire, photographs of the roof and samples of the Shingles. If reasonable access is denied or made subject to unreasonable conditions, or if the Original Owner or Purchaser fails or refuses to cooperate in TAMKO's investigation of the complaint (such as by failing to provide sample Shingles or photographs or a completed warranty questionnaire), TAMKO's obligation under this Limited Warranty shall immediately terminate. If TAMKO determines there are manufacturing defects covered by this Limited Warranty, TAMKO will have a reasonable time after the inspection of the Shingles to process the claim. Unless authorized in writing by TAMKO, any claim for Shingles that have been replaced or repaired prior to resolution of your claim by TAMKO may be denied.

120 Month - Algae Cleaning Limited Warranty: If, during the initial twelve months after installation, the Shingles become significantly stained by certain algae growth, including blue-green algae, TAMKO will issue to the Original Owner or Purchaser a Labor Payment Certificate that may be used to pay the reasonable cost of cleaning the Shingles exhibiting stains (up to a maximum of \$1.5 per one hundred square feet of affected roof area). After the initial twelve months after installation, the Labor Payment Certificate for the reasonable cost of cleaning will be prorated over the remaining months of this Algae Cleaning Limited Warranty by dividing the number of months remaining in the Algae Cleaning Limited Warranty by 120. For example, if TAMKO is notified of an Algae Cleaning Limited Warranty claim at a time when 40 months remain in the 120-month Algae Cleaning Limited Warranty, TAMKO's Maximum Obligation is to provide a Labor Payment Certificate for one third of the reasonable cost of cleaning the Shingles exhibiting stains (up to a maximum of \$5 per one hundred square feet of affected roof area). TAMKO shall have no obligation or responsibility for cleaning Shingles; (a) after the initial 120 months after installation, or (b) Shingles not significantly stained by algae growth.

Limited Wind Warranty: This Limited Wind Warranty applies only if: (a) the Shingles were installed in strict accordance with Application Instructions and any additional requirements specified in this warranty have been fulfilled and (b) the Shingles have had the opportunity to seal down.

- Cool Weather Installation:** Shingles that are installed in cool seasons may not seal until weather conditions are adequate to allow the seal down strip to activate and may be vulnerable to blow-offs and wind damage that would not be covered under this Limited Warranty. Shingles that are not exposed to direct sunlight or adequate temperatures may never seal. Failure to seal under these circumstances is not a manufacturing defect and requires hand sealing.
- Remedy:** If conditions (a) and (b) have been met during the Limited Wind Warranty Term the Shingles are damaged or blown off by winds at or below the designated wind velocity (see Table 1) as a result of a manufacturing defect, TAMKO will process the Original Owner's or Purchaser's claim in accordance with the sections titled "TAMKO Full Start Period" or "After the Full Start Period," whichever is applicable. Alternatively, TAMKO may, solely at its option, provide the Original Owner or Purchaser with a Labor Payment Certificate that may be used to pay the reasonable cost of manually sealing unsealed Shingles and replacing Shingles which have blown off and a Material Certificate for the number of Shingles that have blown off.
- How is Wind Exposure Determined?** Shingles will be conclusively deemed to have been exposed to winds in excess of the designated wind velocity for the product if the National Weather Service or other reputable weather agency records winds or gusts in excess of the designated wind velocity for the Shingles in the county, parish, regional district or municipality where the Shingles are installed or in any adjoining county, parish, regional district or municipality. Exposure of the Shingles at any time to winds or gusts in excess of the designated wind velocity for the product shall extinguish all obligations of TAMKO under this Limited Wind Warranty.

Exclusions from Coverage: There are many reasons why roofs fail, including but not limited to the following matters, all of which are beyond TAMKO's control. TAMKO will not be liable under any circumstances and shall have no obligation under this Limited Warranty or otherwise for:

- Shingles that have been: (a) improperly applied, stored or handled; (b) installed without adequate ventilation; (c) not installed in strict accordance with Application Instructions and standard good roofing practices; or (d) installed over roof decks with polyurethane foam applied to the underside of the roof deck.
- Shading, staining, discoloration or damage from any cause whatsoever, including,

but not limited to algae (except as provided in the Algae Cleaning Limited Warranty set forth in this document), moss, fungus, overhanging trees, other biological growth, birds, or animals.

- Leaks or damages resulting from Acts of God (including, but without limitation, lightning, ice damming, wind (except as set forth in the Limited Wind Warranty), hurricane or tornado) (regardless of wind velocity), hail, or other storm or casualty; acid rain; impact of objects; damage to a roof due to movement, settlement, distortion, failure, defects or cracking of the building or its roof deck, walls or foundation; or any defect in or failure of material used as a roof base over which the Shingles are applied; or for damage by traffic on the roof.
- Damage to the Shingles as a result of exposure to chemicals including, but not limited to, aliphatic or aromatic solvents, gases, chlorinated hydrocarbons, turpentine, oils or organic or inorganic polar materials.
- Leaks or damage to the Shingles from any cause other than an inherent manufacturing defect in the Shingles.

In addition to the foregoing, TAMKO shall not be liable under any circumstances and shall have no obligation under this Limited Warranty or otherwise for direct or indirect economic damages, or for consequential, incidental or punitive damages of any kind (Some states do not permit exclusion of consequential or incidental damages so this exclusion may not apply to you), damage to any building, either exterior or interior (including without limitation, mold growth), or any property contained therein or for injuries or damages of any kind whatsoever; or for removal or abatement of any asbestos present in the building on which the Shingles are applied.

Transferability: The Original Owner of TAMKO Laminated Shingles may transfer this Limited Warranty one (1) time during the first five (5) years of the Term to a Purchaser of the building upon which the Shingles are installed. The Original Owner of Elite Glass-Seal shingles may transfer this Limited Warranty one (1) time during the first two (2) years of the Term to a Purchaser of the building upon which the Shingles are installed. The transfer must occur simultaneously with the sale of the building. To transfer this Limited Warranty, the Original Owner must provide TAMKO with written notice within thirty (30) days after the transfer. The written notice must include the names of the Original Owner and Purchaser, the address of the building upon which the Shingles are installed, the date of retail purchase of the Shingles, and the date of the transfer. The Original Owner may transfer this Limited Warranty only one (1) time. Except for one transfer to a Purchaser as stated above, this Limited Warranty may not be sold, assigned or transferred in any manner whatsoever. All other transfers are "AS-IS" with no warranty of any kind. Neither a Purchaser nor any other person may transfer this Limited Warranty. Except as set forth in this paragraph, any assignment, sale or transfer of this Limited Warranty or the building to which the TAMKO Shingles are applied shall immediately terminate all obligations of TAMKO for the Shingles, all warranties contained herein or hereunder and any applicable implied warranties and conditions including warranties or conditions of merchantability and fitness for a particular purpose.

Class Action Waiver: YOU AND TAMKO AGREE THAT ALL CLAIMS, DISPUTES, OR ACTIONS BETWEEN YOU ARISING FROM OR RELATING TO THE SHINGLES AND/OR THIS LIMITED WARRANTY WILL BE ARBITRATED. IF ARBITRATION OF THE ACTION IS NOT PERMITTED BY LAW, LITIGATED INDIVIDUALLY AND NEITHER PARTY WILL CONSOLIDATE, OR SEEK CLASS TREATMENT FOR ANY ACTION UNLESS PREVIOUSLY AGREED TO IN WRITING BY BOTH YOU AND TAMKO.

MANDATORY BINDING ARBITRATION: EVERY CLAIM OR CONTROVERSY BETWEEN YOU AND TAMKO AND/OR ITS EMPLOYEES AND AGENTS ARISING FROM OR RELATING TO THE SHINGLES AND/OR THIS LIMITED WARRANTY SHALL BE RESOLVED BY FINAL AND BINDING ARBITRATION. NOTWITHSTANDING THE FOREGOING, INDIVIDUALS WHO PURCHASED THE SHINGLES FOR PERSONAL, FAMILY OR HOUSEHOLD PURPOSES MAY PURSUE A CLAIM IN ANY SMALL CLAIMS COURT HAVING JURISDICTION PROVIDED THE CLAIM IS MADE AS AN INDIVIDUAL ACTION AND NOT AS PART OF A CLASS. TO ARBITRATE AN ACTION AGAINST TAMKO, YOU MUST INITIATE THE ARBITRATION IN ACCORDANCE WITH THE APPLICABLE RULES OF THE AMERICAN ARBITRATION ASSOCIATION. THE JUDICIAL ARBITRATION AND MEDIATION SERVICE OR OTHER ARBITRATION SERVICE AGREED TO IN WRITING BY YOU AND TAMKO, AND PROVIDE WRITTEN NOTICE TO TAMKO BY CERTIFIED MAIL AT PO BOX 97, GALENA, KS 66720-0097. THE ARBITRATOR SHALL HAVE THE AUTHORITY TO RENDER THE SAME RELIEF AS A COURT OF COMPETENT JURISDICTION WHEN RESOLVING DISPUTES REGARDING THE SHINGLES AND/OR THIS LIMITED WARRANTY. THE ARBITRATOR SHALL HAVE EXCLUSIVE AUTHORITY TO RESOLVE ANY DISPUTE RELATING TO THE INTERPRETATION, APPLICATION OR ENFORCEABILITY OF THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO ANY CLAIM THAT ALL OR ANY PART OF THIS AGREEMENT IS VOID OR VOIDABLE. WHEN ALLOWED BY THE RULES OF ARBITRATION, THE PREVAILING PARTY SHALL BE ENTITLED TO RECOVER ITS COSTS AND REASONABLE ATTORNEY'S FEES.

Action Must Be Commenced Within One Year: Any action relating to the Shingles or this Limited Warranty must be brought within one year after any provision of action has accrued. No claims will be allowed after this one year period has expired. In jurisdictions where statutory claims or implied warranties and conditions cannot be excluded, all such statutory claims, implied warranties and conditions and all rights to bring actions for breach thereof expire one year (or such longer period of time if mandated by applicable laws) after the date of retail purchase of the Shingles. Some states do not allow limitations on how long an implied warranty or condition lasts, so the above limitations may not apply to you.

DISCLAIMER OF ALL IMPLIED WARRANTIES AND LIMITATION OF REMEDIES: Remedies contained in this Limited Warranty are exclusive and represent the sole remedies available to the Original Owner, Purchaser or any other person or entity for all matters regarding the Shingles. IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR WARRANTIES ON THE PART OF TAMKO BUILDING PRODUCTS LLC, INCLUDING BUT NOT LIMITED TO DIRECT AND INDIRECT ECONOMIC DAMAGES, AND INCIDENTAL, CONSEQUENTIAL AND PUNITIVE DAMAGES, ARE EXCLUDED. Some states do not allow exclusion or limitation of implied warranties or consequential or incidental damages so the above limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights and you may also have other rights which vary from state to state. INVALIDITY OR UNENFORCEABILITY OF ANY PROVISION HEREIN (EXCEPT THE CLASS ACTION WAIVER AND MANDATORY BINDING ARBITRATION PROVISIONS) SHALL NOT AFFECT THE VALIDITY OR ENFORCEABILITY OF ANY OTHER PROVISION, ALL OF WHICH SHALL REMAIN IN FULL FORCE AND EFFECT. IN THE EVENT THE CLASS ACTION WAIVER AND/OR THE MANDATORY ARBITRATION PROVISIONS ARE DETERMINED TO BE INVALID OR UNENFORCEABLE THE ENTIRETY OF THIS LIMITED WARRANTY (EXCEPT THIS PARAGRAPH) SHALL BE NULL AND VOID AND THE SHINGLES ARE SOLD AS-IS AND WHERE IS, WITH NO WARRANTY OF ANY KIND.

NO REPRESENTATIVE, EMPLOYEE OR OTHER AGENT OF TAMKO, OR ANY PERSON OTHER THAN TAMKO'S PRESIDENT, HAS AUTHORITY TO MODIFY OR WAIVE ANY PROVISIONS OF THIS LIMITED WARRANTY OR ASSUME FOR TAMKO ANY ADDITIONAL OBLIGATIONS OR RESPONSIBILITY IN CONNECTION WITH THE SHINGLES.

This form is not to be copied or reproduced in any manner. This Limited Warranty applies to TAMKO Shingles sold on or after December 1, 2021. The Limited Warranty for your Shingles is the version in effect on the date of retail purchase.

IF YOU ARE NOT SATISFIED WITH THE TERMS AND CONDITIONS OF THIS LIMITED WARRANTY, RETURN ALL UNOPENED MARKETABLE PRODUCTS TO THE ORIGINAL PLACE OF PURCHASE FOR A REFUND.

COMPLETE FORM ON REVERSE SIDE AND KEEP FOR YOUR RECORDS

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TABLE 1.

SHINGLE	TERM	FULL START* NON-PRORATED WARRANTY PERIOD	STANDARD APPLICATION WIND WARRANTY	HIGH WIND APPLICATION WARRANTY	LIMITED WIND WARRANTY TERM	ALGAE CLEANING TERM
Heritage Proline Titan XT™	Limited Lifetime*	10 years	110 mph	160 mph	15 years	120 months
Heritage Proline StormFighter IR™	Limited Lifetime*	10 years	110 mph	160 mph	15 years	120 months
Heritage®	Limited Lifetime*	10 years	110 mph	130 mph	15 years	120 months
Heritage® Vintage®	Limited Lifetime*	10 years	110 mph	130 mph	15 years	120 months
Elite Glass-Seal®	300 months	5 years	60 mph	-	5 years	120 months

* Lifetime applies only to Shingles installed on a Single-Family Structure. The Term is 480 months for Shingles installed on non-Single-Family Structures.

P.O. Box 97
Galena, KS 66739-0097
USA



800-641-4691
www.tamko.com

LIMITED WARRANTY INFORMATION

To be completed by Owner and Contractor

OWNER'S NAME: _____

ADDRESS WHERE APPLIED: _____

CITY: _____ STATE: _____ ZIP: _____

TYPE OF TAMKO SHINGLE APPLIED:

- TAMKO Elite Glass-Seal' 300 Months (25 Year) Limited Warranty
- TAMKO Heritage' Limited Lifetime Warranty
- TAMKO Heritage Proline StormFighter IR™ Limited Lifetime Warranty
- TAMKO Heritage Proline Titan XT™ Limited Lifetime Warranty
- TAMKO Heritage' Vintage' Limited Lifetime Warranty

NUMBER OF SALES SQUARES: _____ DATE OF APPLICATION: _____

SHINGLE COLOR: _____

TOTAL COST OF SHINGLES: _____ TOTAL COST OF SHINGLE APPLICATION: _____

CONTRACTOR'S NAME: _____ COMPANY NAME: _____

CONTRACTOR'S SIGNATURE: _____

DATE: _____

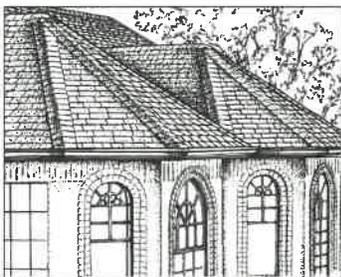
RETAIN THIS LIMITED WARRANTY AND YOUR CONTRACTOR'S RECEIPT(S) FOR FUTURE REFERENCE



Elite Glass-Seal'



Heritage'
Heritage Proline StormFighter IR™
Heritage Proline Titan XT™
Heritage' Vintage'



BUILDING PRODUCTS FOR THE PROFESSIONAL.

Since 1944, building professionals and homeowners have looked to TAMKO® for building products. Today, we offer a wide range of building products, including Heritage® Laminated Asphalt Shingles, Elite Glass-Seal® 3-tab Shingles, MetalWorks® steel shingles, waterproofing materials and ventilation products.

SECTION 07 13 13

HERITAGE® SERIES LAMINATED FIBERGLASS ASPHALT SHINGLES



This three-part specification is for design professionals for use as a guide and must be edited to delete information and instructions not required on a particular project. Delete the "specifier notes" in red once the editing is completed. The design professional and not TAMKO is responsible for the final specification. **IMPORTANT NOTICE: The product information provided is meant to be used in conjunction with the professional judgment of each builder, roofer, architect or other contractor installing the product in a particular application. TAMKO does not guarantee the workmanship of any builder, roofer, architect or other contractor and TAMKO's Limited Warranty excludes coverage for shingles that are not installed strictly according to TAMKO's installation instructions. Rev 03/2021**

SECTION 07 13 13

HERITAGE® SERIES LAMINATED FIBERGLASS ASPHALT SHINGLES

PART I GENERAL

1.01 SECTION INCLUDES

- A. Shingles - Granule surfaced asphalt shingle roofing
- B. Sheet membrane/Eave membrane - for eaves, valleys, and ridges
- C. Shingle underlayments
- D. Roofing cements
- E. Attic ventilation
- F. Nails
- G. Metal flashing associated with shingle roofing

1.02 RELATED SECTIONS

Note: Delete sections below not relevant to this project

- A. Section 061000 - Rough Carpentry: Framing, wood decking, and roof sheathing
- B. Section 061500 – Wood Decking
- C. Section 071354 – Sheet Waterproofing
- D. Section 072600 – Vapor Retarders
- E. Section 076000 – Flashing and Sheet Metal: Sheet metal flashing not associated with shingle roofing; gutters and downspouts
- F. Section 077200 – Roof Accessories for Ridge Vents
- G. Section 086200 – Unit Skylights

1.03 REFERENCES

Note: Delete references below not relevant to this project

- A. American Society for Testing and Materials (ASTM) - Annual Book of ASTM Standards
 1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
 2. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 3. ASTM B370 - Standard Specification for Copper Sheet and Strip for Building Construction.
 4. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 5. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials used as Steep Roofing Underlayment for Ice Dam Protection.
 6. ASTM D3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan Induced Method).
 7. ASTM D3462 – Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules.
 8. ASTM D4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
 9. ASTM D4869 - Standard Specification for Asphalt –Saturated Organic Felt Underlayment Used in Steep Slope Roofing

SECTION 07 13 13

HERITAGE® SERIES LAMINATED FIBERGLASS ASPHALT SHINGLES

- 10. ASTM D7158 - Standard Test Method for Wind-Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method)
- 11. ASTM E108 - Standard Test Method for Fire Test of Roof Coverings
- B. Underwriters Laboratories (UL) - Roofing Systems and Materials Guide
 - 1. UL 790 – Standard Test Methods for Fire Tests of Roof Coverings
- C. Asphalt Roofing Manufacturers Association (ARMA)
- D. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual
- E. National Roofing Contractors Association (NRCA)
- F. American Society of Civil Engineers (ASCE)
- G. Miami-Dade County, Florida
- H. Florida Building Code

1.04 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of roofing terms related to this section.

1.05 SUBMITTALS

*****Note: Delete sections below not relevant to this project and delete show drawing paragraph unless unusual project conditions mandate shop drawings*****

- A. Product Data: Provide copies of manufacturer's product data information and samples for each type of roofing product.
- B. Manufacturers Application Instructions: Provide manufacturer's application instructions that indicate preparation required, installation procedures, and detail drawings.
- C. Shop Drawings: Provide drawings to indicate specially configured metal flashing, jointing methods and locations and installation details as required by project conditions indicated.

1.06 MANUFACTURER & CONTRACTOR QUALIFICATIONS

- A. Manufacturer Qualifications: Provide all primary roofing products, including shingles, underlayment, sheet membrane-eaves membrane, and ridge ventilation, offered by a single manufacturer.
- B. Installer Qualifications: Installer must be licensed or otherwise authorized by all federal, state and local authorities for installation of all roofing products to be installed under this section.

*****Note: Jobs eligible for certain enhanced limited warranties installed by a TAMKO Pro or TAMKO MasterCraft Pro only*****

- C. Installer Qualifications: Installer must be a current TAMKO Pro or TAMKO MasterCraft Pro Certified Contractor who, inter alia, has passed TAMKO's strict evaluation process, is an

SECTION 07 13 13

HERITAGE® SERIES LAMINATED FIBERGLASS ASPHALT SHINGLES

experienced reputable professional, has been tested in roofing system product knowledge, and has been verified by customer satisfaction surveys.

1.07 REGULATORY REQUIREMENTS

- A. Provide a roofing system listed by Underwriters Laboratories (UL) for Class A fire classification.
- B. Install all roofing products in accordance with all applicable federal, state and local building codes.
- C. All work shall be performed in a manner consistent with current OSHA guidelines.

1.08 PREINSTALLATION MEETING

*****Note: Delete sections below not relevant to this project*****

- A. General: Roofing Contractor to conduct a pre-installation meeting at the site prior to commencing work of this section: Require attendance of entities directly concerned with roof installation.
- B. Agenda: Installation procedures; safety procedures; coordination with installation and other work; availability of roofing materials; regulatory requirements; preparation and approval of substrate and penetrations through roof; and other items related to successful execution of work.
- C. Maintain one copy of manufacturer's application instructions on the project site.

1.09 DELIVERY, STORAGE, AND HANDLING

*****Note: Delete sections below not relevant to this project*****

- A. Deliver shingles and other materials to site in manufacturer's unopened labeled packaging. Promptly verify quantities and conditions. Immediately remove damaged products from site.
- B. Store all products in manufacturer's unopened, labeled packaging until they are ready for installation.
- C. Store bundles on a flat surface. Maximum stacking height shall not exceed TAMKO's recommendations. Store all rolls on end.
- D. Store and dispose of solvent-based materials in accordance with all applicable federal, state and local regulations.

1.10 WEATHER CONDITIONS

- A. Proceed with work only when existing and forecasted weather conditions will permit work to be performed in accordance with TAMKO's application instructions.
- B. Take special care when applying shingles in temperatures below 40 degrees F (4.4 degrees C) to avoid damage to the edges and corners of the shingles.
- C. Apply TAMKO® Moisture Guard®, TW Metal & Tile Underlayment and TW Underlayment only in fair weather and when air, substrate, and membrane temperatures are above 40 degrees F (4.4 degrees C).

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1.11 LIMITED WARRANTY

SHINGLES BEGIN TO AGE AS SOON AS THEY ARE EXPOSED TO NATURE. BUILDINGS EXPERIENCE AGING FACTORS DIFFERENTLY, SO IT IS DIFFICULT TO PREDICT HOW LONG SHINGLES WILL LAST. TAMKO PROVIDES A LIMITED WARRANTY FOR MANY PRODUCTS, THAT INCLUDES A BINDING ARBITRATION CLAUSE AND OTHER TERMS AND CONDITIONS WHICH ARE INCORPORATED HEREIN BY REFERENCE. YOU MAY OBTAIN A COPY OF THE LIMITED WARRANTY AT TAMKO.COM OR BY CALLING 1-800-641-4691.

*****Note: Choose Limited Warranty Option and delete sections not required *****

*****IMPORTANT NOTE: THIS SECTION IS FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT SUPERCEDE, ALTER OR LIMIT THE LIMITED WARRANTY. Contact TAMKO for a copy of the Limited Warranty and carefully read the Limited Warranty for complete and detailed limited warranty information*****

- A. **Manufacturer's Limited Warranty:** Provide to the owner a TAMKO® Fiberglass/Asphalt Shingle Limited Warranty for the product listed below which includes a binding arbitration provision.
1. Heritage® Shingle: Fiberglass/Asphalt Shingle Limited Warranty, 10-Year Full Start™ period. Available at tamko.com
 2. Heritage Proline StormFighter IR™ Shingle: TAMKO® Fiberglass/Asphalt Shingle Limited Warranty, 10-Year Full Start™ period. Available at tamko.com
 3. Heritage Proline Titan XT™ Shingle: TAMKO® Fiberglass/Asphalt Shingle Limited Warranty, 10-Year Full Start™ period. Available at tamko.com
 4. Heritage Woodgate® Shingle: TAMKO® Fiberglass/Asphalt Shingle Lifetime Warranty, 10-Year Full Start™ period. Available at tamko.com
 5. Heritage® Vintage® Shingle: TAMKO® Fiberglass/Asphalt Shingle Lifetime Warranty, 10-Year Full Start™ period. Available at tamko.com

The TAMKO® Fiberglass/Asphalt Shingle Limited Warranty provides the manufacturer's remedy to cover materials (and labor during the Full Start™ period) with manufacturing defects which have directly caused leaks:

1. Laminated Shingles: The laminated asphalt shingles as set forth in Table 1 below, which includes Heritage®, Heritage Woodgate®, Heritage® Vintage®, Heritage Proline Titan XT™, and Heritage Proline StormFighter IR™.
2. Term: The period of time this Limited Warranty lasts. The Term begins on the date of retail purchase of the Shingles and continues, unless sooner terminated, for the length of time set forth in Table 1 below. For Laminated Shingles installed on a Single-Family Structure, the Term is the period of time during which the Original Owner or Purchaser owns the building. For Laminated Shingles installed on structures other than Single-Family Structures, the Term is 480 months.

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3. Full Start™ period: The initial period of the Term during which TAMKO's obligation is not prorated and includes the reasonable cost of labor necessary to install the applicable replacement Shingles. The length of the Full Start™ period is listed in Table 1 below.
4. 120 Month - Algae Cleaning Limited Warranty
5. Limited Wind Warranty Term: The period of time the Limited Wind Warranty lasts, beginning on the date of retail purchase of the Shingles and continuing for the length of time set forth in Table 1 below.
6. Transferability: The Original Owner of the Laminated Shingles may transfer this Limited Warranty one (1) time during the first five (5) years of the Term to a Purchaser of the building upon which the Shingles are installed.
7. Exclusions: See TAMKO® Fiberglass/Asphalt Shingle Limited Warranty for exclusions and other important details. Available at www.tamko.com.

TABLE 1

SHINGLE	TERM	FULL START™ NON-PRORATED WARRANTY PERIOD	STANDARD APPLICATION WIND WARRANTY	HIGH WIND APPLICATION WARRANTY	LIMITED WIND WARRANTY TERM	ALGAE CLEANING TERM
Heritage Proline Titan XT™	Limited Lifetime*	10 years	110 mph	160 mph	15 years	120 months
Heritage Proline StormFighter IR™	Limited Lifetime*	10 years	110 mph	160 mph	15 years	120 months
Heritage®	Limited Lifetime*	10 years	110 mph	130 mph	15 years	120 months
Heritage Woodgate®	Limited Lifetime*	10 years	110 mph	130 mph	15 years	120 months
Heritage® Vintage®	Limited Lifetime*	10 years	110 mph	130 mph	15 years	120 months

* Lifetime applies only to Shingles installed on a Single-Family Structure. The Term is 480 months for Shingles installed on non-Single-Family Structures.

- B. The TAMKO Edge™ contractor program offers the TAMKO Pro and TAMKO MasterCraft Pro enhanced limited warranties based upon their contractor certification. The TAMKO Edge™ program enables certified contractors to offer one-of-a-kind enhanced limited warranties with extended Full Start™ non-prorated warranty periods on select shingles. The shingles available for the enhanced limited warranties are Heritage Proline Titan XT™, Heritage Proline StormFighter IR™, Heritage Woodgate®, and Heritage® Vintage®. Information regarding The TAMKO Edge™ contractor program and enhanced limited warranties is available on tamko.com/edge.

PART II PRODUCTS

2.01 MANUFACTURERS

Note: Delete sections below not relevant to this project

- A. Acceptable Manufacturer: TAMKO Building Products LLC, P.O. Box 97, Galena, KS 66739-0097. Toll Free: 1-800-641-4691.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Not permitted

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2.02 SHINGLES

***Note: Select All Applicable Products and delete products not required ***

- A. **Heritage® Shingles:** Self-sealing, granule surfaced, laminated asphalt shingle made with fiberglass mat, unique blends of granules, and shadowtone blended for natural looking shadow line. Architectural laminate styling provides a wood shake appearance with a 5-5/8 inch exposure. UL Listed for Class A Fire Resistance (UL 790/E108), UL Classified for Wind Resistance: ASTM D3161, Class F and ASTM D7158, Class H, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, Florida Building Code Approved FL 18355 and FL 35321, UL Evaluation Reports ER2919-01 and ER2919-02.
1. Color: As selected from manufacturers' full range colors.
 2. Color: _____
Miami-Dade County Product Control Approved (Note: Frederick, Tuscaloosa, Dallas, production only or remove)
- B. **Heritage Proline StormFighter IR™ Shingles:** A laminated shingle features a fiberglass mat construction, which is fully reinforced with a proprietary application that consists of a polyester mat across the entire width of the shingle, eliminating the need for backing aggregate, and uniform thickness throughout the entire overlay sheet. Each shingle is coated on both sides with a layer of weathering-grade asphalt and surfaced with ceramic granules. Heritage® IR is classified by UL for compliance with UL 2218 Class 4 Impact Resistance. UL Listed for Class A Fire Resistance (UL 790/E108), UL Classified for Wind Resistance: ASTM D3161, Class F and ASTM D7158, Class H, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, UL Classified in accordance with UL 2218, Class 4, UL Evaluation Reports ER2919-01 and ER2919-02.
1. Color: As selected from manufacturers' range of colors.
 2. Color: _____
- C. **Heritage Proline Titan XT™ Shingles:** A fiberglass mat construction with a random-cut sawtooth design. Two layers of fiberglass mat are coated with asphalt, surfaced with mineral granules and then laminated together. The shingles feature a self-sealing strip of asphalt and a reinforcing strip of polyester fabric on the back of the shingle, attached in the common bond area to provide added anchoring for the expanded nail zone. UL Listed for Class A Fire Resistance (UL 790/E108), UL Classified for Wind Resistance: ASTM D3161, Class F and ASTM D7158, Class H, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, Florida Building Code Approved FL 18355 and FL 35321, UL Evaluation Reports ER2919-01 and ER2919-02, Miami-Dade County Product Control Approved
1. Color: As selected from manufacturers' full range colors.
 2. Color: _____
- D. **Heritage Woodgate® Shingles:** Self-sealing, granule surfaced, laminated asphalt shingle made with fiberglass mat, unique blends of granules, and shadowtone blended for natural looking shadow line. Architectural laminate styling with a wide cut saw tooth cut provides a wood shake appearance with a 5-5/8 inch exposure. UL Listed for Class A Fire Resistance (UL 790/E 108), UL Classified for Wind Resistance: ASTM D3161, Class F and ASTM D7158, Class H, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, Miami-Dade County Product Control Approved,

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Florida Building Code Approved FL 18355 and FL 35321, UL Evaluation Reports, ER2919-01 and ER2919-02.

1. Color: As selected from manufacturers' full range of Colors.
2. Color: _____

- E. **Heritage® Vintage® Shingles:** Self-sealing, granule surfaced, laminated asphalt shingle made with fiberglass mat, and unique blends of granules. Architectural laminate styling provides a wood shake appearance with a 5-inch exposure. UL Listed for Class A Fire Resistance (UL 790/E 108); UL Classified for Wind Resistance: ASTM D 3161, Class F and ASTM D 7158, Class H, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, Miami-Dade County Product Control Approved, Florida Building Code Approved FL 18355 and FL 35321, UL Evaluation Reports ER2919-01 and ER2919-02.

1. Color: As selected from manufacturer's full range of Colors.
2. Color: _____

2.03 HIP & RIDGE SHINGLES

*****Note: Select All Applicable Products and delete products not required*****

- A. **Heritage® Vintage® 12" x 12" Hip & Ridge:** Self-sealing hip and ridge shingles complementing the color of Heritage® Vintage® roof shingles. UL Listed for Class A Fire Resistance (UL 790/E108), UL Classified for Wind Resistance: ASTM D3161, Class F, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, Miami-Dade County Product Control Approved, Florida Building Code Approved FL 18355 and FL 35321, UL Evaluation Reports, ER2919-01 and ER2919-02. Each bundle covers approx. 25 linear feet (7.62m) with a 5-inch (127 mm) exposure.
1. Color: As selected from manufacturers' full range of Colors.
 2. Color: _____
- B. **TAMKO® 12-1/4" x 12" Hip & Ridge:** Self-sealing hip and ridge shingles complementing the color of selected roof shingle. UL Listed for Class A Fire Resistance (UL 790/E108), UL Classified for Wind Resistance: ASTM D3161, Class F, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, Miami-Dade County Product Control Approved, Florida Building Code Approved FL 18355 and FL 35321, UL Evaluation Reports, ER2919-01 and ER2919-02. Each bundle covers approx. 33 linear feet (9.45 m) with a 5-1/8 inch (130.2 mm) exposure.
1. Color: As selected from manufacturers' full range of Colors.
 2. Color: _____
- C. **TAMKO® 12-1/4" x 12" Heritage® Hip & Ridge IR:** Self-sealing hip and ridge shingles complementing the color of selected roof shingle. Features a fiberglass mat construction with an additional polyester mat on the underside of the shingle. UL Listed for Class A Fire Resistance (UL 790/E108), UL Classified for Wind Resistance: ASTM D3161, Class F, UL Classified in accordance with ASTM D3462 and ICC-ES Acceptance Criteria AC438, UL Classified in accordance with UL 2218, Class 4, UL Evaluation Reports ER2919-01 and ER2919-02. Each bundle covers approx. 33 linear feet (9.45 m) with a 5-1/8 inch (130.2 mm) exposure.
1. Color: As selected from manufacturers' full range of Colors.
 2. Color: _____

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2.04 STARTER STRIP

Note: Select All Applicable Products and delete products not required

- A. **Heritage® Vintage® Starter:** 12-1/2" x 36" starter shingles designed for use with Heritage® Vintage® Shingles and available in complementing colors. Each bundle covers approx. 60 linear feet (18.29 m).
- B. **TAMKO® 10 Inch Starter:** Self-sealing 10" x 40" starter shingle designed for all roof shingles. Each bundle covers approx. 100 linear feet (30.48 m).
- C. **TAMKO® Shingle Starter:** Self-sealing 7" x 36" starter shingle designed for all roof shingles. Each bundle covers approx. 102 linear feet (31.1 m).
- D. **TAMKO® Perforated Starter:** Self-sealing 6-5/8" x 39-3/8" starter shingle designed for laminated roof shingles. Each bundle covers approx. 105 linear feet (m).

2.05 SHEET MEMBRANES – EAVES MEMBRANE

Note: Select All Applicable Products and delete products not required

- A. **Moisture Guard® Ice & Rain Underlayment:** Self-adhering, fiberglass mat, rubberized asphalt ice and rain underlayment surfaced with fine mineral granules. UL Classified as a Prepared Roofing Accessory, UL Classified in accordance with ASTM D1970, Miami-Dade County Product Control Approved, Florida Building Code Approved FL 12328.
 - a. **0.87 Square Roll** – Roll Coverage when applied according to instructions approx. 87.34 sq. ft. [±1.52 sq. ft.] (8.11 sq. m. [±0.14 sq. m.]), Roll Dimensions are 36" [±.07"] x 32'3" [±.05'] (91.44 cm. [±.17 cm.] x 9.83 m. [±.15m]) Roll Contains approx. 96.75 sq. ft. [±1.68 sq. ft.] (8.99 sq. m. [±0.16 sq. m.]). 55 mils thick.
 - b. **1.74 Square Roll** – Roll Coverage when applied according to instructions approx. 174.69 sq. ft. [±1.52 sq. ft.] (16.23 sq. m. [±0.14 sq. m.]), Roll Dimensions are 36" [±.07"] X 64'-6" [±.50'] (.91.44 cm. [±.17 cm.] x 19.66 m. [±.15 m.]). Roll Contains approx. 193.5 sq. ft. [±1.68 sq. ft.] (17.98 sq. m. [±0.16 sq. m.]). 55 mils thick.
- B. **TW Metal & Tile Underlayment:** Self-adhering, fiberglass mat, rubberized asphalt sheet membrane surfaced with polymer film. UL Classified as a Prepared Roofing Accessory, UL Classified in accordance with ASTM D1970.
 - a. **1.79 Square Roll** – Roll Coverage when applied according to instructions approx. 179.73 sq. ft. [±2.95 sq. ft.] (16.70 sq. m. [±0.27 sq. m.]), Roll Dimensions are 39-3/8" [±7/16"] X 60' 11-1/2" [±3"] (1 m [±1.11 cm.]x 18.59 m [±.28 m.]). Roll Contains approx. 200.05 sq. ft. [±3.03 sq. ft.] (18.59 sq. m. [±0.28 sq. m.]). 60 mils thick.
- C. **TW Underlayment:** Self-adhering, non- reinforced, rubberized asphalt sheet membrane surfaced with polymer film. UL Classified as a Prepared Roofing Accessory, UL Classified in accordance with ASTM D1970, Miami-Dade County Product Control Approved, Florida Building Code Approved FL 12328.
 - a. **1.84 Square Roll** – Roll Coverage when applied according to instructions approx. 184.91 sq. ft. [±2.97 sq. ft.] (17.18 sq. m. [±0.28 sq. m.]), Roll Dimensions are 39-3/8" [±7/16"] X

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61' [±3"] (1 m [±1.11 cm.]x 18.59 m [±.28 m.]). Roll Contains approx. 200.05 sq. ft. [±3.03 sq. ft.] (18.59 sq. m. [±0.28 sq. m.]). 40 mils thick.

2.06 SHINGLE UNDERLAYMENTS

Note: Select All Applicable Products and delete products not required

- A. **Synthetic Guard™**: A non-woven synthetic underlayment with a black coated polypropylene spun bond fabric surface, a polypropylene 5x5 scrim, and a black backside coating. Intertek Code Compliance Research Report CCRR-1056, Florida Building Code Approved FL 19948, Miami-Dade County Product Control Approved, Independently Tested For: CAN/CSA A123.3 - Type 3.
- a. **9.20 Square Roll** – Roll Coverage when applied according to instructions approx. 920.59 sq. ft. (± 3.92 sq. ft.), Roll Dimensions are 48.1" x 250.5', Roll Contains approx. 1004.09 sq. ft. (± 4.09 sq. ft.).
- B. **Synthetic Guard™ Plus**: A non-woven synthetic underlayment with a grey coated polypropylene spun bond fabric surface, a polypropylene 10 x 5 scrim, and a grey backside coating. Intertek Code Compliance Research Report CCRR-1056, Florida Building Code Approved FL 19948, Miami-Dade County Product Control Approved, Independently Tested For: CAN/CSA A123.3 - Type 3.
- a. **9.20 Square Roll** – Roll Coverage when applied according to instructions approx. 920.59 sq. ft. (± 3.92 sq. ft.), Roll Dimensions are 48.1" x 250.5', Roll Contains approx. 1004.09 sq. ft. (± 4.09 sq. ft.).
- C. **Moisture Guard® Ice & Rain Underlayment**: Self-adhering, fiberglass mat, rubberized asphalt ice and rain underlayment surfaced with fine mineral granules. UL Classified as a Prepared Roofing Accessory, UL Classified in accordance with ASTM D1970, Miami-Dade County Product Control Approved, Florida Building Code Approved FL 12328.
- a. **0.87 Square Roll** – Roll Coverage when applied according to instructions approx. 87.34 sq. ft. [±1.52 sq. ft.] (8.11 sq. m. [±0.14 sq. m.]), Roll Dimensions are 36" [±.07"] x 32'3" [±.05'] (91.44 cm. [±.17 cm.] x 9.83 m. [±.15m]) Roll Contains approx. 96.75 sq. ft. [±1.68 sq. ft.] (8.99 sq. m. [±0.16 sq. m.]). 55 mils thick.
 - b. **1.74 Square Roll** – Roll Coverage when applied according to instructions approx. 174.69 sq. ft. [±1.52 sq. ft.] (16.23 sq. m. [±0.14 sq. m.]), Roll Dimensions are 36" [±.07"] X 64'-6" [±.50'] (.91.44 cm. [±.17 cm.] x 19.66 m. [±.15 m.]). Roll Contains approx. 193.5 sq. ft. [±1.68 sq. ft.] (17.98 sq. m. [±0.16 sq. m.]). 55 mils thick. Moisture Guard® Ice & Rain Underlayment by TAMKO. Square equals 100 sq. ft.
- D. **TW Metal & Tile Underlayment**: Self-adhering, fiberglass mat, rubberized asphalt sheet membrane surfaced with polymer film. UL Classified as a Prepared Roofing Accessory, UL Classified in accordance with ASTM D1970.
- a. **1.79 Square Roll** – Roll Coverage when applied according to instructions approx. 179.73 sq. ft. [±2.95 sq. ft.] (16.70 sq. m. [±0.27 sq. m.]), Roll Dimensions are 39-3/8" [±7/16"] X 60' 11-1/2" [±3"] (1 m [±1.11 cm.]x 18.59 m [±.28 m.]). Roll Contains approx. 200.05 sq. ft. [±3.03 sq. ft.] (18.59 sq. m. [±0.28 sq. m.]). 60 mils thick.
- E. **TW Underlayment**: Self-adhering, non- reinforced, rubberized asphalt sheet membrane surfaced with polymer film. UL Classified as a Prepared Roofing Accessory, UL Classified in accordance with ASTM D1970, Miami-Dade County Product Control Approved, and Florida Building Code Approved FL 12328.

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- a. **1.84 Square Roll** – Roll Coverage when applied according to instructions approx. 184.91 sq. ft. [± 2.97 sq. ft.] (17.18 sq. m. [± 0.28 sq. m.]), Roll Dimensions are 39-3/8" [$\pm 7/16$ "] X 61' [± 3 "] (1 m [± 1.11 cm.] x 18.59 m [± 0.28 m.]). Roll Contains approx. 200.05 sq. ft. [± 3.03 sq. ft.] (18.59 sq. m. [± 0.28 sq. m.]). 40 mils thick.
- F. **TAMKO® No. 15 ASTM D4869:** No. 15 asphalt saturated organic felt. UL Classified in accordance with ASTM D4869, Type I. UL Classified as a Prepared Roofing Accessory.
 - a. **4.08 Square Roll** – Roll Coverage when applied according to instructions approx. 408 sq. ft. [± 4.41 sq. ft.] (37.9 sq. m. [± 0.41 sq. m.]), Roll Dimensions are 36" X 144' (.91 m. x 43.89 m.). Roll Contains approx. 432.00 sq. ft. [± 4.49 sq. ft.] (40.13 sq. m. [± 0.42 sq. m.]).
- G. **TAMKO® No. 30 ASTM D4869:** No. 30 asphalt saturated organic felt. UL Classified in accordance with ASTM D4869, Type I or Type III. UL Classified as a Prepared Roofing Accessory.
 - a. **2.04 Square Roll** – Roll Coverage when applied according to instructions approx. 204 sq. ft. [± 2.44 sq. ft.] (18.95 sq. m. [± 0.23 sq. m.]), Roll Dimensions are 36" X 72' (.91 m. x 21.95 m.). Roll Contains approx. 216.00 sq. ft. [± 2.49 sq. ft.] (20.07 sq. m. [± 0.23 sq. m.]).
- H. **TAMKO® No. 15 ASTM:** No. 15 asphalt saturated non-perforated, organic felt. UL Classified in accordance with ASTM D226, Type I. UL Classified as a Prepared Roofing Accessory.
 - a. **4.08 Square Roll** – Roll Coverage when applied according to instructions approx. 408 sq. ft. [± 4.41 sq. ft.] (37.9 sq. m. [± 0.41 sq. m.]), Roll Dimensions are 36" X 144' (.91 m. x 43.89 m.). Roll Contains approx. 432.00 sq. ft. [± 4.49 sq. ft.] (40.13 sq. m. [± 0.42 sq. m.]).
- I. **TAMKO® No. 30 ASTM:** No. 30 asphalt saturated non-perforated, organic felt. UL Classified in accordance with ASTM D226, Type II. UL Classified as a Prepared Roofing Accessory and is Florida Building Code Approved FL 12328.
 - a. **2.04 Square Roll** – Roll Coverage when applied according to instructions approx. 204 sq. ft. [± 2.44 sq. ft.] (18.95 sq. m. [± 0.23 sq. m.]), Roll Dimensions are 36" X 72' (.91 m. x 21.95 m.). Roll Contains approx. 216.00 sq. ft. [± 2.49 sq. ft.] (20.07 sq. m. [± 0.23 sq. m.]).
- J. **TAMKO® No. 15 UL:** No. 15 asphalt saturated non-perforated, organic felt. Tested by an independent laboratory for compliance with ASTM D226 Type I. UL Classified as a Built-up Type 15 Felt.
 - a. **4.08 Square Roll** – Roll Coverage when applied according to instructions approx. 408 sq. ft. [± 4.41 sq. ft.] (37.9 sq. m. [± 0.41 sq. m.]), Roll Dimensions are 36" X 144' (.91 m. x 43.89 m.). Roll Contains approx. 432.00 sq. ft. [± 4.49 sq. ft.] (40.13 sq. m. [± 0.42 sq. m.]).
- K. **TAMKO® No. 30 UL:** asphalt saturated non-perforated, organic felt. Tested by an independent laboratory for compliance with ASTM D226 Type II. UL Classified as a Built-up Type 30 Felt and Florida Building Code Approved FL 12328.
 - a. **2.04 Square Roll** – Roll Coverage when applied according to instructions approx. 204 sq. ft. [± 2.44 sq. ft.] (18.95 sq. m. [± 0.23 sq. m.]), Roll Dimensions are 36" X 72' (.91 m. x 21.95 m.). Roll Contains approx. 216.00 sq. ft. [± 2.49 sq. ft.] (20.07 sq. m. [± 0.23 sq. m.]).
- L. **TAMKO® No. 15 asphalt saturated organic felt:** UL Classified as a Prepared Roofing Accessory.

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- a. **4.08 Square Roll** – Roll Coverage when applied according to instructions approx. 408 sq. ft. [± 4.41 sq. ft.] (37.9 sq. m. [± 0.41 sq. m.]), Roll Dimensions are 36" X 144' (.91 m. x 43.89 m.). Roll Contains approx. 432.00 sq. ft. [± 4.49 sq. ft.] (40.13 sq. m. [± 0.42 sq. m.]).
 - M. **TAMKO® No. 30 asphalt saturated organic felt:** UL Classified as a Prepared Roofing Accessory.
 - a. **2.04 Square Roll** – Roll Coverage when applied according to instructions approx. 204 sq. ft. [± 2.44 sq. ft.] (18.95 sq. m. [± 0.23 sq. m.]), Roll Dimensions are 36" X 72' (.91 m. x 21.95 m.). Roll Contains approx. 216.00 sq. ft. [± 2.49 sq. ft.] (20.07 sq. m. [± 0.23 sq. m.]).
- 2.07 ROOFING CEMENTS
Asphalt Plastic Roofing Cement meeting the requirements of ASTM D 4586, Type I
- 2.08 ATTIC VENTILATION

*****Note: Select All Applicable Products and delete products not required *****

A. RIDGE VENTS

1. **TAMKO® Roll Vent® Continuous Ridge Vent:** Lightweight, rolled, shingle over ridge ventilation. Use in conjunction with eave/soffit ventilation products. Provides 18 sq. inches Net Free Ventilation Area per linear foot (0.3 sq. m./m.). Each package contains 20 linear feet (6.10 m.) or 50 linear feet (15.2 m.) of vent. Hand-nail installation.
2. **TAMKO® Rapid Ridge® Nail Gun-able Ridge Vent:** Lightweight, rolled, shingle-over ridge ventilation. Use in conjunction with eave/soffit ventilation products. Provides 12.5 sq. inches Net Free Ventilation Area per linear foot (0.3 sq. m./m.). Each package contains 20 linear feet (6.10 m.) or 50 linear feet (15.2 m.) of vent. Nail-gun installed.
3. **TAMKO® CoolRidge® Sectional Ridge Vent or TAMKO® CoolRidge® Filtered Sectional Ridge Vent:** Lightweight, sectional injection molded polypropylene shingle-over ridge ventilation. Use in conjunction with eave/soffit ventilation products. Provides 18 sq. inches Net Free Ventilation Area per linear foot (0.3 sq. m./m.). Each package contains 48 linear feet (14.6 m.) of vent. Each piece is 14-3/4" x 48", 12 pieces per bundle, 48 ft. per bundle.
4. **TAMKO® Xtractor Vent® XLP Turbo Continuous Ridge Vent:** Lightweight, rolled injection molded polypropylene shingle-over ridge ventilation. Use in conjunction with eave/soffit ventilation products. Provides 12 sq. inches Net Free Ventilation Area per linear foot (0.3 sq. m. /m.). Each package contains 25 linear feet (7.6 m.) of vent. Nail-gun installed.
5. **TAMKO® Quick Vent Nail Gun-able Continuous Ridge Vent:** Lightweight, rolled, shingle over ridge ventilation. Use in conjunction with eave/soffit ventilation products. Provides 13.5 sq. inches Net Free Ventilation Area per linear foot (0.01 sq. m. /m.). Each package contains 20 linear feet (6.10 m.) or 50 linear feet (15.24 m.) of vent. Nail-gun installation.

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***Note: Select All Applicable Products and delete products not required ***

- B. FASCIA AND SOFFIT /UNDER EAVE VENTS: Soffit vents as required to provide balanced ventilation in accordance with TAMKO's ventilation requirements.

***Note: Select All Applicable Products and delete products not required ***

C. ROOF LOUVERS OR GABLE LOUVERS

1. Rooftop mounted louvers as required to help provide balanced ventilation in accordance with ventilation requirements.
2. Gable Louvers as required to help provide balanced ventilation in accordance with ventilation requirements.

2.09 NAILS

- A. Standard round wire, zinc-coated steel or aluminum, min 12 gauge, smooth, barbed or deformed shank, with heads 3/8 inch (9mm) to 7/16 inch (11mm) in diameter. Length must be sufficient to penetrate into solid wood at least 3/4 inch (19mm) or through roof deck by at least 1/8 inch (3.18mm).

Note: For use with Synthetic Guard™ or Synthetic Guard™ Plus Underlayment Only

- B. Standard round wire, zinc-coated steel or aluminum, min 12 gauge, smooth, barbed or deformed shank, with 1 inch round plastic caps. Length must be sufficient to penetrate into solid wood at least 3/4 inch (19mm) or through roof deck by at least 1/8 inch (3.18mm).

2.10 METAL FLASHING

***Note: Select All Applicable Products and delete products not required ***

- A. 24 gauge hot-dip galvanized steel sheet, complying with ASTM A653/A653M, G90/Z275.
- B. 16-oz/sq. ft. (0.56mm) copper sheet, complying with ASTM B370.
- C. 0.032-inch (0.8mm) aluminum sheet, complying with ASTM B209.

PART III EXECUTION

IMPORTANT NOTE: THIS SECTION IS FOR INFORMATIONAL PURPOSES AND DOES NOT SUPERCEDE, ALTER OR LIMIT THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. For a copy of the applicable installation instructions for complete and detailed product installation information visit our web site at www.tamko.com or contact TAMKO at 800-641-4691.

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with installer present for compliance with requirements for installation tolerances and other conditions affecting performance.
1. Examine roof sheathing to verify the sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.

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2. Verify that the substrate is dry, sound, clean, smooth, sloped for drainage, and completely anchored, and that provision has been made for flashings and penetrations through asphalt shingles.
- B. Proceed with installation only after unsatisfactory conditions have been corrected and roof deck has been properly prepared.
- C. If roof deck preparation is the responsibility of another installer, notify the architect or building owner of unsatisfactory preparation before proceeding.

3.02 PREPARATION

*****Note: Tear-Off Only*****

- A. Remove all existing roofing down to the roof deck.
- B. Verify that the deck is dry, sound, clean and smooth. It shall be free of any depressions, waves, and projections. Cover with sheet metal, all holes over 1 inch (25mm) in diameter, cracks over 1/2 inch (12mm) in width, loose knots and excessively resinous areas.
- C. Replace damaged deck with new materials.
- D. Clean deck surfaces thoroughly prior to installation of eaves membrane and shingle underlayment.

3.03 PREPARATION

*****Note: New Construction*****

- A. Clean deck surfaces thoroughly prior to installation of eaves membrane and shingle underlayment.
- B. At areas that receive eaves membrane, fill knotholes and cracks with latex filler.
- C. Install crickets on the upslope side of all chimneys in the north, any chimney wider than 24" (610mm), and on all roofs steeper than 6/12.

3.04 PREPARATION

*****Note: Recover Only*****

- A. Verify that the deck is structurally sound and free of deteriorated decking. All deteriorated decking shall be removed and replaced with new materials.
- B. Verify that the existing shingles are dry, sound, clean and smooth. All curled, buckled or loose tabs shall be nailed down or removed.

3.05 INSTALLATION OF TAMKO® UNDERLAYMENTS

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- A. General:

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1. Install using methods recommended by the manufacturer in accordance with local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
- B. Eaves:**
1. Install eaves edge metal flashing tight with fascia boards, lap joints 2 inches (51mm) and seal with plastic cement or high quality urethane sealant, nail at the top of the flange.
 2. In the north, and on all roofs between 2/12 and 4/12 (low slopes) install TAMKO® Moisture Guard®, TW Metal & Tile Underlayment, or TW Underlayment up the slope from eaves edge a full 36 inches (914mm) or to at least 24 inches (610 mm) beyond the interior "warm wall". Lap ends 6 inches (152mm) and bond.
- C. Valleys:**
1. Install eaves membrane at least 36 (914mm) inches wide and centered on the valley. Lap ends 6 inches (152mm) and seal.
 2. Where valleys are indicated to be "open valleys", install metal flashing over TAMKO® Moisture Guard® or TW Metal & Tile Underlayment before TAMKO® underlayment is installed, DO NOT nail through the flashing. Secure the flashing by nailing at 18 inches (457 mm) on center just beyond edge of flashing so that nail heads hold down the edge.
- D. Hips and Ridges:**
1. Install TAMKO® Moisture Guard®, TW Metal & Tile Underlayment, or TW Underlayment along entire lengths. If ridge vents are to be installed, position the TAMKO® TW Metal & Tile Underlayment, or TW Underlayment so that the ridge slots will not be covered.
- E. Roof Deck:**
1. Install one layer of TAMKO® underlayment over the entire area not covered by TAMKO® Moisture Guard®, TW Metal & Tile Underlayment, or TW Underlayment at the eaves or valley. Install sheets horizontally so water sheds and nail in place.
 2. On roofs sloped at more than 4:12, lap horizontal edges at least 2 inches (51mm) and at least 2 inches (51mm) over eaves membrane.
 3. On roofs sloped between 2" per foot up to but less than 4" per foot, lap horizontal edges at least 19 inches (482 mm) and at least 19 inches (482mm) over eaves membrane.
 4. Lap ends at least 4 inches (102 mm). Stagger end laps of each layer at least 36 inches (914 mm).
 5. Lap TAMKO® underlayment over TAMKO® Moisture Guard® or TW Metal & Tile Underlayment in valley at least 6 inches (152mm).
- F. Synthetic Guard™ Underlayment or Synthetic™ Guard Plus Underlayment Application.**
1. Install in accordance with TAMKO's instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
 2. Synthetic Guard™ Underlayment or Synthetic™ Guard Plus Underlayment shall be installed over a clean, dry deck.
 3. Install TAMKO® Moisture Guard®, TW Metal & Tile Underlayment or TW Underlayment at eaves, rakes, skylights, dormers, and other vulnerable leak areas. Install TAMKO® Moisture Guard® or TW Metal & Tile Underlayment in valleys.
 4. Lay Synthetic Guard™ Underlayment or Synthetic™ Guard Plus Underlayment over deck and overlap 4" (mm) at side laps and 6" (152mm) at end laps.

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5. Follow the nail pattern as marked on the synthetic underlayment. Fasten at the fastener locations marked for all applications as solid circles. Fasteners on vertical and horizontal laps must be spaced 12" (305 mm) o.c.
 6. For high wind applications follow the nail pattern as marked on the underlayment. Fasten at the fastener locations marked for all applications as solid circles and fasten at the additional nail locations that are marked as crosses for high wind application. Fasteners on vertical and horizontal laps must be spaced (4" (102 mm) o.c. for high wind areas).
 7. For slopes less than 4:12, a double application of Synthetic Guard™ Underlayment or Synthetic™ Guard Plus Underlayment is required. See complete Synthetic Guard™ Underlayment or Synthetic™ Guard Plus Underlayment installation instructions at www.tamko.com.
- G. Penetrations:
1. Vent pipes: Install a 24 inch (610 mm) square piece of eaves membrane lapping over roof deck underlayment, seal tightly to pipe.
 2. Vertical walls: Install eaves membrane extending at least 6 inches (152mm) up the wall and 12 inches (305mm) on to the roof surface. Lap the membrane over the roof deck underlayment.
 3. Skylights and roof hatches: Install eaves membrane from under the built-in counter flashing and 12 inches (305mm) on to the roof surface lapping over roof deck underlayment.
 4. Chimneys: Install eaves membrane around entire chimney extending at least 6 inches (152mm) up the wall and 12 inches (305mm) on to the roof surface. Lap the membrane over the roof deck underlayment.
 5. Rake Edges: Install metal edge flashing over eaves membrane and roof deck underlayment, set tight to rake boards, lap joints at least 2 inches (51mm) and seal with plastic cement, secure with nails.

3.06 INSTALLATION OF TAMKO® STARTER SHINGLES

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- A. General:
1. Install in accordance with TAMKO's application instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
 2. Refer to application instructions for the selected starter strip shingles.
- B. Placement and Nailing:
1. For maximum wind resistance along rakes & eaves, install any TAMKO® starter strip containing sealant or cement shingles to underlayment and each other in a 4" (102mm) width of any adhesive meeting the requirements of ASTM D4586, Type I.

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2. Place starter strip shingles 1/4" – 3/4" (6 – 19mm) over eave and rake edges to provide drip edge.
3. Nail approximately 1-1/2" – 3" (38 – 76mm) above the butt edge of the shingle.
4. Rake starter course should overlap eave edge starter strip at least 3" (76mm).

3.07 INSTALLATION OF TAMKO SHINGLES

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A. General:

1. Install in accordance with TAMKO's application instructions and local building codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
2. Minimize breakage of shingles by avoiding dropping bundles on edge, by separating shingles carefully (not by "breaking" over ridge or bundles), and by taking extra precautions in temperatures below 40 degrees F (4.44 degrees C).
3. Handle carefully in hot weather to avoid scuffing the surfacing or damaging the shingle edges.

B. Placement and Nailing:

*****Note: Tear-Off or New Construction*****

1. Secure with nails per shingle per TAMKO's application instructions or local codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
2. Placement of nails varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
3. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
4. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.

C. Placement and Nailing:

*****Note: Recover*****

1. Beginning with the starter strip, trim shingles so that they "nest" within the shingle located beneath it. This procedure will yield a first course that is typically 3 inch (76mm) to 4 inch (102mm) rather than a fully exposed shingle.
2. Laterally, offset the new shingles from the existing keyways, to avoid waves or depressions caused by excessive dips in the roofing materials.
3. Using the bottom of the tab on existing shingles, align subsequent courses.
4. ***Note: DO NOT install standard sized shingles (5 inch exposure) over metric (5-5/8 inch exposure) shingles, as it will overexpose the shingles and reveal the nails. Use standard alignment methods to assure proper shingle placement.**

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5. Secure with nails per shingle per TAMKO's instructions or local codes. When local codes and application instructions are in conflict, the more stringent requirements shall take precedence.
6. Placement of nails varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.
7. Nails must be driven flush with the shingle surface. Do not overdrive or under drive the nails.
8. Shingle offset varies based on the type of shingle specified. Consult the application instructions for the specified shingle for details.

D. Valleys

*****Note: Choose a Method*****

For Heritage® Vintage® Shingles use Open Valley only

1. Install valleys using the "open valley" method:
 - a. Snap diverging chalk lines on the metal flashing, starting at 3 inches (76mm) each side of top of valley, spreading at 1/8 inch per foot (9mm per meter) to the eaves.
 - b. Run shingles to chalk line.
 - c. Trim last shingle in each course to match the chalk line, do not trim shingles to less than 12 inches (305mm) wide.
 - d. Apply a 2 inch (51mm) wide strip of plastic cement under ends of shingles, sealing them to the metal flashing.
2. Install valleys using the "Heritage® Valley" method per TAMKO's application instructions:
 - a. Run the first course of shingles from the higher roof slope across the valley at least 12 inches (305mm).
 - b. Run succeeding courses of shingles from the lower roof slope across the valley at least 12 inches (305mm) and nail not closer than 6 inches (152mm) to center of valley.
 - c. To the adjoining roof plane, apply one row of shingles vertically facing the valley and 2 inches back from the valley centerline.
 - d. To complete the valley, apply shingles on the adjoining roof plane by positioning the tip of the first shingle of each row at the 2 inch point from the centerline where the edge of the vertical shingle has been applied, covering the vertical shingle.
3. Install valleys using the "closed cut valley" method:
 - a. Run the first course of shingles from the higher roof slope across the valley at least 12 inches (305mm).
 - b. Run succeeding courses of shingles from the lower roof slope across the valley at least 12 inches (305mm) and nail not closer than 6 inches (152mm) to center of valley.
 - c. Run shingles from the upper roof slope into the valley and trim 2 inches (51mm) from the center line.

3.08 INSTALLATION OF ATTIC VENTILATION

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A. General

1. Ventilation must meet or exceed current F.H.A., H.U.D. and local code requirements.

B. Ridge / Soffit Ventilation

1. Cut continuous vent slots through the sheathing, stopping 6 inches (152mm) from each end of the ridge.
2. On roofs without ridge beam, make a slot 1 inch (25mm) wide, on either side of the peak (2 inch (51mm) overall).
3. On roofs with ridge beam, make two slots 1-3/4 inches (44.5mm) wide, one on each side of the peak (3 ½ inch (89mm) overall).
4. Install ridge vent material along the full length of the ridge, including uncut areas.
5. Butt ends of ridge vent material and join using roofing cement.
6. Install eaves vents in sufficient quantity to equal or exceed the ridge vent area.

C. Roof and Gable Louvers:

1. Cut vent hole through sheathing as specified by the manufacturer for the type of vent to be installed.
2. Install a 24 inch (610mm) square of Moisture Guard® or TW Metal & Tile Underlayment, centered around the hole for roof louvers
3. Install according to manufacturer's instructions for flashing vent penetrations
4. Install eave vents in sufficient quantity to equal or exceed the exhaust vent area, calculated as specified by manufacturer.

D. Whole House Fans

1. Install at desired locations in ceiling below attic space per manufacturer recommended location and application instructions.

3.09 PROTECTION

- A. Protect installed products from foot traffic until completion of the project.
- B. Any roof areas that are not completed by the end of the workday are to be protected from moisture and contaminants.

END OF SECTION