



## Armourshake English Application Instructions

**IMPORTANT MESSAGE • PLEASE READ!** IKO assumes no responsibility for leaks or defects resulting from improperly installed shingles, improper preparation of the surface to be roofed over, or failing to provide proper ventilation in accordance with local building codes. Use caution when stacking bundles on sloped roofs.

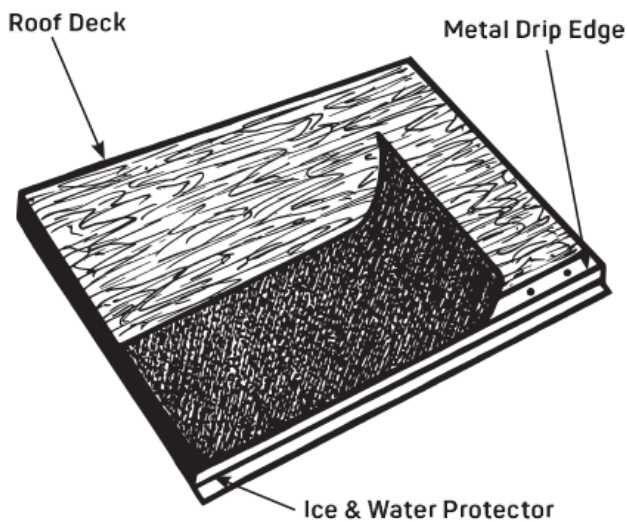
**ROOF SLOPE:** Never apply asphalt shingles to roof slopes less than 2:12. For slopes 2:12 to 4:12 (LOW SLOPE), see special underlayment requirements outlined below.

**STEP 1: PREPARE THE ROOF DECK:** Deck must be smooth, firm, clean, dry and securely nailed. Wood panel decking is to be exterior grade, conforming to building code requirements. Panels are to be 3/8" min. thick plywood, or 7/16" min. thick non-veneer. The installation of asphalt shingles on dimensional lumber (including shiplap/board decks) is not recommended as it may potentially cause buckling problems, which are not covered by IKO's Limited Warranty.

**STEP 2: APPLY DRIP EDGE ALONG EAVES:** Apply metal drip edges directly to the deck along the eaves, spacing nails approximately 12" apart.

**STEP 3: EAVE PROTECTION:** Apply eave protection, such as IKO StormShield® Ice and Water Protector, as per building code requirements and manufacturer's instructions, overhanging eaves by 1/4" to 3/4" and extending up the roof at least 24" beyond the interior wall line. NOTE: IKO recommends the use of eaves protection in all situations, however, if no ice and water protector is required by your local code or standard, then alternately apply the first course of underlayment overhanging the eaves by 1/4" to 3/4".

### STEPS 1-3

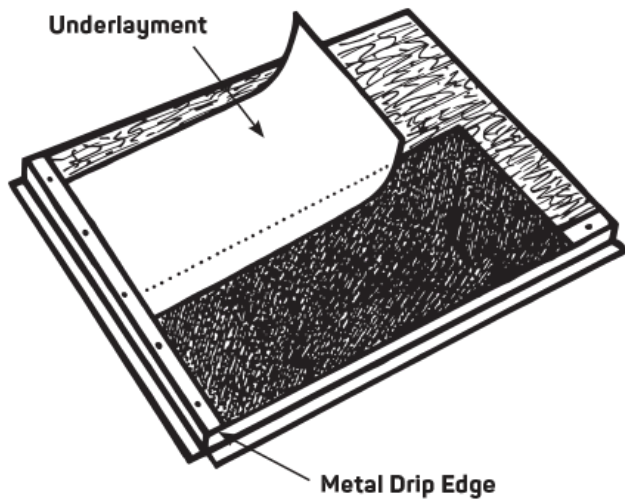


**STEP 4: UNDERLAYMENT:** Apply underlayment, either asphalt saturated felt or synthetic underlayment, such as IKO's Stormtite™, in horizontal courses up the roof with 2" side laps and 4" end laps. Trim the sheet to fit the final course at the peak. One layer of asphalt saturated felt (or equivalent) is required over the entire deck to qualify for an ASTM E108 Class A fire rating or which may be required per the local building code.

**LOW SLOPE:** For roof slopes less than 4:12 down to 2:12 apply underlayment in successive courses by overlapping the preceding sheet by 19" with 4" end laps. Alternately, apply a single layer of ice and water protector over the entire deck per manufacturer's instructions. NOTE: SHINGLES APPLIED ACCORDING TO THESE INSTRUCTIONS ON SLOPES 3:12 TO 4:12 WILL BE WARRANTED FOR THE FULL WARRANTY TERM. SHINGLES ON SLOPES 2:12 TO 3:12 WILL BE WARRANTED FOR 12 YEARS.

**STEP 5: APPLY DRIP EDGE AT THE RAKES:** Apply metal drip edges on top of any underlay along rake edges, spacing nails approximately 12" apart.

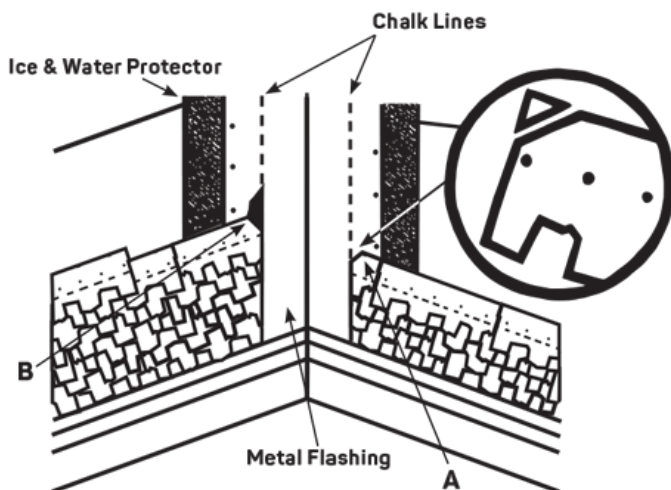
## STEPS 4-5



**STEP 6: INSTALL FLASHING:** Corrosion-resistant flashing must be used to help prevent leaks where a roof meets a wall, another roof, a chimney or other objects that penetrate a roof. Flashing shall conform to the requirements of applicable building code and good roofing practice.

**STEP 7: INSTALL OPEN METAL VALLEYS:** Metal valleys are recommended. (Closed valley applications are acceptable but not recommended. Please see Limited Warranty for details.) Complete valley flashing before shingles are applied. Center a 36" wide strip of ice & water protector in the valley and then fasten at the edges with only enough nails to hold in place. Center a minimum 24" wide, minimum 28 gauge pre-finished/galvanized metal valley liner in the valley, and fasten the edges with only enough nails to hold in place. Snap two chalk lines the full length of the valley, 6" apart at the top and increasing in width 1/8" per foot towards the bottom. When the shingles are being applied, lay them over the valley flashing, trim the ends to the chalk line, and cut a 2" triangle off the corner to direct water into the valley (A). Embed the valley end of each shingle into a 3" band of asphalt plastic cement (B). Do not place a nail in the shingle closer than 2" from the chalk line.

## STEPS 6-7

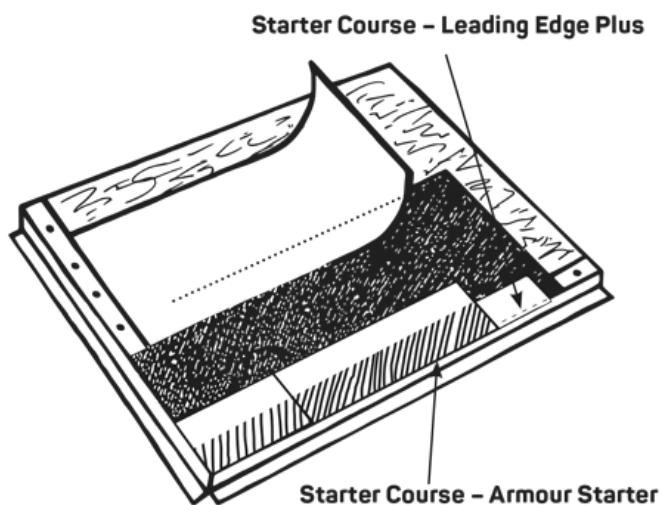


**STEP 8: INSTALL STARTER COURSES:** Proper application of an Armourshake roof requires two courses of Starter shingles. The starter courses require both Leading Edge Plus and Armour Starter shingles. It is important that the Armour Starter is in the matching color blend of the Armourshake shingles to be used on the field of the roof.

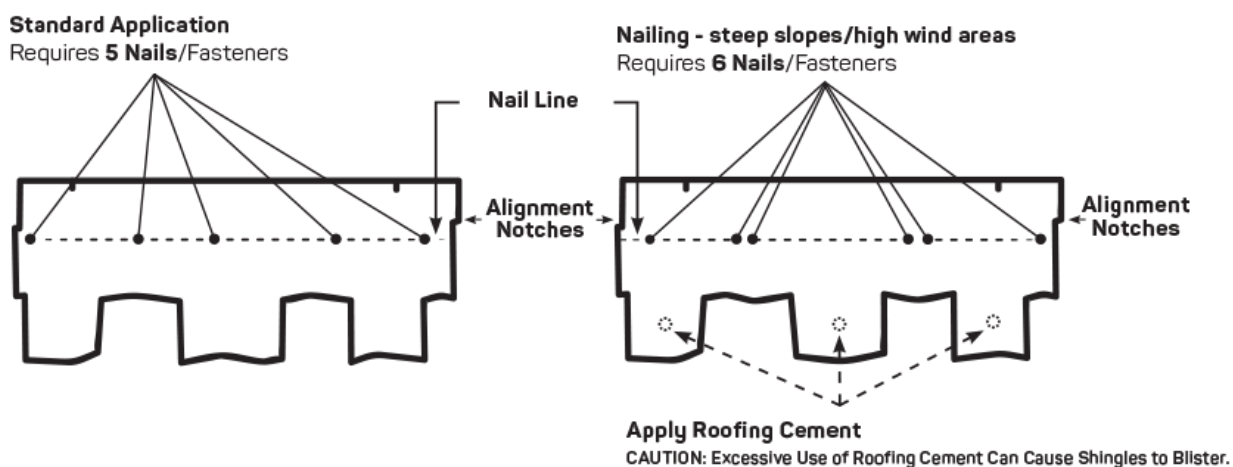
**Starter Course – Leading Edge Plus:** Apply the Leading Edge Plus starter strips, such that the edge with the sealant strip is at the eave edge of the roof. Use galvanized (zinc coated) roofing nails, 11 or 12 gauge, with at least 3/8" diameter heads, long enough to penetrate through plywood or 3/4" into boards. Cut approximately 4" of a Leading Edge Plus shingle and apply to the lower left corner of the roof overhanging the eave and rake by 1/4" to 3/4". Continue with full length Leading Edge Plus across the eave edge overhanging the eave by 1/4" to 3/4". Fasten the Leading Edge Plus with 4 nails 1" above the sealant strip, 1" in from each edge and midway between those points.

**Starter Course – Armour Starter:** The Armour Starter must be the matching color of the Armourshake shingles. Cut approximately 20" from an Armour Starter shingle. At lower left edge, apply the cut Armour Starter shingle flush to the rake and eave edges of the Leading Edge Plus with the matching color portion on the bottom. Continue with full length Armour Starter across the eave applied flush with the eave edge of the Leading Edge Plus shingles. Fasten the Armour Starter to the roof deck with four nails located just above the area of colored granules, approximately 1" in from each end, and midway between those points.

## STEP 8



## IMPORTANT! – PROPER NAILING



**STEP 9: INSTALL THE FIRST COURSE:** Start with a full shingle. Trim the rake end of the shingle slightly so it is flush with the rake. Apply the shingle flush with starter course at rake and eaves. Fasten the shingle using 5 nails as shown in the diagram below.

**NAILING ON STEEP SLOPES/HIGH WIND AREAS OR IN COOL TEMPERATURES:** For high wind areas or in cool temperatures, or on slopes of 21:12 (60°) or more, use six nails per shingle placed as shown below. Ensure that no nail is within 2" of a joint/cutout of the underlying shingle. Seal down each shingle at time of application with three 1" diameter spots of roofing cement placed under the shingle 2" above the bottom edge as shown in the diagram below. Use roofing cement sparingly, as excessive amounts may cause blistering.

**STEP 10: CHALK LINES:** To aid in alignment, snap horizontal chalk lines. Armourshake exposure is 5-1/2".

**STEP 11: INSTALL THE SECOND COURSE:** Start with a shingle from which 5-5/8" \* has been cut at the rake end. For this and all succeeding courses, align the end of the shingle with the alignment notch in the top edge of the lower course of shingles; do not use shingle bottom edge or nail lines to gauge exposure. Continue with full shingles along the second course.

**INSTALL THE THIRD COURSE:** Start with a shingle from which 11-1/4" \* has been cut at the rake end. Use the appropriate alignment notch in the top edge of the second course shingle. Continue with full shingles along the third course.

**INSTALL THE FOURTH COURSE:** Start with a shingle from which 16-7/8" \* has been cut at the rake end. Use the appropriate alignment notch in the top edge of the third course shingle. Continue with full shingles along the fourth course.

**INSTALL THE FIFTH COURSE:** Start with a shingle from which 22-1/2" \* has been cut at the rake end. Use the appropriate alignment notch in the top edge of the fourth course shingle. Continue with full shingles along the fifth course.

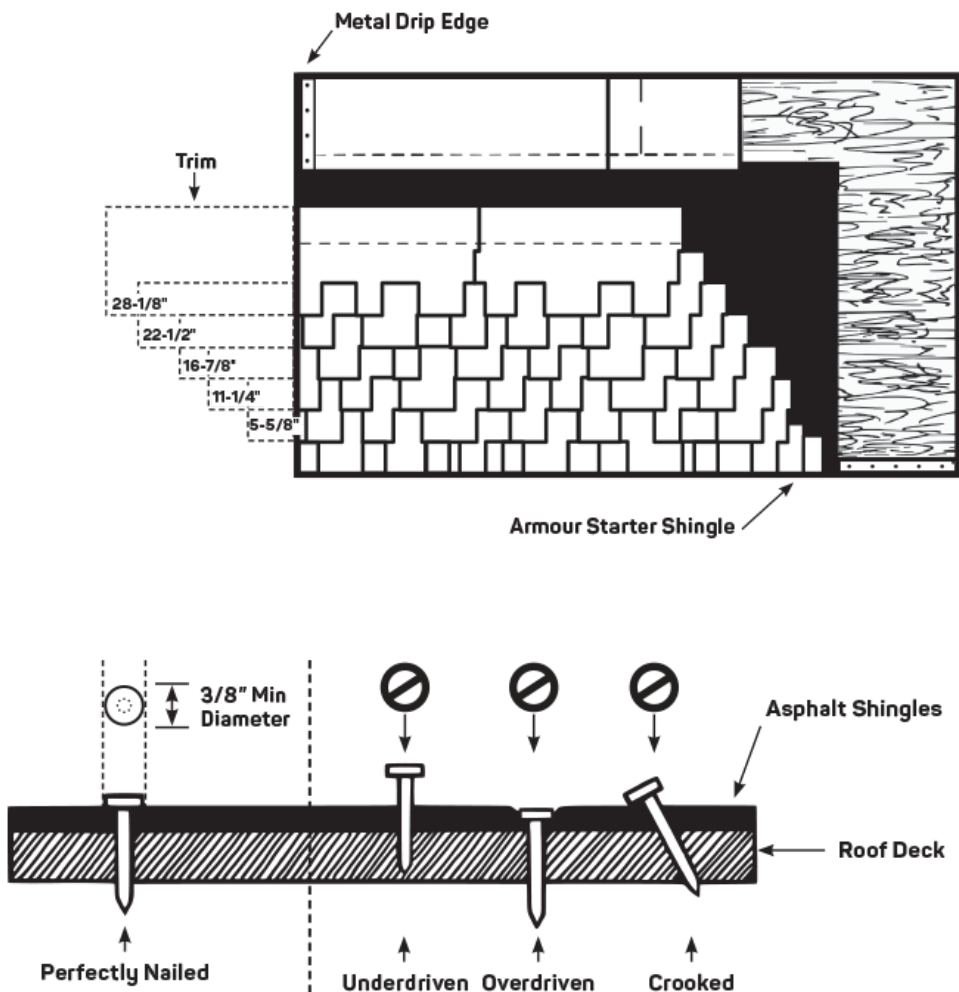
**INSTALL THE SIXTH COURSE:** Start with a shingle from which 28-1/8" \* has been cut at the rake end. Use the appropriate alignment notch in the top edge of the fifth course shingle. Continue with full shingles along the sixth course.

**STEP 12: INSTALL SUCCEEDING COURSES:** Repeat this pattern: Full shingle cut flush, 5-5/8" removed, 11-1/4" removed, 16-7/8" removed, 22-1/2" removed, 28-1/8" removed, full shingle cut flush, 5-5/8" removed, 11-1/4" removed, 16-7/8" removed, 22-1/2" removed, 28-1/8" removed etc.

\* Measurements should be made along the top edge of the shingle. Note that slight variation in shingle height alignment is normal, and due to random aesthetic shingle design, shingle joints may not always be covered by an overlying tab.

**STEP 13: MANUALLY SEAL SHINGLES (IF NEEDED):** Shingles should seal to the underlying course when the factory applied asphalt sealant is sufficiently warmed by the heat of direct sunlight. When conditions such as cool weather, high winds or blowing dust might limit the effectiveness of the sealing strips, please follow the steep slope/high wind area requirements above and manually apply roofing cement.

## STEPS 9-13



**STEP 14: INSTALL HIPS AND RIDGES:** IKO recommends its pre-cut hip and ridge products, or pre-formed high profile IKO UltraHP. For IKO pre-cut hip and ridge products, bend each piece over the hip or ridge, and nail per instructions on the wrapper. The final shingle should be set in roofing cement and the exposed nail heads of this shingle should be covered with roofing cement. For IKO UltraHP, follow the instructions on the box. Prior to application in cold weather, store hip and ridge shingles in a heated area to allow for easier bending.

**IMPORTANT MESSAGE – PLEASE READ! – TO ENSURE COVERAGE UNDER THE HIGH WIND RESISTANCE LIMITED WARRANTY:** Armour Starter strip shingles must be used at all eaves and rakes. Armourshake shingles must be installed with additional nails as specified, and they must have an opportunity to seal or be manually sealed as described. In Canada, manual sealing in addition to 6 nails is required. In Florida, manual sealing is not required.

**IMPORTANT: FOR ALL APPLICATIONS IT IS CRITICAL TO USE THE NAIL LINE AS A GUIDE. IMPROPERLY POSITIONED NAILS CAN VOID IKO'S LIMITED WARRANTY.**

**FASTENERS:** Nails must be 11 or 12-gauge roofing nails, corrosion-resistant, with at least 3/8" heads, and at least 1" long. For decks 3/4" thick or thicker, nails must go at least 3/4" into the deck. On thinner decks, nails must go at least 1/8" through the deck.