



CONSTRUCTION MATERIALS

TECHNOLOGIES

October 27, 2017

IKO Industries, Ltd
120 Hay Rd.
Wilmington, DE 19809

Re: FBC FL7006

Sir(s),

PRI Construction Materials Technologies has completed a technical review and attached sealed shingle instructions in compliance the 2017 Florida Building Code.

This review was completed based on the receipt of following evidence from IKO Industries, Ltd:

- 1) IKO Shingle Application Instructions – 3-Tab Shingles
(EN-3Tab_Applns_8AGXEFS-2012-11_reformatted 2013-02-rev07/13-Florida)
- 2) IKO Laminated Shingles Application Instructions
(EN-Laminated_Applns_8TTEFS-2012-04_reformatted 2013-02-rev07/13-Florida)
- 3) IKO Hip and Ridge 12 Application Instructions
(EN-HipandRidge12_3HRTri-2013-08_reformatted 2013-08)
- 4) IKO Leading Edge Plus Shingle Application Instructions
(EN-3LEP-Tri-2012-06_reformatted 2013-03)
- 5) ASTM D3161 Test Report (FM Approvals Project No. 3040947)

The attached instructions should be used in conjunction with the published manufacturer's application instructions and applicable code. In the event the instructions conflict, these instructions shall govern.

Statement of Independence: PRI Construction Materials Technologies and/or Duc T. Nguyen, FL P.E. do not have nor plan to acquire a financial interest in any company manufacturing or distributing products for which the test reports are issued.

Signed:

Brad Grzybowski
Managing Director

Signed:

Duc T. Nguyen
Florida Registered Professional Engineer
P.E. Number: 65034

Date:

October 27, 2017

Date:

October 27, 2017

Attachments: A) IKO Shingle Application Instructions - 3-Tab
B) IKO Laminated Shingles Application Instructions
C) IKO Hip and Ridge 12 Application Instructions
D) IKO Leading Edge Plus Application Instructions

IKO-187-02-01

IKO Shingle Application Instructions – 3-Tab Shingles (ASTM D3161, Class F – IKO Marathon 25 AR and CRC Superglass M25AR)

NOTE: THESE INSTRUCTIONS SHALL BE USED IN CONJUNCTION WITH IKO'S PUBLISHED APPLICATION INSTRUCTIONS AND THE APPLICABLE CODE. IN THE EVENT THE INSTRUCTION CONFLICT, THESE INSTRUCTIONS WILL GOVERN.

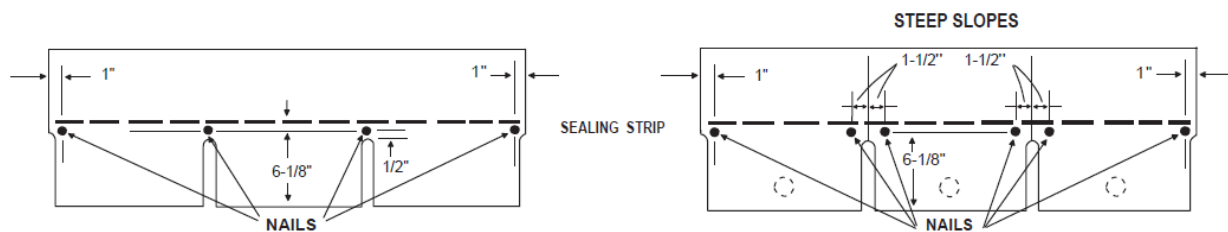
ROOF DECK: Solidly sheathed and fastened deck conforming to 2017 FBC.

UNDERLAYMENT: Applied in accordance with building code requirements. For areas where the roof slope is less than 4" per foot down to 2" per foot, use 2 layers of underlayment conforming to building code requirements, the first sheet overlapping the eave protection by 19", followed by full 36" widths overlapping each preceding course by 19" or other *Approved* underlayments in accordance with the qualified application instructions. For areas where the roof slope is 4" per foot or greater, cover the deck with one ply of underlayment laid parallel to the eaves, with 2" horizontal laps and 4" end laps. Apply metal drip edges on top of any underlay along rake edges and directly to the deck along eaves in accordance with building code requirements.

NAILING: 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. Use 4 nails per shingle placed 6-1/8" above the butt edge, approx. 1" and 13" from each end and 1/2" above each cutout. Drive nails straight so that nail head is flush with, but not cutting into shingle surface.

NAILING ON STEEP SLOPES: For steep slopes of 21" per foot (60°) or more, use 6 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 (approx. size and thickness of a quarter) spots of asphalt plastic cement placed under the shingle 2" above the bottom edge and equally spaced along the shingle. Apply plastic cement in moderation since excessive amounts may cause blistering. **CAUTION:** Shingles should seal to the underlying course when the factory applied asphalt sealant is sufficiently warmed by the heat of direct sunlight.

EXPOSURE: Installed shingles shall have a maximum average exposure of 5-5/8".



DO NOT NAIL INTO OR ABOVE THE SEALING STRIP

IKO Laminated Shingles Application Instructions (ASTM D3161, Class F – Cambridge, Cambridge HD, and CRC Biltmore AR)

NOTE: THESE INSTRUCTIONS SHALL BE USED IN CONJUNCTION WITH IKO'S PUBLISHED APPLICATION INSTRUCTIONS AND THE APPLICABLE CODE. IN THE EVENT THE INSTRUCTION CONFLICT, THESE INSTRUCTIONS WILL GOVERN.

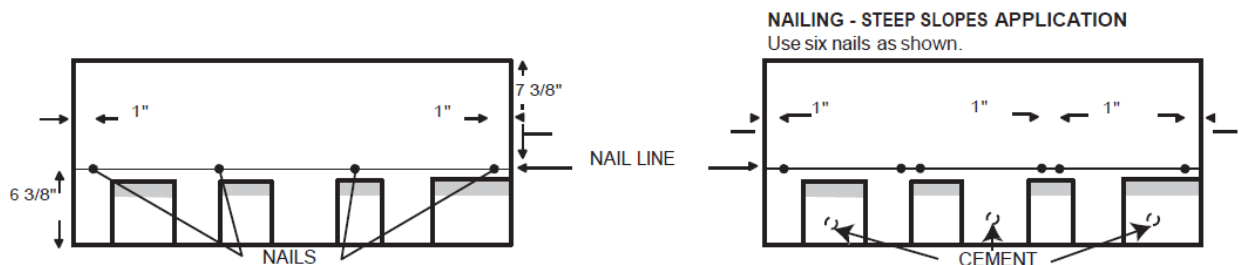
ROOF DECK: Solidly sheathed and fastened deck conforming to 2017 FBC.

UNDERLAYMENT: Applied in accordance with building code requirements. For areas where the roof slope is less than 4" per foot down to 2" per foot, use 2 layers of underlayment conforming to building code requirements, the first sheet overlapping the eave protection by 19", followed by full 36" widths overlapping each preceding course by 19" or other *Approved* underlayments in accordance with the qualified application instructions. For areas where the roof slope is 4" per foot or greater, cover the deck with one ply of underlayment laid parallel to the eaves, with 2" horizontal laps and 4" end laps. Apply metal drip edges on top of any underlay along rake edges and directly to the deck along eaves in accordance with building code requirements.

NAILING: 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. Use 4 nails per shingle placed in the nail line 7-3/8" below the top edge, approx. 1" and 13" in from each end. Drive nails straight so that nail head is flush with, but not cutting into shingle surface.

NAILING ON STEEP SLOPES: For steep slopes of 21" per foot (60°) or more, use 6 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 (approx. size and thickness of a quarter) spots of asphalt plastic cement placed under the shingle 2" above the bottom edge and equally spaced along the shingle. Apply plastic cement in moderation since excessive amounts may cause blistering. **CAUTION:** Shingles should seal to the underlying course when the factory applied asphalt sealant is sufficiently warmed by the heat of direct sunlight.

EXPOSURE: Installed shingles shall have a maximum average exposure of 5-7/8".



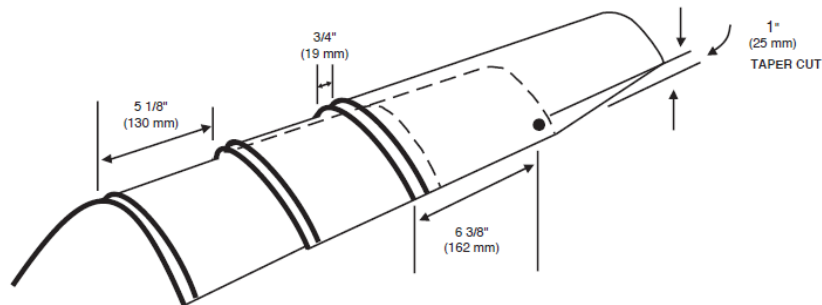
PROPER APPLICATION REQUIRES THAT THE NAILS PENETRATE BOTH THE OVERLAY AND UNDERLAY PORTIONS OF THE SHINGLE

IKO Hip and Ridge 12 Application Instructions (ASTM D3161, Class F – IKO Hip and Ridge 12)

NOTE: THESE INSTRUCTIONS SHALL BE USED IN CONJUNCTION WITH IKO'S PUBLISHED APPLICATION INSTRUCTIONS AND THE APPLICABLE CODE. IN THE EVENT THE INSTRUCTION CONFLICT, THESE INSTRUCTIONS WILL GOVERN.

Cut hip and ridge shingles into thirds, using the perforation marks as a cutting guide. These shingles are designed for a 5 1/8" (130 mm) exposure. (For a neater appearance, the top of each side of each piece has been factory trimmed on a 1" (25 mm) taper (see drawing). Bend each piece over the hip or ridge, and nail 5 5/8" (143 mm) above the butt edge 1" (25 mm) in from each edge, exposing each piece 5 1/8" (130 mm). Apply hip pieces starting at the lower end of the hip, working up toward the ridge. On hip roofs, apply ridge pieces starting at each end, meeting in the middle. On gable roofs, apply ridge pieces starting at the end opposite to the prevailing wind direction and continue to the other end. Note: To obtain a three-dimensional effect, (which is recommended, but not required), apply hip and ridge shingles double thickness by stacking 2 pieces on top of one another, the lower piece extending about 3/4" (19 mm) further than the top piece (see diagram). The final shingle should be set in cement, and the exposed nail heads of the final shingle should be covered with cement. Prior to application in cold weather, storing the shingles in a heated area will allow for easier bending.

NOTE: SHINGLES MUST BE APPLIED PROPERLY. THEY ARE DESIGNED FOR USE AS HIP AND RIDGE SHINGLES ONLY, AND SHOULD NOT BE USED FOR ANY OTHER APPLICATIONS. WE ASSUME NO RESPONSIBILITY FOR LEAKS OR DEFECTS RESULTING FROM POOR APPLICATION OR FAILURE TO PROPERLY PREPARE THE SURFACE TO BE ROOFED OVER, OR FAILURE TO PROVIDE PROPER VENTILATION IN ACCORDANCE WITH MINIMUM PROPERTY STANDARDS REQUIREMENTS. REVIEW ALL APPLICABLE BUILDING CODES, MINIMUM PROPERTY STANDARDS, AND REQUIREMENTS PRIOR TO APPLYING THESE SHINGLES USING THESE APPLICATION INSTRUCTIONS.



IKO Leading Edge Plus Application Instructions (ASTM D3161, Class F – IKO Leading Edge Plus)

NOTE: THESE INSTRUCTIONS SHALL BE USED IN CONJUNCTION WITH IKO'S PUBLISHED APPLICATION INSTRUCTIONS AND THE APPLICABLE CODE. IN THE EVENT THE INSTRUCTION CONFLICT, THESE INSTRUCTIONS WILL GOVERN.

1. Apply any underlayment, eave protection, valley flashings, or drip edges to roof deck as required.
2. Each 39 3/8" x 13 1/4" (1000 mm x 336 mm) IKO Leading Edge Plus strip is perforated lengthwise for separation into two (2) shingles. Take one IKO Leading Edge Plus strip and fold flat at perforation to separate.
3. Take one of the separated shingles 39 3/8" x 6 5/8" (1000 mm x 168 mm) and remove approximately 20"(500 mm). Install this shingle on the lower left corner of the roof deck, granule side up, with the factory installed sealant adjacent to the eaves. The shingle should overhang the rake edge and eaves by a nominal 1/4" (6 mm) minimum. Fasten the shingle to the roof deck with nails located 3" to 4" (75 mm to 100 mm) from the eave edge and 1" (25 mm) in from each end.
4. Take the leftover 20" (500 mm) piece shingle. Rotate the piece and align it vertically up the rake edge with the factory installed sealant adjacent to the outer edge of the roof. The shingle should overhang the rake edge by a nominal 1/4" (6 mm) minimum. Fasten the shingle to the roof deck with fasteners located 3" to 4" (75 mm to 100 mm) from the rake edge and 1" (25 mm) in from each end.
5. Repeat Steps 3 – 4 for the right lower corner of the roof deck.

NAILING: Use galvanized (zinc coated) roofing nails, 11 or 12 gauge, with at least 3/8" (9 mm) diameter heads, long enough to penetrate through plywood or 3/4" (20 mm) into boards. Use 4 nails per shingle placed 3" to 4" (75 mm to 100 mm) from the eave edge and approximately 1" and 13" (25 mm and 330 mm) in from each end.

6. Apply full-length IKO Leading Edge Plus shingles to the remaining eave edges of the roof deck. Install the shingles granule side up with the factory applied sealant adjacent to the eaves. The shingles should overhang the rake edge and eaves by a nominal 1/4" (6 mm) minimum. Fasten the shingles to the roof deck with nails located 3" to 4" (75 mm to 100 mm) from the eave edge, 4 nails per shingle.
7. Apply roof shingles as per the instructions printed on each product's package. Make certain the first course of field shingle lies flush with the edges of the fastened IKO Leading Edge Plus. In this way, the sealant on the IKO Leading Edge Plus shingles will adhere to the first-course field shingles and help keep them from lifting in high winds.