CONSTRUCTION MATERIALS

TECHNOLOGIES

ICE-DAM FREEZE/THAW SIMULATION OF THE EDGE™ VENT

(PROJECT NO. AVIG-004-02-01)

For

AIR VENT, INC.
4117 PINNACLE POINT DRIVE, SUITE 200
DALLAS, TX 75211

SEPTEMBER 20, 2011

Purpose: Evaluate the performance of The Edge™ Vent when exposed to freeze/thaw cycles after the formation of a simulated Ice-Dam. The product was installed at a 3:12 roof slope in accordance with the Manufacturer's directions as described herein.

Test Methods: Novel methods were developed in collaboration with PRI Construction Materials Technologies, LLC and Air Vent, Inc. for the purposes of conducting this testing.

Phase I: Ice-Dam Formation

The test specimen was equilibrated in a freezer maintained at 10°F. The specimen was exposed to cyclic water spray to allow for the formation of an ice-dam at the eave of the roof. This process was concluded when the ice sheet covered the first three courses of shingles.

Phase II: Freeze/Thaw Test

The test specimen was maintained in a freezer at 10°F. For eight hours each day, the underside of the specimen was heated and controlled to 50°F. This process allowed for the formation of liquid water between the ice-dam and the shingles. This process was repeated for a total of 30 cycles (days). At the conclusion and throughout the test, the underside of the specimen was observed for water leakage resulting from the The Edge™ Vent.

Sampling: The Edge™ Vent samples were provided by Air Vent, Inc. All other materials were provided by PRI Construction Materials Technologies, LLC.

Specimen: The specimens were constructed in accordance with the Manufacturer's specifications and instructions. Appendix contains the Manufacturer's installation instructions and drawings. Specimens were conditioned 3 days under ambient conditions prior to testing.

Roof Covering:	Certainteed Landmark™ laminated shingles. Installed per the Manufacturer's instructions.
Underlayment:	Grace Ice and Water Shield® self-adhered underneath and above The Edge™ Vent starting at the eave.
Ventilation:	The Edge™ Vent installed at the eave over a ¾" wide slot in the roof deck in accordance with the Manufacturer's instructions.
Roof Deck:	15/32" plywood attached to simulated wood trusses spaced 24" o.c. with 8d, 2-1/2" ring shank nails installed 6" o.c.

Results:

Phase I: Ice-Dam Formation

The following photographs serve to document the condition of the test specimen prior to and at the conclusion of the ice-dam formation phase.

Photograph of specimen prior to Ice-Dam Formation

PRI Construction Materials Technologies LLC 6408 Badger Drive Tampa, FL 33610 Tel: 813-621-5777 Fax: 813-621-5840 e-mail: materialstesting@pricmt.com WebSite: http://www.pricmt.com

Photograph of specimen after Ice-Dam Formation

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Phase II: Freeze/Thaw Test

The following photographs serve to document the condition of the test specimen during and at the conclusion of the freeze/thaw testing phase.

Photograph of specimen during Freeze/Thaw Test

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Photograph of specimen at the conclusion of the Freeze/Thaw Test

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Photograph under The Edge™ Vent at the conclusion of the Freeze/Thaw Test

Concluding Remarks:

Ice-dam formation was successful using the methods described in this report. Freeze/thaw cycles resulted in formation of liquid water underneath the ice-dam while the underside of the sheathing was controlled to 50°F. Water infiltration through The Edge™ Vent and through slot in the sheathing was not demonstrated as a result of these methods.

Statement of Attestation:

The performance evaluation of The Edge™ Vent was determined in accordance with methods described herein. The laboratory test results presented in this report are representative of the material supplied.

Signed: _____

Zach Priest
Director

Date: September 20, 2011

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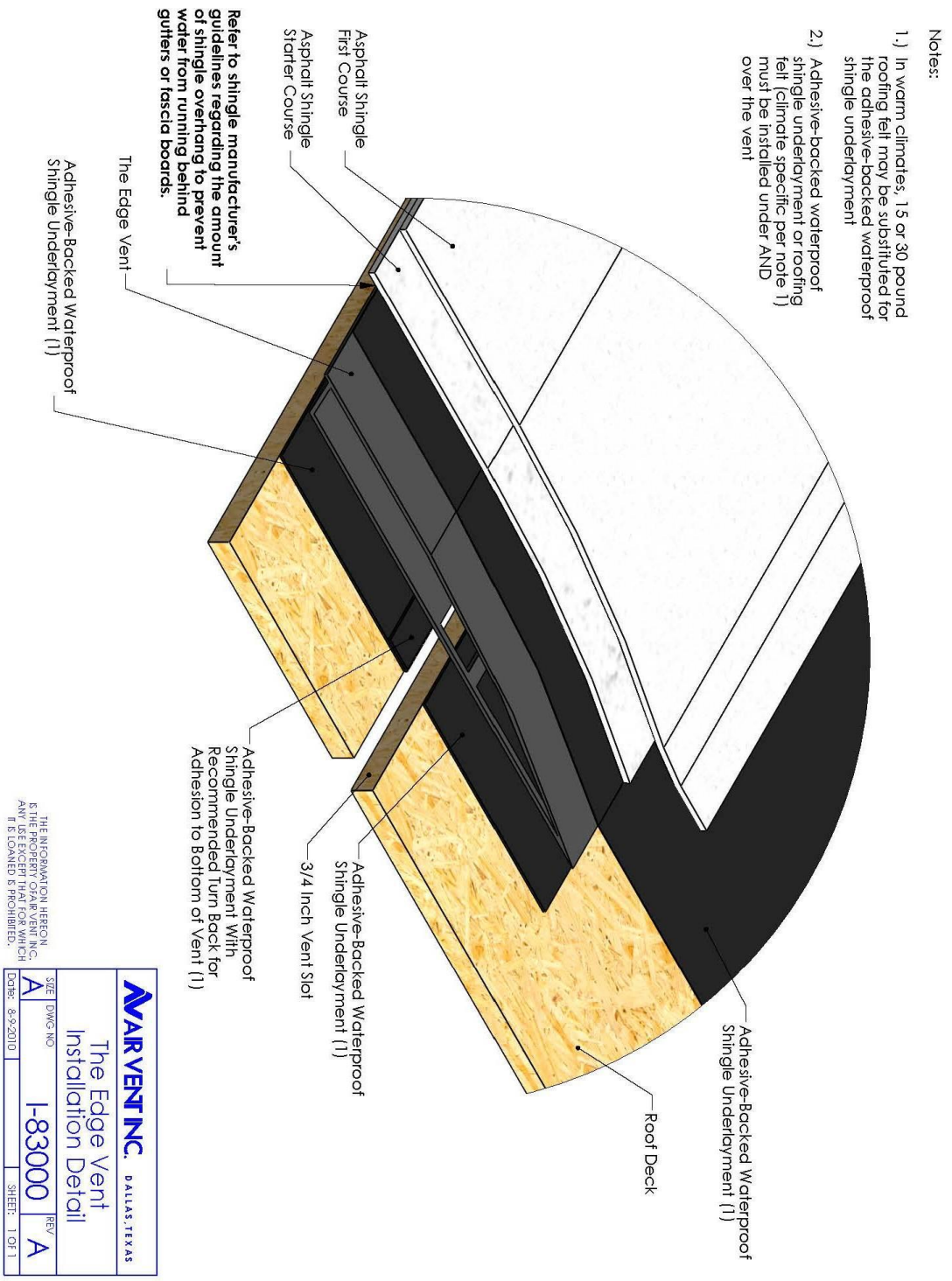


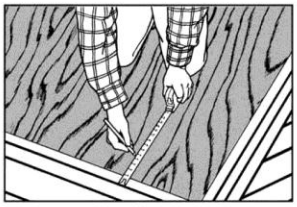
The Edge™ Vent

Installation Instructions

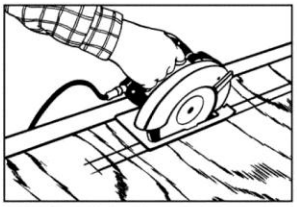
The Edge Vent is designed for asphalt shingled residential roofs with minimum 3/12 pitch.
The Edge Vent should only be used at the edge of the roof for intake venting applications.

Important Notes

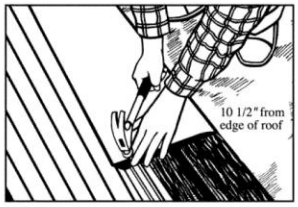
1. It is recommended that edge flashing be used underneath The Edge Vent to conceal the roof deck-fascia board intersection.
2. See instructions below for cutting the slot.
3. When installing in cold weather, leave a 1/8″ gap between consecutive Edge Vent sections to allow for thermal expansion.
4. All nails used to pre-fasten The Edge Vent and to install shingles over The Edge Vent should be of sufficient length to fully penetrate the underside of the roof deck.
5. Avoid nailing starter and first course shingles through the roof deck slot. This area is marked on the top of the vent.
6. Run The Edge Vent the full length of the eave.
7. Felt (warm weather climates) or adhesive-backed waterproof shingle underlayment (cold weather climates) must be installed over top of The Edge Vent and flashed beneath the next layer to ensure that the water drains from the roof over the top of The Edge Vent.
8. Felt (warm weather climates) or adhesive-backed waterproof shingle underlayment (cold weather climates) must be installed on the roof deck beneath the Edge Vent to help protect the integrity of the deck. NOTE: Slot must be cut through the felt or underlayment for airflow.



1. Remove all roofing materials for re-roof applications. Install edge flashing & gutter straps as necessary. Measure 5″ from edge flashing bend to mark lower slot line. Measure 3/4″ further up to mark upper slot line.



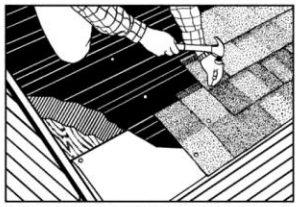
2. Cut slot with circular saw. **WARNING:** *Adjust depth of blade to avoid cutting rafters or trusses.* Refer to drawings below for slot dimensions. Remove debris from slot. Install either felt (warm weather climates) or waterproof shingle underlayment (cold weather climates) onto the bare deck 10 1/2″ from the edge of roof up the slope, covering the vent slot and the area where the vent will sit when installed.



3. Making sure the slot is open from step #2, position The Edge Vent over slot. Make sure that the lower edge of the venting is aligned with the edge flashing. Start at end of roof so that end plug is flush with end. Locating tabs on underside of The Edge Vent may assist in positioning over slot. Use reinforced nail holes to pre-fasten vent in place.

4. Use utility knife to cut final section to length. Integrated end plug of final section should be flush with end of roof. Pre-fasten final section.

5. Install either felt (warm weather climates) or waterproof shingle underlayment (cold weather climates) over The Edge Vent being careful to avoid nailing into the roof deck slot. Using a chalk line, transfer the nail line (2 5/8″ from drip edge) and slot location (5 3/4″ to 7″ from drip edge) to the top of the felt or waterproof shingle underlayment.



6. Install starter and first course shingles over felt/waterproof shingle underlayment-covered Edge Vent using shingle manufacturer guidlines for shingle overhang and nailing requirements. Nailing patterns may have to deviate from some shingle installation instructions to avoid nailing in slot location.

INSTRUCTIONS FOR CUTTING SLOTS

Slot cut | Vent run | End wall

Hip & Gable Roofs
Cut 3/4″ slot 5″ up from drip edge. Terminate slot 6″ inside of end walls and 12″ from hip ridges. See Figure 7.

Roofs with Valleys
Cut 3/4″ slot 5″ up from drip edge. Terminate slot 6″ inside of end walls and at least 12″ from valleys. See Figure 8.

Chimneys
Cut 3/4″ slot 5″ up from drip edge. Terminate slot 12″ from chimneys that penetrate the roof. See Figure 9.

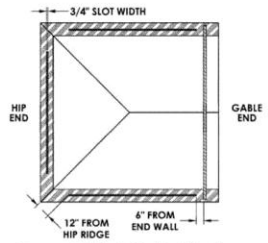


Figure 7 Hip & Gable Roofs

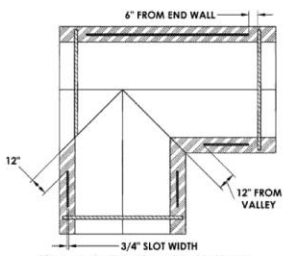


Figure 8 Roofs with Valleys

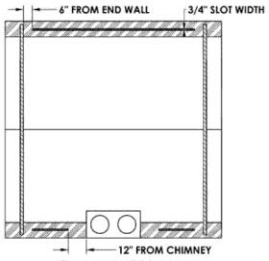


Figure 9 Chimneys

NOTE: Air Vent's written warranty for this product shall not apply in any instance in which the product was not installed in accordance with the instructions contained herein.