



CONSTRUCTION MATERIALS

TECHNOLOGIES

WATER PONDING EVALUATION OF THE EDGE™ VENT (PROJECT NO. AVIG-004-02-01)

For

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

JUNE 20, 2011

Purpose: Evaluate water ponding resistance and susceptibility of The Edge™ Vent when installed at a 3:12 roof slope and in accordance with the Manufacturer's directions.

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.

Water Ponding Susceptibility Test

This test was conducted to understand the susceptibility of developing standing water on the roof system at the transition between the 3:12 roof slope and The Edge™ Vent. The Edge™ Vent and the roof system were installed per the client's specifications and directions. The system was evaluated for ponding water by subjecting the test specimen to water spray with the use of a spray tube constructed with 3/32" diameter holes drilled 1/2" o.c. along the length of the tube. The tube was placed two (2) shingle courses above the transition point (test area) at The Edge™ Vent. The specimen was examined under "low" flow and "high" flow conditions to simulate different amounts of rainfall. Each test was conducted by first "wetting" the surface to minimize water surface tension effects and then subjecting the specimen to a continuous flow of water for a period of one (1) minute. The specimen was allowed to rest for a period of one (1) minute before examination. Examination involved both a visual inspection and aspiration of any residual water in the test area of the specimen. The total aspirated water/lin.ft was measured and reported.

Water Ponding Resistance Test

This test was conducted to understand the water resistance performance of The Edge™ Vent when installed at a 3:12 roof slope in accordance with the client's specifications and directions. The system was evaluated for water resistance performance by subjecting the test specimen to a constant head of standing water for minimum of 3 days. The total head of water at the eave was 4". The underside of the specimen was examined for water leakage at the conclusion of this period.

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 3/4" 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.

AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

Results:

Water Ponding Susceptibility Test

The following photographs serve to document the condition of the test area of specimen after subjecting to “low” flow and “high” flow conditions.

Photographs of Ponding Water after “Low” Water Flow



Photographs of Ponding Water after “High” Water Flow



AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

The following table contains the measurement of aspirated water that was recovered from test area after each flow condition.

Water Flow Rate (GPM)	Volume of Water Recovered from Test Area (mL/lin.ft)
0.54 (Low)	9.78
1.26 (High)	5.13

Water Ponding Resistance Test

The following photographs serve to document the condition of the specimen before, during, and after testing.

Top of Specimen Prior to Water Ponding Resistance Testing



AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

Underside of Specimen Prior to Water Ponding Resistance Testing



Specimen During Water Ponding Resistance Testing



AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

Underside of Specimen After Water Ponding Resistance Testing



AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

Concluding Remarks:

Water Ponding Susceptibility Test

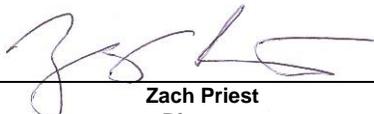
Water accumulation, though slight, was more pronounced at the test area of the shingles as compared to the shingles at the 3:12 roof slope above the test area. "Low" flow conditions did result in greater accumulation of water than the "High" flow condition. However, the significance and validity of this difference is in question without further replication of data.

Water Ponding Resistance Test

The specimen, as tested, resisted water infiltration to the underside of the roof deck with a 4" standing head of water for a minimum period of three (3) days.

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.

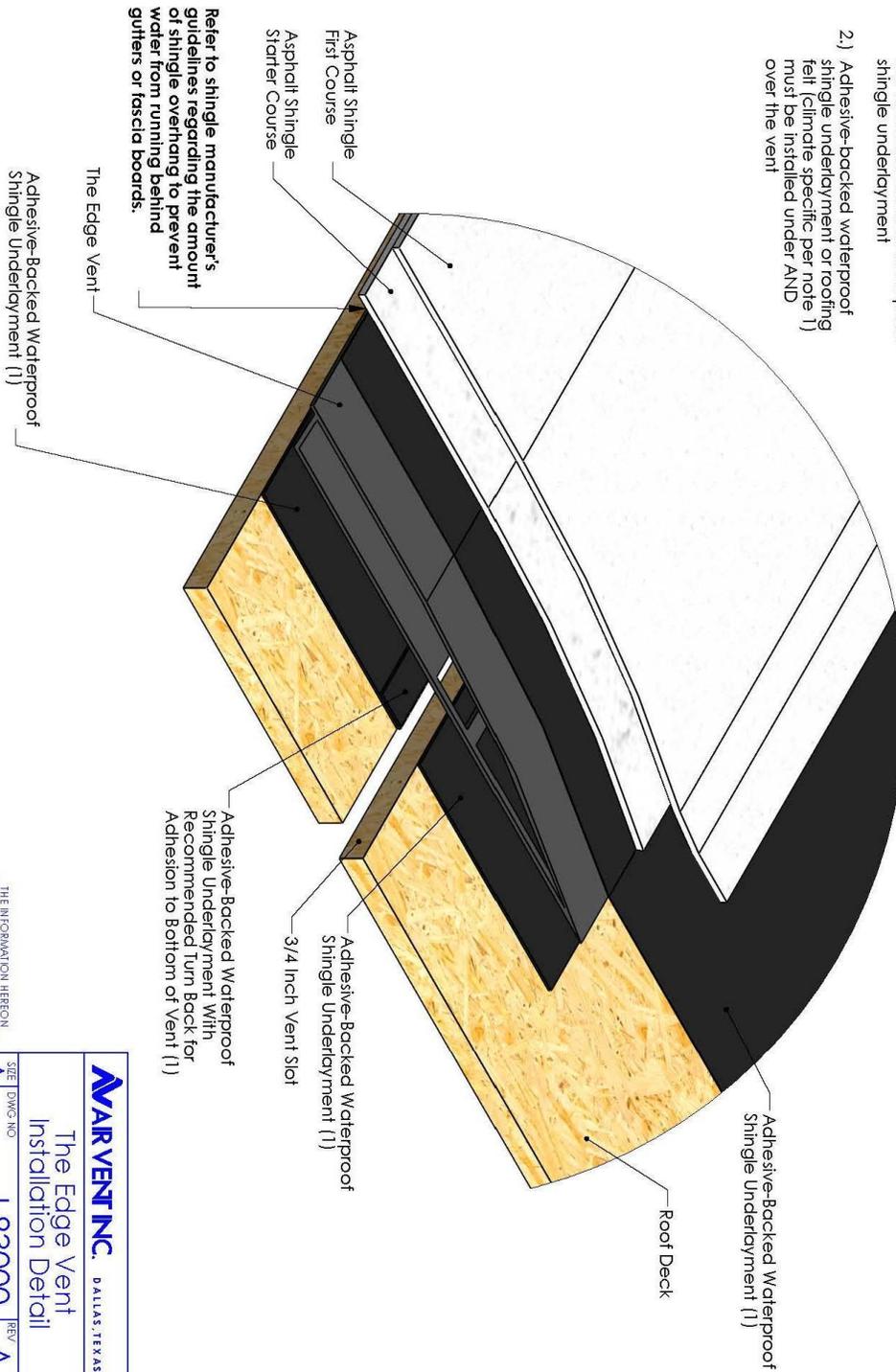
Signed: 

Zach Priest
Director

Date: June 20, 2011

AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC
The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

- Notes:
- 1.) In warm climates, 15 or 30 pound roofing felt may be substituted for the adhesive-backed waterproof shingle underlayment
 - 2.) Adhesive-backed waterproof shingle underlayment or roofing felt (climate specific per note 1) must be installed under AND over the vent



THE INFORMATION HEREON IS THE PROPERTY OF AIR VENT, INC. ANY USE EXCEPT THAT FOR WHICH IT IS LOANED IS PROHIBITED.

AIR VENT INC.		DALLAS, TEXAS	
The Edge Vent Installation Detail			
SIZE	DWG. NO.	REV	
A	I-83000	A	
DATE:	06-20-10	SHEET:	1 OF 1

AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.

The Edge™ Vent

Installation Instructions

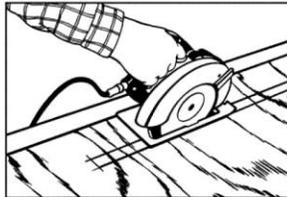
The Edge Vent is designed for asphalt shingled residential roofs with minimum 3/12 pitch.
The Edge Vent should only be used at the edge of the roof for intake venting applications.

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 guidelines 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



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.

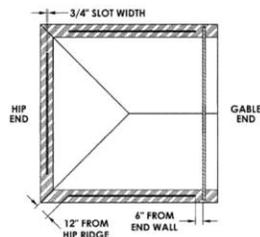


Figure 7 Hip & Gable Roofs

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.

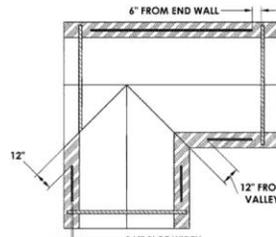


Figure 8 Roofs with Valleys

Chimneys

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

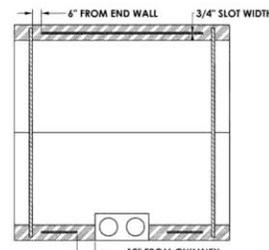


Figure 9 Chimneys

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.

AVIG-004-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 06-1116.02; State of Florida TST5878; CRRC

The test results, opinions, or interpretations are based on the material supplied by the client. This report is for the exclusive use of stated client. No reproduction or facsimile in any form can be made without the client's permission. This report shall not be reproduced except in full without the written approval of this laboratory. PRI Construction Materials Technologies LLC assumes no responsibility nor makes a performance or warranty statement for this material or products and processes containing this material in connection with this report.