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Product Approval
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OFFICE OF THE SECRETARY

FL #	FL16624-R4								
Application Type	Revision								
Code Version	2017								
Application Status	Approved								
Comments									
Archived	<input type="checkbox"/>								
Product Manufacturer	GAF/LL Building Products, Inc sub of GAF								
Address/Phone/Email	1 Campus Drive Parsippany, NJ 07054 (800) 766-3411 mstieh@gaf.com								
Authorized Signature	Michael Stieh mstieh@gaf.com								
Technical Representative	Steve Boehling								
Address/Phone/Email	295 McKoy Road Burgaw, NC 28425 sboehling@gaf.com								
Quality Assurance Representative	Enrique Morales								
Address/Phone/Email	295 McKoy Road Burgaw, NC 28425 emorales@gaf.com								
Category	Roofing								
Subcategory	Roofing Accessories that are an Integral Part of the Roofing System								
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <input type="checkbox"/> Evaluation Report - Hardcopy Received								
Florida Engineer or Architect Name who developed the Evaluation Report	Robert Nieminen								
Florida License	PE-59166								
Quality Assurance Entity	Intertek Testing Services NA, Inc. - QA Entity								
Quality Assurance Contract Expiration Date	10/13/2019								
Validated By	John W. Knezevich, PE <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received								
Certificate of Independence	FL16624_R4_COI_2017_01_COI_Nieminen.pdf								
Referenced Standard and Year (of Standard)	<table border="0"> <thead> <tr> <th>Standard</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>ASTM G155</td> <td>2005</td> </tr> <tr> <td>TAS 100(A)</td> <td>1995</td> </tr> <tr> <td>TAS 110</td> <td>2000</td> </tr> </tbody> </table>	Standard	Year	ASTM G155	2005	TAS 100(A)	1995	TAS 110	2000
Standard	Year								
ASTM G155	2005								
TAS 100(A)	1995								
TAS 110	2000								
Equivalence of Product Standards Certified By									
Sections from the Code									

Product Approval Method	Method 1 Option D
Date Submitted	10/13/2017
Date Validated	10/16/2017
Date Pending FBC Approval	10/17/2017
Date Approved	12/12/2017

Summary of Products

FL #	Model, Number or Name	Description
16624.1	GAF MasterFlow Attic Ventilation Products	Off-ridge, mechanical exhaust vents
Limits of Use Approved for use in HVHZ: No Approved for use outside HVHZ: Yes Impact Resistant: N/A Design Pressure: N/A Other: Refer to ER Section 5		Installation Instructions FL16624_R4_II_2017_10_FINAL_ER_LLBP_Ventilation_FL16624-R4.pdf Verified By: Robert Nieminen PE-59166 Created by Independent Third Party: Yes Evaluation Reports FL16624_R4_AE_2017_10_FINAL_ER_LLBP_Ventilation_FL16624-R4.pdf Created by Independent Third Party: Yes

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Contact Us :: 2601 Blair Stone Road, Tallahassee FL 32399 Phone: 850-487-1824

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EXTERIOR RESEARCH & DESIGN, LLC.

Certificate of Authorization #9503
353 CHRISTIAN STREET, UNIT #13
OXFORD, CT 06478
(203) 262-9245

EVALUATION REPORT

GAF/LL Building Products, Inc. subsidiary of GAF

1 Campus Drive
Parsippany, NJ 07054
(800) 766-3411

Evaluation Report L46780.10.13-R4

FL16624-R4

Date of Issuance: 10/22/2013

Revision 4: 10/13/2017

SCOPE:

This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code and Florida Building Code, Residential Volume. The products described herein have been evaluated for compliance with the **6th Edition (2017) Florida Building Code** sections referenced herein.

DESCRIPTION: GAF Master Flow[®] Attic Ventilation Products

LABELING: Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Evaluation Report number preceded by the words "Trinity|ERD Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

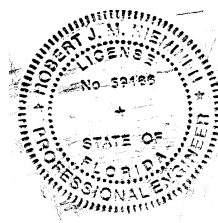
INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 5.

Prepared by:

Robert J.M. Nieminen, P.E.

Florida Registration No. 59166, Florida DCA ANE1983



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 10/13/2017. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. Trinity|ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Trinity|ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

ROOFING COMPONENT EVALUATION:

1. SCOPE:

Product Category: Roofing
Sub-Category: Roofing Accessories that are an Integral Part of the Roofing System
Compliance Statement: **GAF Master Flow® Attic Ventilation Products**, as produced by **LL Building Products, Inc., subsidiary of GAF**, have demonstrated compliance with the following sections of the **6th Edition (2017) Florida Building Code**. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. CODE SECTIONS:

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1523.6.5.2.13	Wind Driven Rain	TAS 100(A)	1995
1523.6.5.2.13.1	Physical Properties	TAS 110	2000
2615.2	Weatherometer	ASTM G155	2005

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
Miami-Dade (CER1592)	HVHZ Compliance	15-0812.18	10/18/2015
Miami-Dade (CER1592)	HVHZ Compliance	13-0926.16	04/21/2016
PRI (TST 5878)	Physical Properties / Weatherometer	GAF-138-02-06	06/06/2008
PRI (TST 5878)	Wind Driven Rain	LLB-019-02-01	07/12/2013
PRI (TST 5878)	Wind Driven Rain	GAF-739-02-01	11/30/2016
ITS (QUA1673)	Quality Control	Inspection Report	10/13/2017

4. PRODUCT DESCRIPTION:

- 4.1 **Master Flow® Green Machine™ High-Power Solar Roof Vent** is an off-ridge, solar-powered mechanical roof exhaust vent with a base and hood of polymer-injection mold fabrication (Section 10, Figure 1). The Solar-Powered Model (**PRSOLAR2**) is designed to operate only when exposed to sunlight. The Dual-Powered Model (**PRHYBRID2**) is designed to operate when exposed to sunlight and includes electrical (house-powered) back-up.
- 4.2 **Master Flow® Green Machine™ Solar-Powered EcoSmart Roof Vent (ERVSOLAR1)** is an off-ridge, solar-powered mechanical roof exhaust vent with a 0.020-inch thick galvanized steel base and hood (Section 10, Figure 1). The **ERVSOLAR1** is designed to operate only when exposed to sunlight.
- 4.2.1 **Master Flow® Green Machine™ Dual-Powered EcoSmart Roof Vent (ERVHYBRID1)** is the same as ERVSOLAR1, but is designed to operate when exposed to sunlight and includes electrical (house-powered) back-up.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This Evaluation Report is not for use in FBC HVHZ jurisdictions.
- 5.3 This Evaluation Report covers installations at mean roof height less than or equal to 33 ft.
- 5.4 The minimum slope is 2:12.
- 5.5 **Master Flow® Attic Ventilation Products** are for use with asphalt-composition shingle roofs only.
- 5.6 Installation shall result in balanced minimum net free ventilation area meeting the requirements set forth in **FBC 1203.2** using adequate intake ventilation.

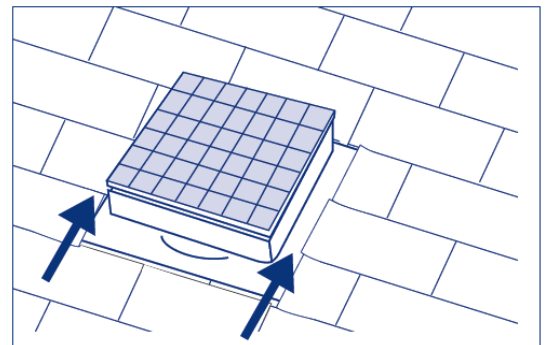
6. INSTALLATION:

6.1 **GAF Master Flow[®] Attic Ventilation Products** shall be installed in accordance with **GAF** published installation requirements subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.1.1 The specifics herein pertain to attachment of the vent to the roof deck, as tested, to meet wind load requirements at mean roof height less than or equal to 33 ft. Refer to published installation requirements for other important aspects of the installation.

6.2 Master Flow[®] Green Machine[™] High-Power Solar Roof Vent:

6.2.1 After locating, measuring, marking, cutting-out and testing the position, remove the unit from the test position, remove the unit from the test position and apply ASTM C920 urethane sealant such as Henkel PL[®] or Sonneborne[®] NP-1[™] at the perimeter of the underside of the unit's horizontal flange. Apply sealant in two ¼-inch diameter continuous beads around the entire perimeter; the first approximately 1-inch from the vent stack wall; the second approximately 1-inch from the flange edge. Align the unit over the cut-out and slide into place with the top half of the flange beneath shingles and the bottom half of the flange atop shingles. Ensure that the arrow marked on the flange points up towards the roof peak. Ensure complete contact between the sealant and the roof deck at the top half and between the sealant and the shingles at the bottom half.



6.2.2 Fasten the horizontal flange to the min. 15/32-inch thick, 4-ply APA 32/16 span rated plywood roof deck using 12 ga, min. 1.25-inch long galvanized ring shank roofing nails at the guide-marks on the flange, located at all four corners and 4-inch o.c. at the perimeter. Finish by sealing exposed nail heads and sealing-down any raised shingles at the top half of the flange using the urethane sealant noted above.

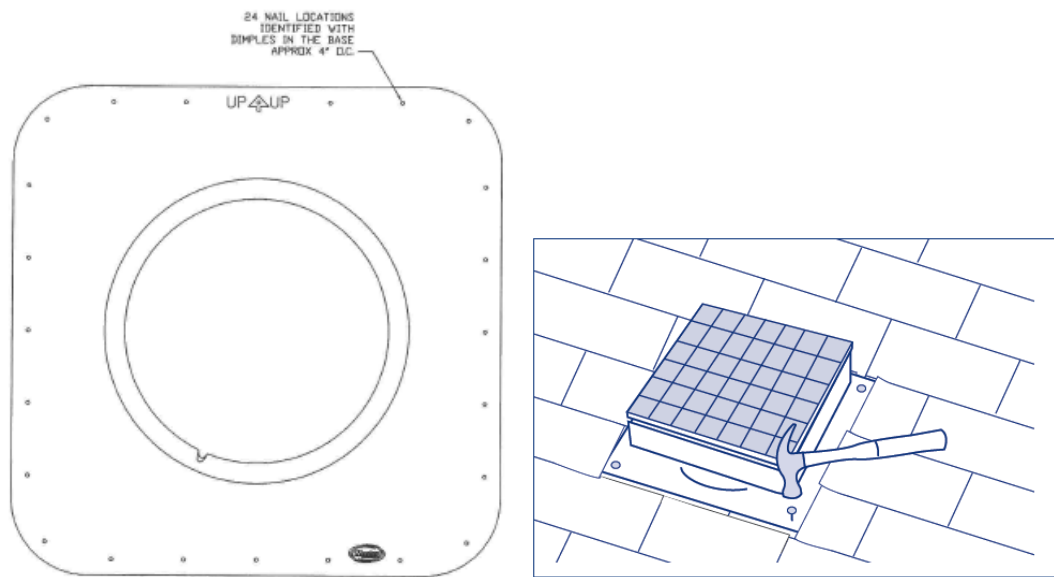


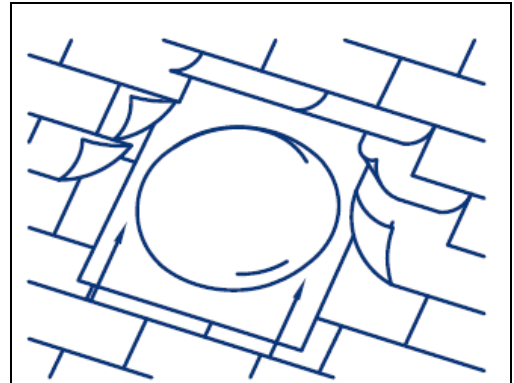
Figure 1: Nailing Schedule; Master Flow[®] Green Machine[™] High-Power Solar Roof Vent

6.3 Master Flow® Green Machine™ Solar-Powered EcoSmart Roof Vent (ERVSOLAR1) and Master Flow® Green Machine™ Dual-Powered EcoSmart Roof Vent (ERVHYBRID1):

6.3.1 After locating, marking, cutting and preparing the opening in accordance with **GAF** published requirements, apply ASTM C920 sealant to the underside of the vent's base unit as follows:

- ✓ One ½-inch wide bead around the inner perimeter, located ¼-inch from the circular throat.
- ✓ One ½-inch wide bead around the outer perimeter, located ¼-inch from the outside edges.

Slide the vent up under the top shingles, with the arrow on the flashing pointing up-slope. Leave the lower portion of the vent flashing on top of the shingles.



6.3.2 Fasten the base flange to the min. 15/32-inch thick APA span rated plywood roof deck using twenty (20) minimum 12 ga, min. 1.5-inch long corrosion resistant roofing nails as follows:

- ✓ 1-inch from the base edge, at all four corners and 5.75-inch o.c. at the perimeter.
- ✓ 1-inch from the base unit throat at 90° around the circular opening.

Finish by sealing exposed nail heads and sealing-down any raised shingles at the top half of the flange using the roofing cement or urethane sealant noted above.

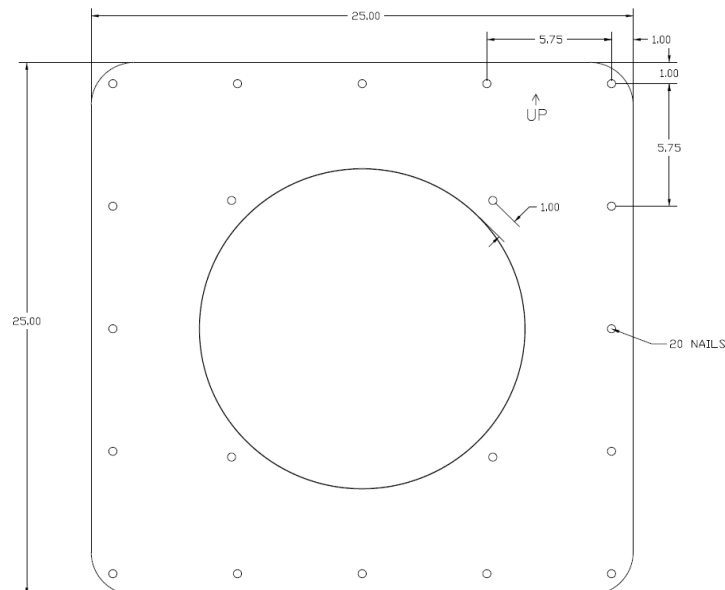
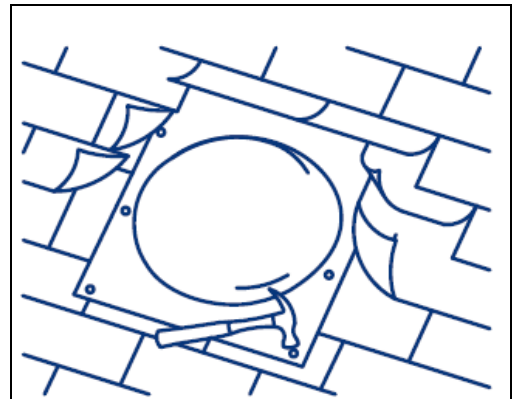


Figure 2: Nailing Schedule; Master Flow® Green Machine™ Solar-Powered EcoSmart Roof Vent (ERVSOLAR1) and Master Flow® Green Machine™ Dual-Powered EcoSmart Roof Vent (ERVHYBRID1)

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Burgaw, NC

9. QUALITY ASSURANCE ENTITY:

Intertek Testing Services NA Inc. – QUA1673; (608) 836-4400; danica.goss@intertek.com

10. DRAWINGS:

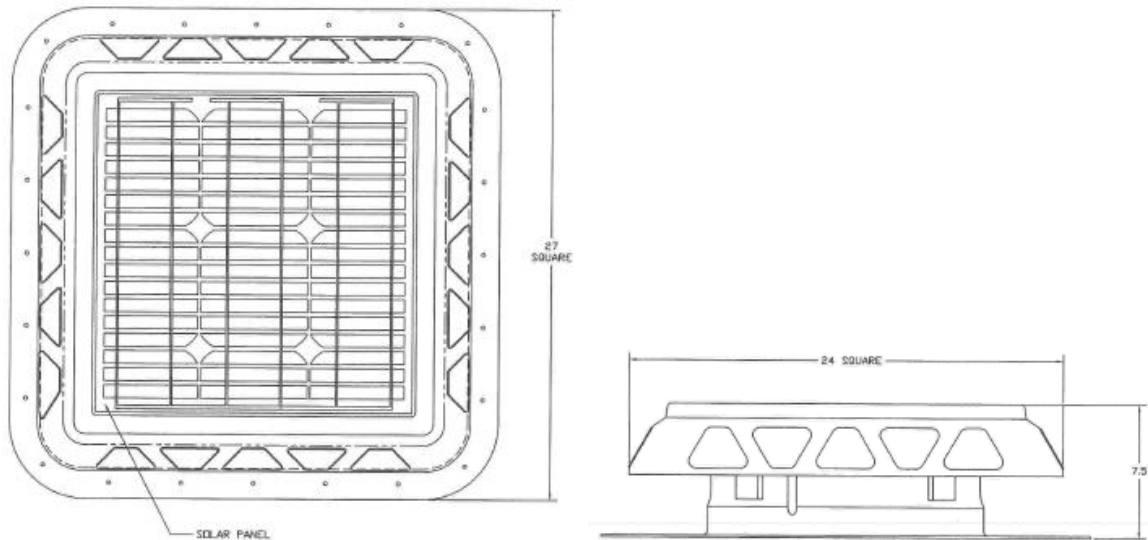


Figure 3: Master Flow® Green Machine™ High-Power Solar Roof Vent

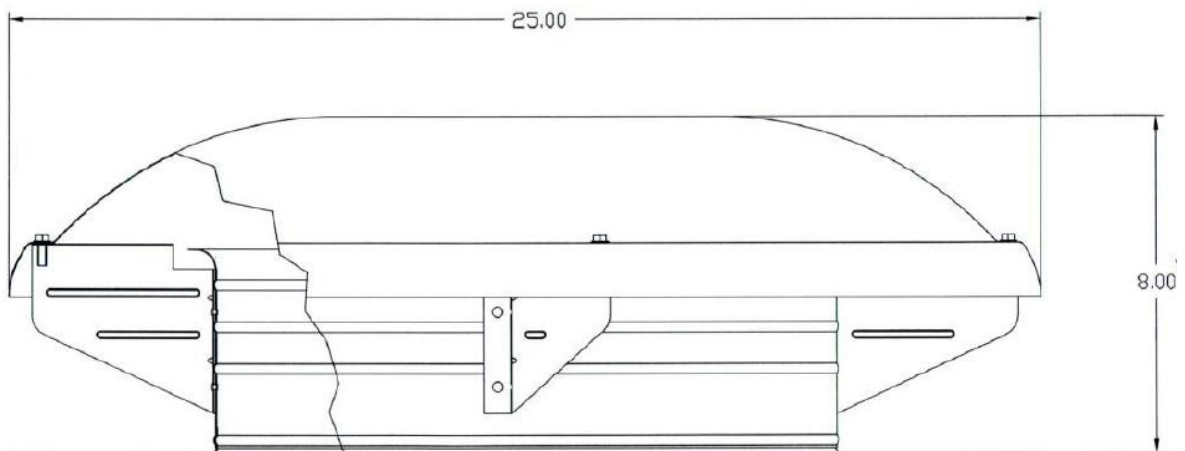


Figure 2: Master Flow® Green Machine™ Solar-Powered EcoSmart Roof Vent (ERVSOLAR1) and Master Flow® Green Machine™ Dual-Powered EcoSmart Roof Vent (ERVHYBRID1)

- END OF EVALUATION REPORT -