POTTORFF®

model **ECV-345-MD**
extruded aluminum louver
3" deep • 45° vertical blade

Application

The ECV-345-MD louver is engineered and tested to withstand extreme loads, debris impact, and cyclic fatigue associated with the severe weather effects of hurricanes (Miami-Dade County approval #20-0526.08). The design uses closely-spaced blades and a frame with built-in gutter and downspouts to achieve maximum water infiltration resistance for minimal louver depth. The ECV-345-MD is AMCA 540 and 550 listed, making it ideally suited for use in hurricane-prone and windborne debris regions as per the International Building Code.

Standard Construction

Material: Mill finish 6063 extruded aluminum.

Frame: 3" deep × 0.075" thick (84 × 1.9) channel.

Blades: 45° × 0.06" (1.5) thick vertical chevron style.

Screen: ½" × 0.063" (12.7 × 1.6) expanded and flattened aluminum.

Mullion: Visible.

Sill Flashing: Closed end.

Minimum Size: 12" × 12" (305 × 305)

Maximum Size: Single section: 60" × 96" (1524 × 2438)
Multiple section: Unlimited width × 96" (2438)

Shipping Weight (approximate): 6 lbs/ft² (26 kg/m²)

Installation Hardware: Standard continuous angles and associated fasteners (anchors to substrate by others - refer to installation instructions).

Options

- ☐ Factory finish:
  - ☐ High Performance Fluoropolymer - 100% resin Newlar / 70% resin Kynar®
  - ☐ Baked Enamel
  - ☐ Clear or Color Anodized, Class 1
  - ☐ Prime Coat
- ☐ 1½" (38) flange frame.
- ☐ Alternate bird or insect screens.
- ☐ Insulated or non-insulated blank-off panels.
- ☐ Head flashing.
- ☐ Filter racks.

Ratings

Free Area: [48" × 48" (1219 × 1219) unit]: 7.5 ft² (0.70 m²)
46.9%

Performance @ Beginning Point of Water Penetration
Free Area Velocity: 1250 fpm (6.35 m/s)
Air Volume Delivered: 9375 cfm (4.42 m³/s)
Pressure Loss: 0.19 in.wg. (47 Pa)

Velocity @ 0.15 in.wg. Pressure Loss: 1106 fpm (5.62 m/s)

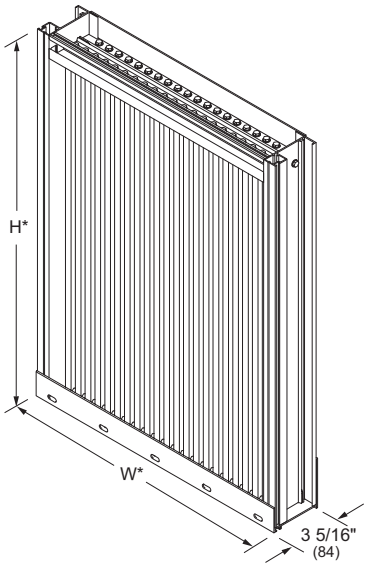
AMCA 540 (impact resistant, basic protection, level D) listed.

AMCA 550 (high velocity rain resistant) listed.

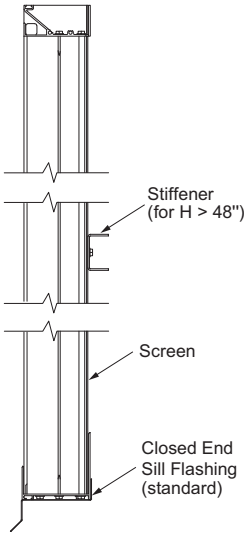
Miami Dade County: NOA No. 20-0526.08 (Expires 7/23/2025)
Approved to FBC TAS201-94, TAS202-94 and TAS203-94 and TAS100(A)-95.

Florida Building Code Approval (2017-FBC): No. FL32625

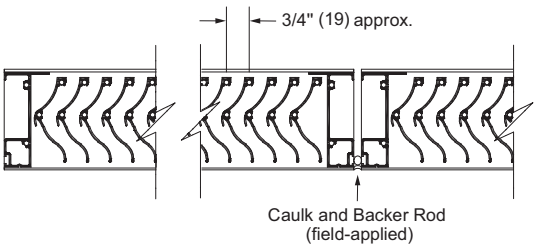
Design Load: 100 psf (4.8k Pa)



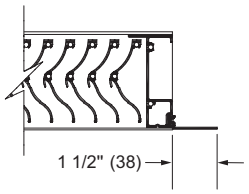
Model **ECV-345-MD**
(standard)
*Louver dimensions furnished approximately 1/2" (13) undersize.



Vertical Section
†Screen adds approximately 3/16" (5) to louver depth.



Visible Vertical Mullion
(standard)



Flange Frame
(optional)

Certified Ratings:
Pottorff certifies that the model ECV-345-MD shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to air performance, water penetration and wind-driven rain ratings.

HIGH VELOCITY RAIN RESISTANT WITH BLADES FULLY OPEN AND IMPACT RESISTANT LOUVER
Basic Protection Level D
See www.AMCA.org for all certified or listed products
This label does not signify AMCA airflow performance certification.

Certified Ratings:
Pottorff certifies that the model ECV-345-MD shown herein is approved to bear the AMCA Listing Label. The ratings shown are based on tests and procedures performed in accordance with AMCA publications and comply with the requirements of the AMCA Listing Label Program. The AMCA Listing Label applies to High Velocity Rain and Impact resistance.

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses ( ) are millimeters.

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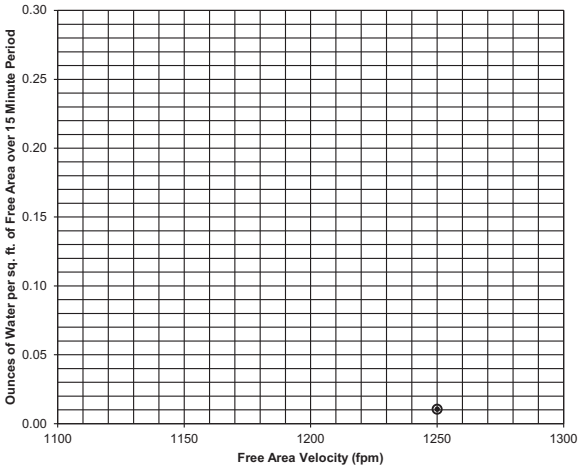
Free Area (ft^2)

Width (Inches)

Height (Inches)	12	18	24	30	36	42	48	54	60
12	**0.2**	0.4	0.6	0.8	0.9	1.1	1.3	1.4	1.6
18	0.5	**0.8**	1.1	1.4	1.7	2.0	2.3	2.6	2.9
24	0.7	1.1	**1.6**	2.0	2.4	2.9	3.3	3.8	4.2
30	0.9	1.5	2.0	**2.6**	3.2	3.8	4.4	5.0	5.5
36	1.1	1.8	2.5	3.2	**4.0**	4.7	5.4	6.1	6.9
42	1.3	2.1	3.0	3.9	4.7	**5.6**	6.5	7.3	8.2
48	1.5	2.5	3.5	4.5	5.5	6.5	**7.5**	8.5	9.5
54	1.7	2.8	4.0	5.1	6.3	7.4	8.5	**9.7**	10.8
60	1.9	3.2	4.5	5.7	7.0	8.3	9.6	10.9	**12.1**
66	2.1	3.5	4.9	6.4	7.8	9.2	10.6	12.0	13.5
72	2.3	3.9	5.4	7.0	8.5	10.1	11.7	13.2	14.8
78	2.5	4.2	5.9	7.6	9.3	11.0	12.7	14.4	16.1
84	2.7	4.6	6.4	8.2	10.1	11.9	13.7	15.6	17.4
90	2.9	4.9	6.9	8.9	10.8	12.8	14.8	16.8	18.7
96	3.1	5.3	7.4	9.5	11.6	13.7	15.8	17.9	20.1

Water Penetration

Beginning Point of Water Penetration = 1250 fpm



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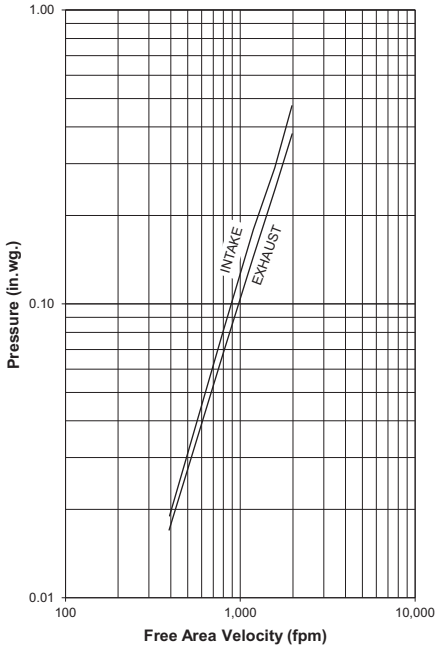
Pressure Loss

(Data corrected to standard air density)



Louver Test Size = 48" x 48" (1219 x 1219)
Pressure loss tested in accordance with Figure 5.5 of AMCA Standard 500-L.

Water Penetration

AMCA defines the beginning point of water penetration as the free area velocity at the intersection of a simple linear regression of test data and the line of 0.01 ounces of water per square foot of free area measured through a 48" × 48" louver during a 15 minute period. The AMCA water penetration test provides a method for comparing louver models and designs as to their efficiency in resisting the penetration of rainfall under specific lab conditions. Pottorff recommends that intake louvers are selected with a reasonable margin of safety below the beginning point of water penetration in order to avoid unwanted penetration during severe storm conditions.

Selection Criteria

Follow the steps listed below to calculate the louver size needed to satisfy the required air volume while minimizing the adverse effects of water penetration and pressure loss.

1. Determine the Free Area Velocity (FAV) at the maximum allowable pressure loss using the *Pressure Loss* chart to the left. While job conditions vary, typically, the maximum allowable pressure loss should not exceed 0.15 in.wg., and the FAV for 0.15 in.wg. pressure loss is listed on the front page of this sheet.
2. **Intake Applications** If the FAV at the Beginning Point of Water Penetration (shown below) is less than the FAV from step 1, then use the FAV at the Beginning Point of Water Penetration in step 3, otherwise use the FAV from step 1.

   Exhaust Applications Use the FAV from step 1 in step 3.
3. Calculate the total louver square footage required using the following equation.

   _____ (Required Air Volume) cfm ÷ _____ (FAV) fpm = _____ (Required Louver (Free-Area) Size in ft^2) ft^2
4. Using the *Free Area* chart above, select a louver width and height that yields a free area ft^2 greater than or equal to the required louver size calculated in step 3.

Wind Driven Rain Performance — AMCA 500-L Wind Driven Rain Test

3 in/hr Rainfall & 29 mph Wind Speed				8 in/hr Rainfall & 50 mph Wind Speed			
Airflow	**Core Velocity[1]**	**Effectiveness**	**Class[2]**	**Airflow**	**Core Velocity[1]**	**Effectiveness**	**Class[2]**
10616 cfm	986 fpm	100%	A	10594 cfm	984 fpm	100%	A
Discharge Loss Coefficient Class[3] (Intake) = 2							

NOTES : 1. Core area is the open area of the louver face (face area less louver frame). Test louver core area is 39-3/8" x 39-3/8" (1000 x 1000).

2. Wind-Driven Rain Penetration Classes:

Class	Effectiveness
A	99% and above
B	95% to 98.9%
C	80% to 94.9%
D	below 80%

3. Discharge Loss Coefficient Classes:

Class	Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	below 0.2

Discharge loss coefficient is calculated by dividing the louver's actual airflow rate by theoretical airflow rate for an unobstructed opening. The higher the coefficient, the lower the resistance to airflow.

NOTE: Dimensions in parentheses ( ) are millimeters.