POTTORFF®

model **ECD-545-FL**
extruded aluminum louver
5" deep • 45° horizontal drainable blade

Application

The ECD-545-FL is engineered and tested to withstand the severe weather effects typically associated with hurricanes, including debris impact and static pressures up to 250 psf (Florida Building Code No. FL20766.2) Constructed from 6063-T5 extruded aluminum, the ECD-545-FL accommodates installations of unlimited width or height and single section assemblies up to 60" x 144" (1524 x 3658). Clip angles are supplied standard with all ECD-545-FL orders, but an optional fully-sleeved anchorless configuration is also available, allowing quick and easy installation to any building substrate without the use of mechanical anchors. The ECD-545-FL incorporates horizontal blades and is offered in a wide array of anodized and painted finishes, including custom color matching.

Standard Construction

Material: Mill finish 6063-T5 extruded aluminum.

Frame: 5" deep × 0.125" thick (127 × 3) channel.

Blades: 45° × 0.063" (1.6) thick horizontal drainable style.

Screen: 1/2" × 0.063" (12.7 × 1.6) expanded and flattened aluminum.

Mullion: Visible.

Minimum Size: 12" × 5" (305 × 127).

Maximum Size: Single section: 60" × 144" (1524 × 3658)
Multiple section: Unlimited width × 144" (3658) or 60" (1524) × unlimited height.

Installation Hardware: Clip 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

☐ 1 1/2" (38) flange frame.

☐ Alternate bird or insect screens.

☐ Insulated or non-insulated blank-off panels.

☐ Filter racks.

☐ Head and/or sill flashing.

☐ Full sleeve for anchorless installation [1 1/2" (38) flange frame required, opening height limited to 144" (3658)].

☐ Burglar bars:
☐ Shipped loose ☐ Shipped mounted

Ratings

Free Area: [48" × 48" (1219 × 1219) unit]: 6.7 ft² (0.62 m²)
41.9%

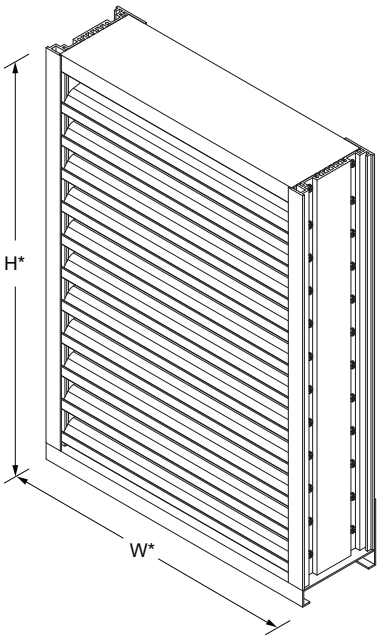
Performance @ Beginning Point of Water Penetration
Free Area Velocity: Above 1250 fpm (6.35 m/s)
Air Volume Delivered: Above 8388 cfm (3.96 m³/s)
Pressure Loss: 0.21 in.wg. (52 Pa)

Velocity @ 0.15 in.wg. Pressure Loss: 1057 fpm (5.37 m/s)

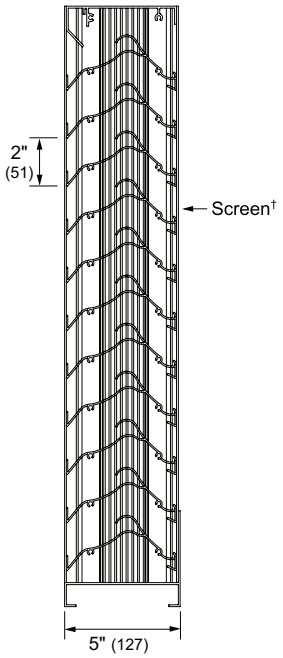
AMCA 540 (impact resistant) listed

Florida Building Code Approval (2014-FBC): No. FL20766.2

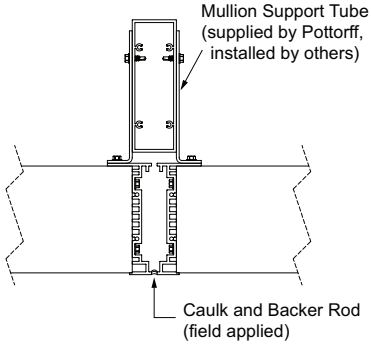
Design Load: Up to 250 psf - refer to FBC installation instructions for size and design load rating.



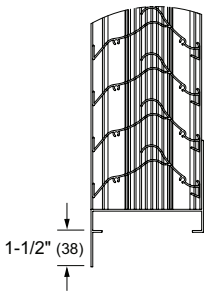
Model **ECD-545-FL**
(standard)
*Louver dimensions furnished approximately 1/2" (13) undersize.



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



Visible Mullion
(standard)



Flange Frame
(optional)

Certified Ratings:
Pottorff certifies that the model ECD-545-FL 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.

IMPACT RESISTANT
LOUVER
Basic Protection

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 ECD-545-FL 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 Wind Borne Debris Impact Resistant Louvers.

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses ( ) are millimeters.

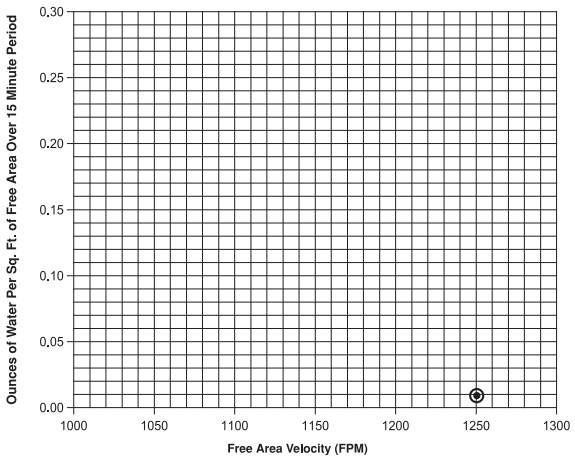
Free Area (ft^2)

Width (Inches)

Height (Inches)	12	18	24	30	36	42	48	54	60
5	0.07	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5
12	**0.2**	0.3	0.5	0.6	0.7	0.9	1.0	1.2	1.3
18	0.4	**0.6**	0.9	1.2	1.4	1.7	2.0	2.2	2.5
24	0.5	0.9	**1.3**	1.7	2.1	2.5	2.9	3.3	3.7
30	0.7	1.2	1.8	**2.3**	2.8	3.3	3.9	4.4	4.9
36	0.9	1.5	2.2	2.8	**3.5**	4.2	4.8	5.5	6.1
42	1.0	1.8	2.6	3.4	4.2	**5.0**	5.8	6.5	7.3
48	1.2	2.1	3.0	4.0	4.9	5.8	**6.7**	7.6	8.5
54	1.4	2.4	3.5	4.5	5.6	6.6	7.7	**8.7**	9.7
60	1.6	2.7	3.9	5.1	6.3	7.4	8.6	9.8	**10.9**
66	1.7	3.0	4.3	5.6	6.9	8.2	9.6	10.9	12.2
72	1.9	3.3	4.8	6.2	7.6	9.1	10.5	11.9	13.4
78	2.1	3.6	5.2	6.8	8.3	9.9	11.4	13.0	14.6
84	2.3	3.9	5.6	7.3	9.0	10.7	12.4	14.1	15.8
90	2.4	4.2	6.1	7.9	9.7	11.5	13.3	15.2	17.0
96	2.6	4.5	6.5	8.4	10.4	12.3	14.3	16.2	18.2
102	2.8	4.9	6.9	9.0	11.1	13.2	15.2	17.3	19.4
108	2.9	5.2	7.4	9.6	11.8	14.0	16.2	18.4	20.6
114	3.1	5.5	7.8	10.1	12.5	14.8	17.1	19.5	21.8
120	3.3	5.8	8.2	10.7	13.2	15.6	18.1	20.6	23.0
126	3.5	6.1	8.7	11.3	13.8	16.4	19.0	21.6	24.2
132	3.6	6.4	9.1	11.8	14.5	17.3	20.0	22.7	25.4
138	3.8	6.7	9.5	12.4	15.2	18.1	20.9	23.8	26.6
144	4.0	7.0	9.9	12.9	15.9	18.9	21.9	24.9	27.9

Water Penetration

Beginning Point of Water Penetration = Above 1250 fpm



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 and is 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.

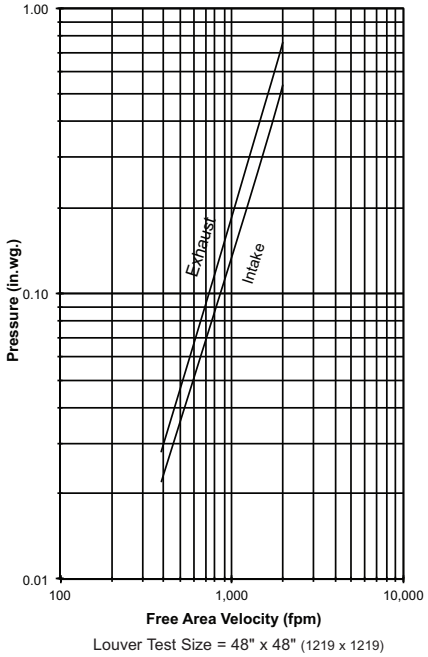
1. Determine the Free Area Velocity (FAV) at the maximum allowable pressure loss using the *Pressure Loss* chart to the left. While job conditions vary, typically, the maximum allowable pressure loss should not exceed 0.15 in.wg., and the FAV for 0.15 in.wg. pressure loss is listed on the front page 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.

   _____ cfm ÷ _____ fpm = _____ ft^2

   Required Air Volume | FAV | Required Louver (Free-Area) Size in 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.

Pressure Loss (Standard Air Density @ 0.075 lbs./ft.)



Louver Test Size = 48" x 48" (1219 x 1219)

Pressure loss tested in accordance with Figure 5.5 of AMCA Standard 500-L.

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

Test louver Core Area[1] is 39 3/8" × 39 3/8".

Wind Velocity	Rainfall	Airflow	Core Velocity	Effectiveness Ratio	Wind Class[2]	Discharge Class[3]
29 mph	3 in/hr	7361 cfm	684 fpm	99.4%	A	2
50 mph	8 in/hr	6068 cfm	564 fpm	99.0%	A	2

Wind Driven Rain[2]

Class	Effectiveness
A	1.000 to 0.99
B	0.989 to 0.95
C	0.949 to 0.80
D	0.799 to 0.00

Discharge Loss

Class	Coefficient[3]
1	0.4 to 1.000
2	0.3 to 0.399
3	0.2 to 0.299
4	0.0 to 0.199

NOTES

1. Core Area is the open area of the louver face (face area less louver frame). **2**. Wind Driven Rain Penetration Classes at right. **3**. Discharge classes at right. Discharge Loss Coefficient is calculated by dividing the louvers' actual airflow rate by the theoretical airflow rate for an unobstructed opening. The higher the coefficient the lower the resistance to air flow.

Information is correct at time of printing. However, we reserve the right to make changes without notice.

NOTE: Dimensions in parentheses ( ) are millimeters.

POTTORFF® 5101 Blue Mound Road, Fort Worth, Texas 76106 www.pottorff.com