

5DDWRG

Wind-Driven Rain Resistant Stationary Louver

Extruded Aluminum



APPLICATION

The 5DDWRG is 5" deep, mechanically fastened, extruded aluminum, double drainable, horizontal, stationary louver designed to protect air intake and exhaust openings in exterior walls. This louver offers exceptional protection against wind-driven rain under the most severe conditions. This louver is designed with a drainable gutter system that channels water from the blades to downspouts in the jams. Here, water is exhausted out of the front of the louver.

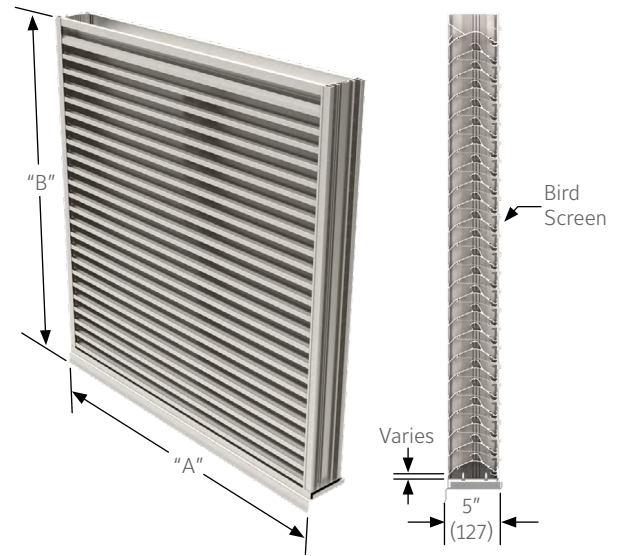
STANDARD CONSTRUCTION

Frame	5" (127) deep, 6063T6 extruded aluminum with .094 (2.4) nominal wall thickness.
Blades	6063T6 extruded aluminum .080 (2.0) nominal wall thickness. Double drainable blades are sightproof and spaced approximately 2" (51) center to center.
Screen	5/8" x .040" (16 x 1) expanded flattened aluminum bird screen in removable frame. Screen adds approximately 1/2" (13) to louver depth.
Finish	Mill.
Minimum Size	12"w x 12"h (305 x 305).
Approximate Shipping Weight	7 lbs. per sq. ft. (34.2 kg/m ²)
Maximum Factory Assembly Size	Single sections shall not exceed 120" x 90"h (3048 x 2286) or 90"w x 120"h (2286 x 3048). Louvers larger than the maximum single section size will require field assembly of smaller sections.
Supports	Louvers may be provided with rear mounted blade supports that increase overall louver depth depending on louver size, assembly configuration or windload.

Consult Reliable for additional information.

FEATURES

- Closely spaced horizontal blades minimize the penetration of wind-driven rain
- Wind-Driven Rain performance tested in accordance with AMCA 500-L
- Published performance ratings based on testing in accordance with AMCA Publication 511
- 47% Free Area
- Excellent pressure drop performance
- Aluminum construction for low maintenance and high resistance to corrosion
- TAS203 Cycle Pressure- 120psf

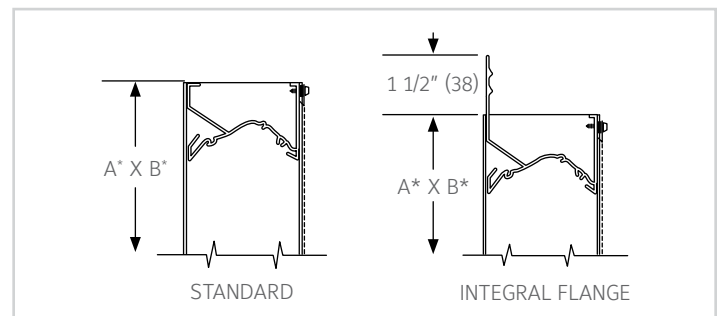


VARIATIONS

- Extended sill
- Hinged frame
- Front or rear security bars
- Filter racks
- Installation angles
- Universal sleeve
- Blank of panels
- Integral flange
- A variety of bird and insect screens
- Optional finishes available at additional cost: Prime coat, 50% PVDF (modified fluoropolymer), Epoxy, Pearledize, 70% PVDF, Clear and Anodized finishes. (Some variation in anodize color consistency is possible)

Consult Reliable for other special requirements.

FRAME CONSTRUCTION



Note:

- Dimensions in inches, parenthesis () indicate millimeters.
- Units can be furnished actual size or with size deducts.

PERFORMANCE DATA



IMPACT RESISTANT LOUVER
Basic Protection Level D

See www.AMCA.org for all certified or listed products

The label does not signify AMCA's warranty performance certification.



CYCLE TESTED PER AMCA 540

See www.AMCA.org for all certified or listed products

The label does not signify AMCA's warranty performance certification.

Reliable Products certifies that the 5DDWRG 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.

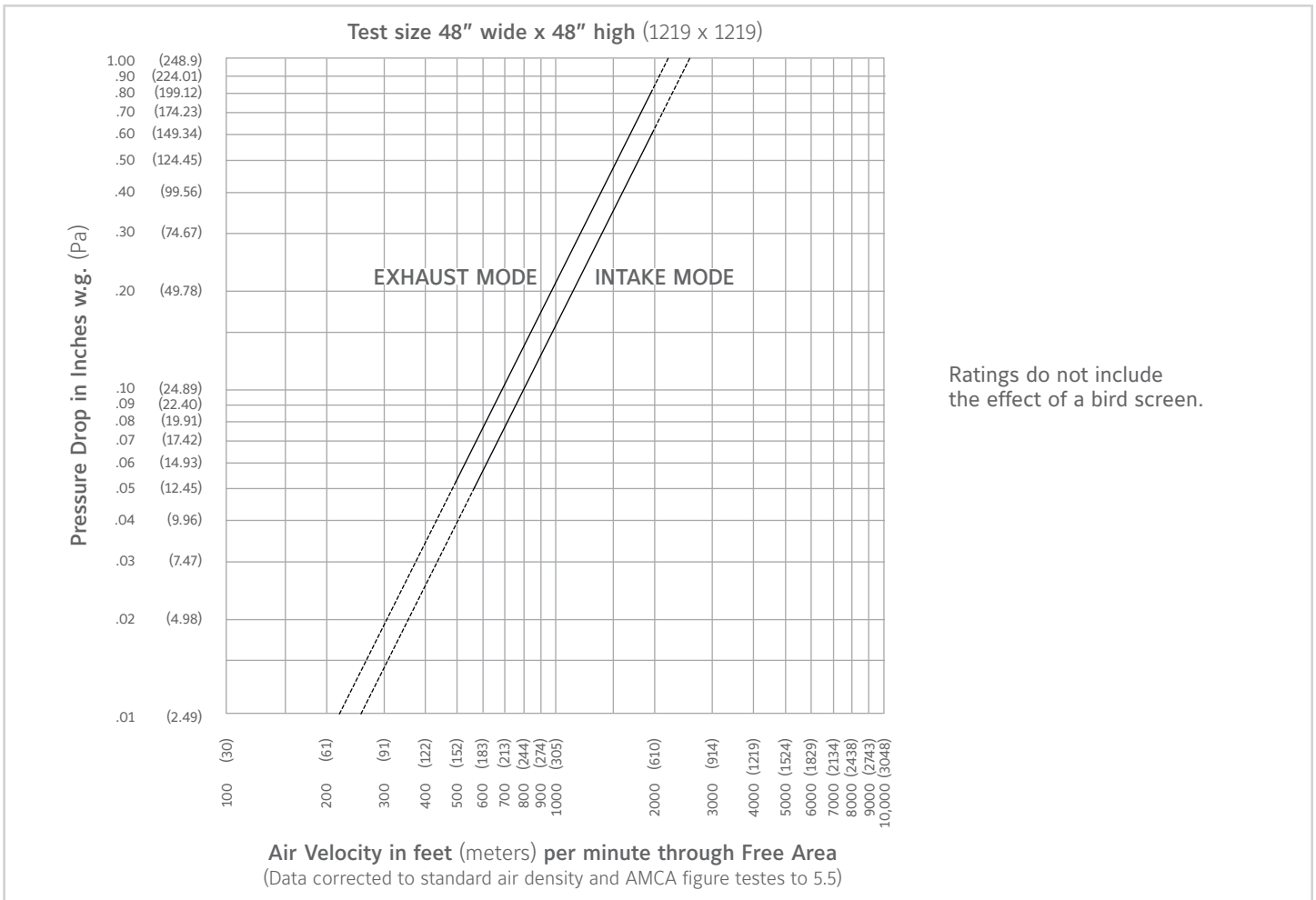
The AMCA Listing Label applies to Wind Borne Debris Impact Resistant Louvers.

FREE AREA GUIDE

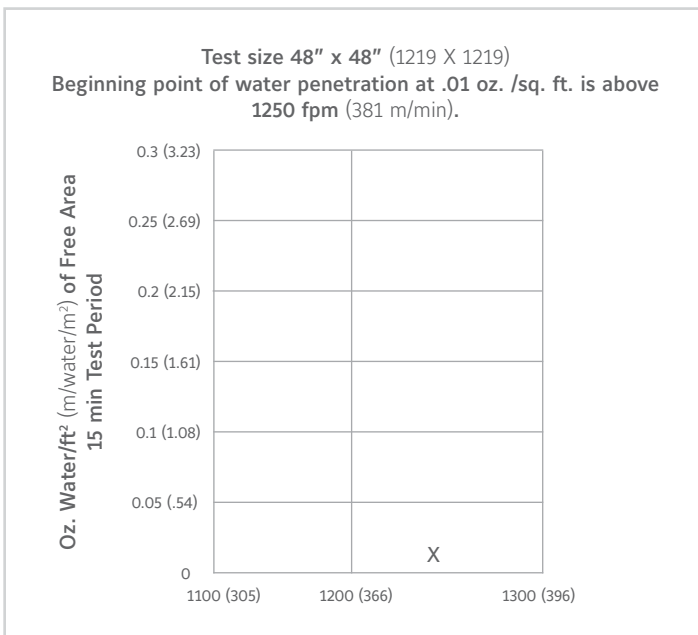
Free Area Guide shows free area in ft² and m² for various sizes of 5DDWRG.

		Width – Inches and Meters																		
		12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
		0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	3.00
Height – Inches and Meters	12	0.28	0.45	0.62	0.80	0.97	1.14	1.32	1.49	1.66	1.83	2.01	2.18	2.35	2.53	2.70	2.87	3.05	3.22	3.39
	0.30	0.03	0.04	0.06	0.07	0.09	0.11	0.12	0.14	0.15	0.17	0.19	0.20	0.22	0.23	0.25	0.27	0.28	0.30	0.32
	18	0.49	0.79	1.09	1.40	1.70	2.00	2.31	2.61	2.91	3.22	3.52	3.82	4.13	4.43	4.73	5.04	5.34	5.64	5.94
	0.45	0.05	0.07	0.10	0.13	0.16	0.19	0.21	0.24	0.27	0.30	0.33	0.36	0.38	0.41	0.44	0.47	0.50	0.52	0.55
	24	0.70	1.13	1.56	2.00	2.43	2.86	3.30	3.73	4.16	4.60	5.03	5.46	5.90	6.33	6.76	7.20	7.63	8.06	8.50
	0.60	0.06	0.10	0.15	0.19	0.23	0.27	0.31	0.35	0.39	0.43	0.47	0.51	0.55	0.59	0.63	0.67	0.71	0.75	0.79
	30	0.90	1.47	2.03	2.60	3.16	3.72	4.29	4.85	5.41	5.98	6.54	7.11	7.67	8.23	8.80	9.36	9.92	10.49	11.05
	0.75	0.08	0.14	0.19	0.24	0.29	0.35	0.40	0.45	0.50	0.56	0.61	0.66	0.71	0.77	0.82	0.87	0.92	0.98	1.03
	36	1.11	1.81	2.50	3.20	3.89	4.58	5.28	5.97	6.67	7.36	8.05	8.75	9.44	10.14	10.83	11.52	12.22	12.91	13.61
	0.90	0.10	0.17	0.23	0.30	0.36	0.43	0.49	0.56	0.62	0.68	0.75	0.81	0.88	0.94	1.01	1.07	1.14	1.20	1.27
	42	1.32	2.15	2.97	3.79	4.62	5.44	6.27	7.09	7.92	8.74	9.56	10.39	11.21	12.04	12.86	13.69	14.51	15.33	16.16
	1.05	0.12	0.20	0.28	0.35	0.43	0.51	0.58	0.66	0.74	0.81	0.89	0.97	1.04	1.12	1.20	1.27	1.35	1.43	1.50
	48	1.60	2.60	3.60	4.59	5.59	6.59	7.59	8.59	9.58	10.58	11.58	12.58	13.58	14.57	15.57	16.57	17.57	18.57	19.56
	1.20	0.15	0.24	0.33	0.43	0.52	0.61	0.71	0.80	0.89	0.98	1.08	1.17	1.26	1.36	1.45	1.54	1.63	1.73	1.82
	54	1.81	2.94	4.07	5.19	6.32	7.45	8.58	9.71	10.84	11.96	13.09	14.22	15.35	16.48	17.60	18.73	19.86	20.99	22.12
	1.35	0.17	0.27	0.38	0.48	0.59	0.69	0.80	0.90	1.01	1.11	1.22	1.32	1.43	1.53	1.64	1.74	1.85	1.95	2.06
	60	2.02	3.28	4.54	5.79	7.05	8.31	9.57	10.83	12.09	13.34	14.60	15.86	17.21	18.38	19.64	20.89	22.15	23.41	24.67
1.50	0.19	0.30	0.42	0.54	0.66	0.77	0.89	1.01	1.12	1.24	1.36	1.48	1.59	1.71	1.83	1.94	2.06	2.18	2.29	
66	2.23	3.62	5.00	6.39	7.78	9.17	10.56	11.95	13.34	14.73	16.11	17.50	18.89	20.28	21.67	23.06	24.45	25.83	27.22	
1.65	0.21	0.34	0.47	0.59	0.72	0.85	0.98	1.11	1.24	1.37	1.50	1.63	1.76	1.89	2.02	2.14	2.27	2.40	2.53	
72	2.44	3.96	5.47	6.99	8.51	10.03	11.55	13.07	14.59	16.11	17.63	19.14	20.66	22.18	23.70	25.22	26.74	28.26	29.78	
1.80	0.23	0.37	0.51	0.65	0.79	0.93	1.07	1.22	1.36	1.50	1.64	1.78	1.92	2.06	2.20	2.35	2.49	2.63	2.77	
78	2.72	4.41	6.10	7.79	9.49	11.18	12.87	14.56	16.26	17.95	19.64	21.33	23.03	24.72	26.41	28.10	29.80	31.49	33.18	
1.95	0.25	0.41	0.57	0.72	0.88	1.04	1.20	1.35	1.51	1.67	1.83	1.98	2.14	2.30	2.46	2.61	2.77	2.93	3.09	
84	2.92	4.75	6.57	8.39	10.32	12.04	13.86	15.68	17.51	19.33	21.15	22.98	24.80	26.62	28.44	30.27	32.09	33.91	35.74	
2.10	0.27	0.44	0.61	0.78	0.95	1.12	1.29	1.46	1.63	1.80	1.97	2.14	2.31	2.48	2.65	2.81	2.98	3.15	3.32	
90	3.13	5.09	7.04	8.99	10.95	12.90	14.85	16.80	18.76	20.71	22.66	24.62	26.57	28.52	30.48	32.43	34.38	36.54	38.29	
2.25	0.29	0.47	0.65	0.84	1.02	1.20	1.38	1.56	1.74	1.93	2.11	2.29	2.47	2.65	2.83	3.02	3.20	3.38	3.56	
96	3.34	5.43	7.51	9.59	11.68	13.76	15.84	17.93	20.01	22.09	24.18	26.26	28.34							
2.40	0.31	0.50	0.70	0.89	1.09	1.28	1.47	1.67	1.86	2.05	2.25	2.44	2.64							
102	3.55	5.76	7.98	10.19	12.41	14.62	16.83	19.05	21.26	23.47	25.69	27.90	30.11							
2.55	0.33	0.54	0.74	0.95	1.15	1.36	1.57	1.77	1.98	2.18	2.39	2.59	2.80							
108	3.76	6.10	8.45	10.79	13.14	15.48	17.82	20.17	22.51	24.85	27.20	29.54	31.89							
2.70	0.35	0.57	0.79	1.00	1.22	1.44	1.66	1.88	2.09	2.31	2.53	2.75	2.97							
114	4.04	6.56	9.07	11.59	14.11	16.63	19.14	21.66	24.18	26.70	29.21	31.73	34.25							
2.85	0.38	0.61	0.84	1.08	1.31	1.55	1.78	2.01	2.25	2.48	2.72	2.95	3.19							
120	4.25	6.90	9.54	12.19	14.84	17.49	20.13	22.78	25.43	28.08	30.72	33.37	36.02							
3.00	0.40	0.64	0.89	1.13	1.38	1.63	1.87	2.12	2.36	2.61	2.86	3.10	3.35							

PRESSURE DROP



WATER PENETRATION GRAPH



Reliable Products certifies that the louver shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests 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 ratings, water penetration ratings and wind driven rain ratings only.

WIND-DRIVEN RAIN PERFORMANCE

Test size is 1m x 1m (39" x 39") core area, 1.04m x 1.12m (41" x 44") nominal. Free Area of test louver is 5.45 ft² (.51m²).

29 mph (47 kph) wind & 3" (76) per hour rain conditions					
Core Velocity ₁ , fpm (m/s)	Airflow cfm (m ³ /min)	Free Area Velocity ₂ , fpm (m/sec.)	Effective-ness Ratio	Class ₃	Discharge Loss Class Intake
0 (0)	0 (0)	0 (0)	99.9%	A	2
98 (.5)	1060 (30)	226 (1.1)	99.9%	A	2
197 (1.0)	2119 (60)	389 (2.0)	99.9%	A	2
287 (1.5)	3179 (90)	583 (3.0)	99.9%	A	2
381 (1.9)	4239 (120)	778 (4.0)	99.9%	A	2
476 (2.4)	5299 (150)	972 (4.9)	99.9%	A	2
586 (3.0)	6358 (180)	1167 (5.9)	99.8%	A	2
673 (3.4)	7418 (210)	1361 (6.9)	99.7%	A	2
763 (3.9)	8478 (240)	1556 (7.9)	98.9%	B	2
882 (4.5)	9537 (270)	1750 (8.9)	97.3%	B	2
987 (5.0)	10597 (300)	1944 (9.9)	95.3%	B	2

50 mph (80 kph) wind & 8" (203) per hour rain conditions					
Core Velocity ₁ , fpm (m/s)	Airflow cfm (m ³ /min)	Free Area Velocity ₂ , fpm (m/sec.)	Effective-ness Ratio	Class ₃	Discharge Loss Class Intake
0 (0)	0 (0)	0 (0)	99.4%	A	2
106 (.5)	1060 (30)	226 (1.1)	99.3%	A	2
184 (.9)	2119 (60)	389 (2.0)	99.2%	A	2
282 (1.4)	3179 (90)	583 (3.0)	99.0%	A	2
408 (1.9)	4239 (120)	778 (4.0)	99.0%	A	2
495 (2.5)	5299 (150)	972 (4.9)	98.9%	B	2
567 (2.9)	6358 (180)	1167 (5.9)	98.9%	B	2
680 (3.5)	7418 (210)	1361 (6.9)	98.3%	B	2
791 (4.0)	8478 (240)	1556 (7.9)	97.2%	B	2
882 (4.5)	9537 (270)	1750 (8.9)	95.1%	B	2
982 (5.0)	10597 (300)	1944 (9.9)	23.9%	D	2

NOTES:

1. Core area is the open area of the louver face (face area less louver frames). Core Velocity is the airflow velocity through the Core Area of the louver (1m x 1m).
2. Free Area of test size is calculated per AMCA standard 500-L.
3. Wind Driven Rain Penetration Classes:

Class	Effectiveness
A	1 to .99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

4. Intake Discharge Loss Class 2

Discharge Loss Coefficient is calculated by dividing a louver's actual airflow rate vs. a theoretical airflow for the opening. It provides an indication of the louver's airflow characteristics.

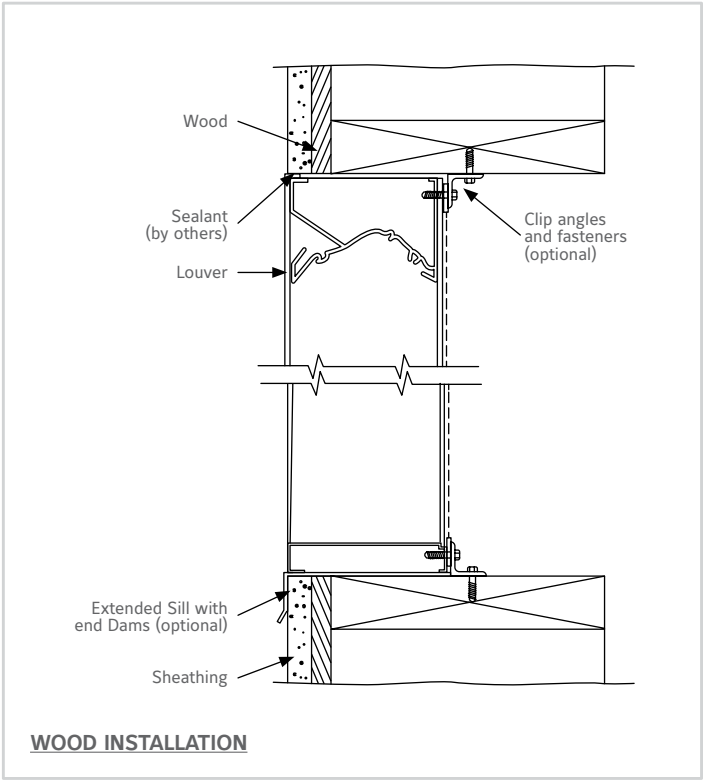
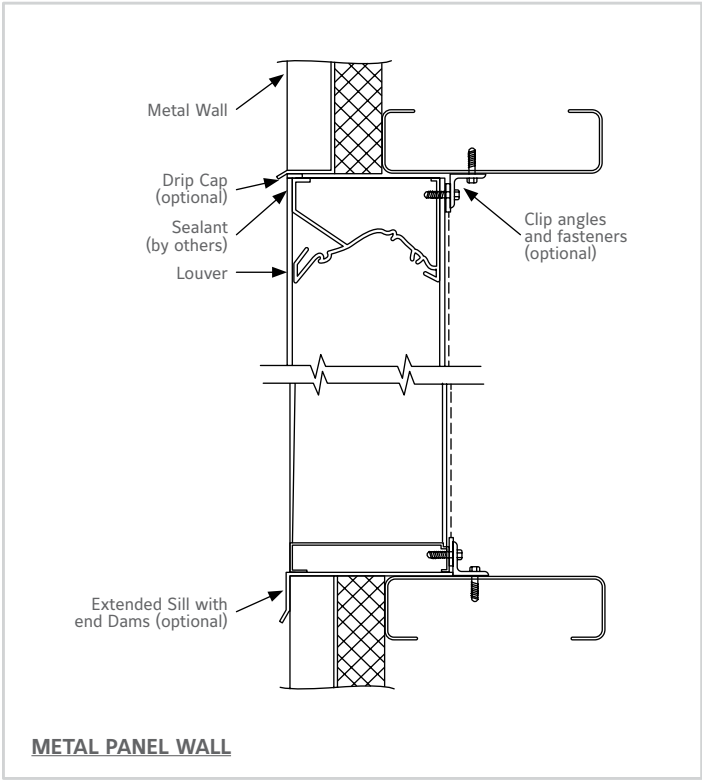
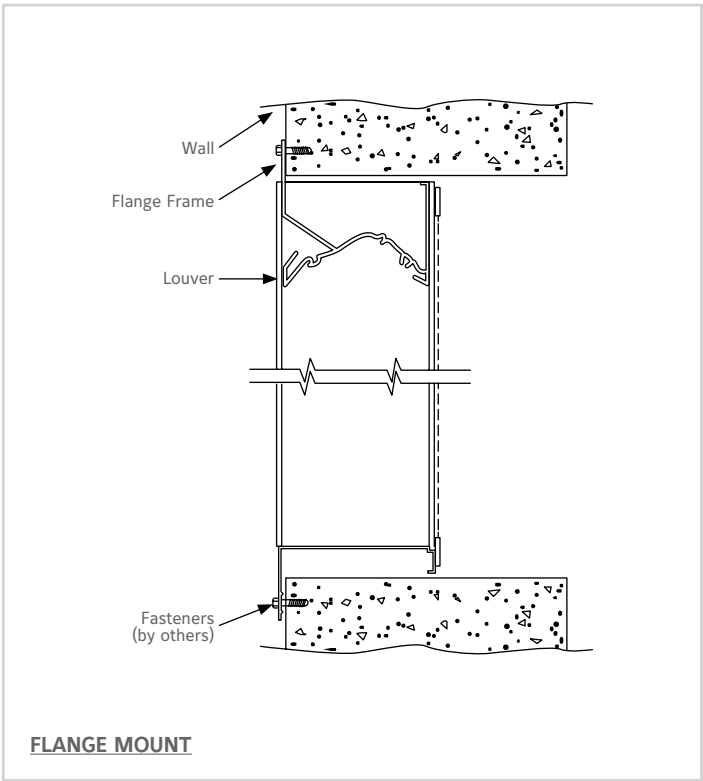
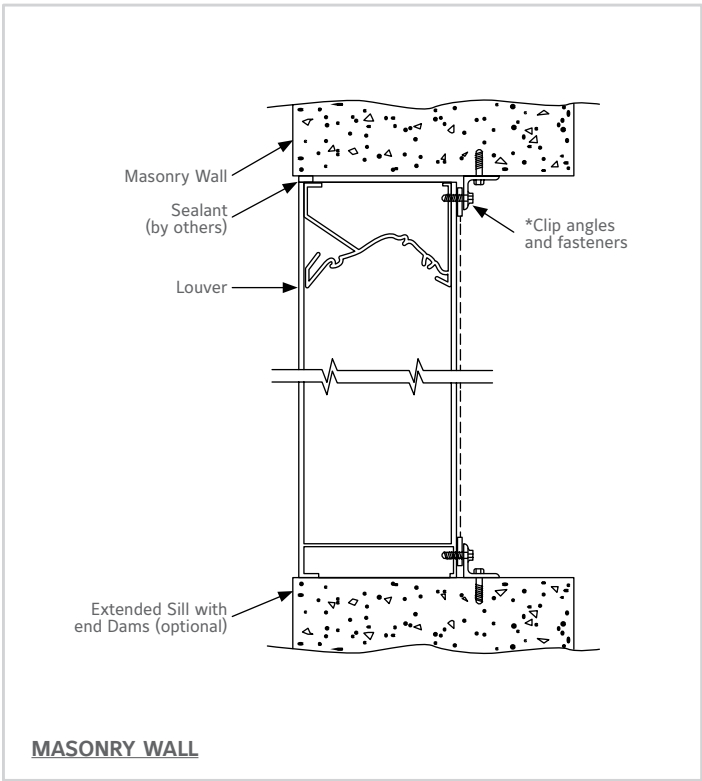
Discharge Loss Classes:

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

(The higher the coefficient, the less resistance to airflow.)

5. The AMCA Wind Driven Rain Test is performed in a laboratory environment and incorporates controlled wind, water and system airflow effects. In actual field installations, storms may create conditions not considered by the AMCA test. Penthouse and similar applications where wind can pass through multiple louvers in an enclosure is another condition that is not simulated by AMCA tests. These applications can create elevated water penetration rates through any louver. Because of these uncontrolled situations, it is recommended that provisions to manage water penetration through louvers be included in the building design.

TYPICAL INSTALLATION DETAILS



SUGGESTED SPECIFICATION

Furnish and install louvers as hereinafter specified where shown on plans or as described in schedules. Louvers shall be stationary drainable type with drain gutters in each blade and downspouts in jambs and mullions. Louvers shall have a minimum of 47% free area based on a 48" wide x 48" high (1219 x 1219) size. Stationary drainable blades shall be contained within a 5" (127) frame. Louver components (heads, jambs, sills, blades, & mullions) shall be factory assembled by the louver manufacturer. Louver sizes too large for shipping shall be built up by the contractor from factory assembled louver sections to provide overall sizes required. Louver design shall limit span between visible mullions to 10 feet (3) and shall incorporate structural supports required to withstand a windload of 30 lbs. per sq. ft. (1.44KPa) (equivalent of a 110 mph wind [177 KPH] wind-specifier may substitute any loading required).

Louvers shall be Reliable model 5DDWRG extruded 6063T6 aluminum construction as follows:

Frame: 5" (127) deep, .094" (2.4) wall thickness.

Blades: .080" (2.0) nominal wall thickness.

Screen: 5/8" x .040" (16 x 1) expanded, flattened aluminum bird screen in removable frame. Screen adds approximately 1/2" (13) to louver depth.

Finish: Select finish specification from Reliable Finishes Brochure.

LINKS TO IMPORTANT DOCUMENTS

Document Title
Finishes and Color Guide
Limited Warranty Document



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