

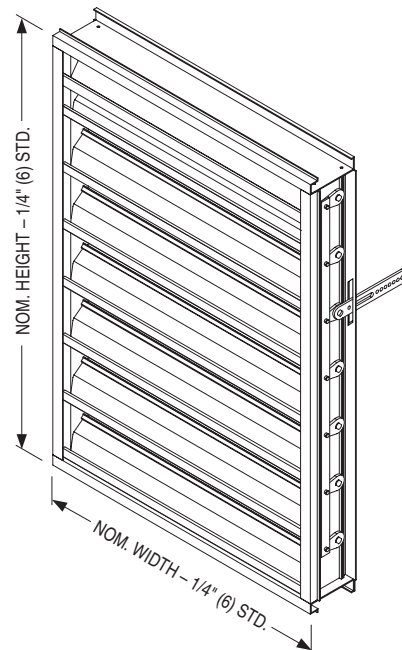


EXTRUDED ALUMINUM COMBINATION LOUVER/DAMPER
4" (102) DEEP • DRAINABLE BLADE
OPERABLE DAMPER
MODEL: 1604CD

Nailor Model 1604CD is an extruded aluminum combination louver and damper that incorporates front stationary drainable blades and rear adjustable blades all within a single frame. The design provides efficient air performance and aesthetics that compliment any building exterior, while providing tight shut-off when no airflow is required. The drainable blades provide excellent weather protection for exhaust and low to medium velocity intake air applications by utilizing rain gutters to divert collected water down concealed side downspouts and out the sill. Blades are reinforced with full length integral bosses for strength. Model 1604CD is available with channel or flanged type frame to suit most installation requirements and is licensed by AMCA for assured performance.

STANDARD CONSTRUCTION:

- FRAME:** 4" (102) deep, Type 6063-T6 extruded aluminum, .060" (1.3) nominal wall thickness. Integral downspouts and caulking slot provided.
- BLADES:** Front stationary blades: Drainable, Type 6063-T6 extruded aluminum, .060" (1.5) nominal wall thickness. Rear adjustable blades: Type 6063-T6 extruded aluminum, 0.80" (2.03) nominal wall thickness.
- BLADE ANGLE:** Front blades fixed at 45 degrees.
- BLADE SPACING:** Approx. 4 1/2" (114) on centers.
- BLADE SEALS:** Silicone. Mechanically locked in place.
- JAMB SEALS:** Cambered stainless steel.
- BEARINGS:** 1/2" (13) dia. Celcon®.
- AXLES:** 1/2" (13) dia. plated steel double bolted to blades.
- LINKAGE:** Concealed in frame.
- SCREEN:** 3/4" x .050 (19 x 1.3) expanded, flattened aluminum bird screen in removable frame, inside (rear) mount (adds approximately 3/8" [10] to louver depth).
- ACTUATOR:** Hand locking louver quadrant.
- FINISH:** Mill.
- MINIMUM SIZE:** 12" W x 12" H (305 x 305).
- MAX. SINGLE SECTION SIZE:** 48" W x 96" H (1219 x 2438). Larger sizes will be manufactured in sections with visible mullion side frame (downspouts are concealed) for field assembly.



OPTIONS:

- FL** Flanged Frame.
- FR1** 1" (25) Filter Rack.
- BSSS** Type 304 S.S. Bird Screen.
- FR2** 2" (51) Filter Rack.
- BSN** No Bird Screen.
- PACA** Perimeter Anchor Clips.
- ISA** Aluminum Insect Screen.
- ACT** Electric or Pneumatic Actuator. Specify: _____.
- ISSS** Type 304 S.S. Insect Screen.
- Other:** _____.
- WE** Welded Construction.
- ESI** Extended Sill.

OPTIONAL FINISHES:

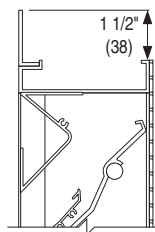
- PC3** Powder Coat AAMA 2603. Color: _____.
- PC4** High Performance Powder Coat AAMA 2604 (Equivalent to 50% Kynar®). Color: _____.
- PC5** Fluoropolymer Powder Coat AAMA 2605 (Equivalent to 70% Kynar®). Color: _____.
- PCC** Prime Coat.
- AN04** Clear Anodized 204-R1.
- AN15** Clear Anodized 215-R1.

Color Anodized:

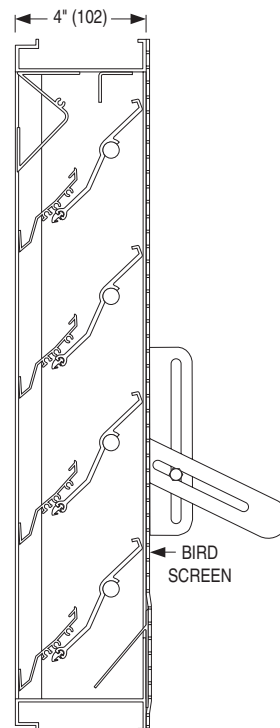
- ANLB** Light Bronze.
- ANMB** Medium Bronze.
- ANDB** Dark Bronze.
- ANBK** Black.

OPTIONAL W x H SIZING (1/4" [6.5] Undersize standard):

- U00** Exact Size.
- U38** Undersize 3/8" (9.5).
- U50** Undersize 1/2" (12.7).



FLANGED FRAME (FL) (OPTIONAL)



SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 1 of 2
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 17 - 22	1600	7 - 16 - 21	1604CD

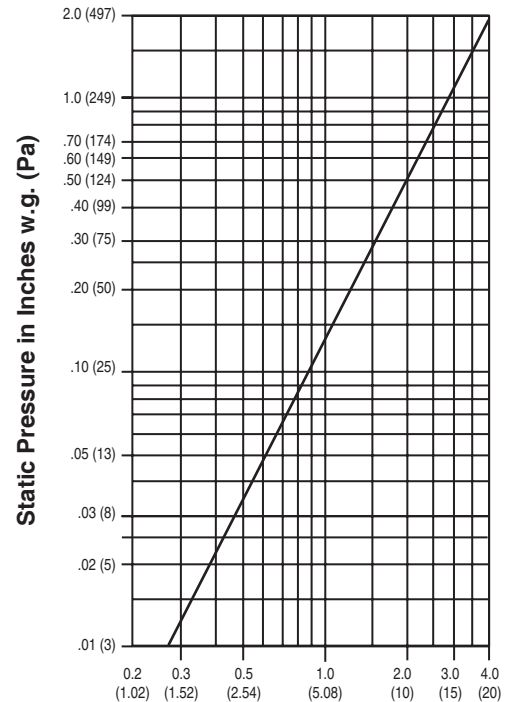


EXTRUDED ALUMINUM COMBINATION LOUVER/DAMPER
4" (102) DEEP • DRAINABLE BLADE
OPERABLE DAMPER
PERFORMANCE DATA
MODEL: 1604CD

FREE AREA in Square Feet and Square Meters

		Width in Inches and Meters						
		12	18	24	30	36	42	48
Height in Inches and Meters	12	0.17	0.28	0.39	0.49	0.60	0.70	0.81
	0.30	0.02	0.03	0.04	0.05	0.06	0.07	0.08
	18	0.41	0.66	0.91	1.16	1.41	1.66	1.90
	0.46	0.04	0.06	0.08	0.11	0.13	0.15	0.18
	24	0.58	0.94	1.30	1.65	2.01	2.37	2.72
	0.61	0.05	0.09	0.12	0.15	0.19	0.22	0.25
	30	0.71	1.15	1.59	2.02	2.46	2.89	3.33
	0.76	0.07	0.11	0.15	0.19	0.23	0.27	0.31
	36	0.94	1.52	2.09	2.67	3.24	3.81	4.39
	0.91	0.09	0.14	0.19	0.25	0.30	0.35	0.41
	42	1.13	1.81	2.50	3.19	3.88	4.56	5.25
	1.07	0.10	0.17	0.23	0.30	0.36	0.42	0.49
	48	1.26	2.03	2.80	3.56	4.33	5.10	5.93
	1.22	0.12	0.19	0.26	0.33	0.40	0.47	0.55
	54	1.48	2.39	3.30	4.20	5.11	6.01	6.92
	1.37	0.14	0.22	0.31	0.39	0.47	0.56	0.64
	60	1.67	2.69	3.71	4.73	5.74	6.76	7.78
	1.52	0.16	0.25	0.34	0.44	0.53	0.63	0.72
	66	1.80	2.90	4.00	5.10	6.20	7.30	8.40
	1.68	0.17	0.27	0.37	0.47	0.58	0.68	0.78
72	2.03	3.26	4.50	5.74	6.97	8.21	9.45	
1.83	0.19	0.30	0.42	0.53	0.65	0.76	0.88	
78	2.21	3.56	4.91	6.26	7.61	8.96	10.31	
1.98	0.21	0.33	0.46	0.58	0.71	0.83	0.96	
84	2.35	3.78	5.21	6.64	8.07	9.50	10.93	
2.13	0.22	0.35	0.48	0.62	0.75	0.88	1.02	
90	2.57	4.14	5.71	7.27	8.84	10.41	11.97	
2.29	0.24	0.38	0.53	0.68	0.82	0.97	1.11	
96	2.76	4.44	6.12	7.80	9.48	11.16	12.84	
2.44	0.26	0.41	0.57	0.72	0.88	1.04	1.19	

AIR LEAKAGE (damper fully closed)



Leakage in CFM/ft.² (L/s/m²)
 Louver test size: 48" x 48" (1219 x 1219 mm).

AIRFLOW/WATER PENETRATION DATA
for 48" x 48" (1219 x 1219) Louver Size

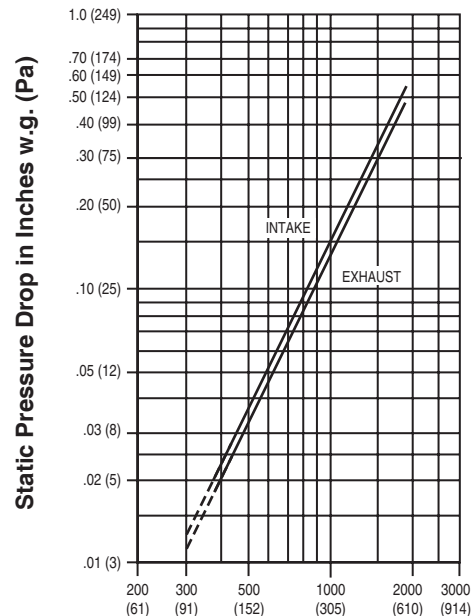
Free Area %	37%
Free Area sq. ft. (sq. m.)	5.93 (0.55)
Free Area Velocity at Point of Beginning Water Penetration at .01 oz./sq. ft. (3 ml/sq. m) (15 min. test duration)	1250 fpm (381 m/min.)*
Air Volume at 1250 fpm Free Area Velocity	7413 cfm (3499 l/s)
Pressure Drop @ 1250 fpm	.24 in. w.g. (60 Pa)

NOTE: To minimize water penetration when sizing intake louvers, select a Free Area Velocity that is **below** the point of beginning water penetration. *Maximum Free Area Velocity tested is 1250 fpm. Beginning point of water penetration for this model is above 1250 fpm.



Nailor Industries Inc. certifies the Model 1604CD 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. Seal applies to air performance ratings and water penetration ratings.

PRESSURE DROP (damper fully open)



Air Velocity in Feet (Meters) Per Minute Through Free Area
 Louver test size: 48" x 48" (1219 x 1219 mm). Standard air density @ 0.075 lbs/ft³.
 Tested to AMCA Fig. 5.5 – 6.5.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2

Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 17 - 22	1600	7 - 16 - 21	1604CD



EXTRUDED ALUMINUM COMBINATION LOUVER/DAMPER
6" (152) DEEP • DRAINABLE BLADE
OPERABLE AIRFOIL DAMPER
MODEL: 1606CDAF

Nailor Model 1606CDAF is an extruded aluminum combination louver and damper that incorporates front stationary drainable blades and rear adjustable airfoil blades all within a single frame. The design provides efficient air performance and aesthetics that compliment any building exterior, while providing tight shut-off when no airflow is required. The drainable blades provide excellent weather protection for exhaust and low to medium velocity intake air applications by utilizing rain gutters to divert collected water down concealed side downspouts and out the sill. Blades are reinforced with full length integral bosses for strength. Model 1606CDAF is available with channel or flanged type frame to suit most installation requirements, and is licensed by AMCA for assured performance.

STANDARD CONSTRUCTION:

- FRAME:** 6" (152) deep type 6063-T6 extruded aluminum, .080" (2.03) nominal wall thickness. Integral downspouts and caulking slot provided.
- BLADES:** Front stationary blades: drainable style, type 6063-T6 extruded aluminum, .080" (2.03) nominal wall thickness. Rear operable blades: Airfoil style, type 6063-T6 extruded aluminum.
- BLADE ANGLE:** Front blades fixed at 45 degrees.
- BLADE SPACING:** Approx. 5 1/2" (140) on centers.
- BLADE SEALS:** Santoprene. Mechanically locked in place.
- JAMB SEALS:** Cambered stainless steel.
- BEARINGS:** 1/2" (13) dia. Celcon®.
- AXLES:** 1/2" (13) dia. plated steel double bolted to blades.
- LINKAGE:** Concealed in frame.
- SCREEN:** 3/4" x .051 (19 x 1.3) expanded, flattened aluminum bird screen in removable frame, inside (rear) mount (adds approximately 3/8" [10] to louver depth).
- ACTUATOR:** Hand locking louver quadrant.
- FINISH:** Mill.
- MINIMUM SIZE:** 12" W x 12" H (305 x 305).
- MAX. SINGLE SECTION SIZE:** 60" W x 120" H (1524 x 3048). Larger sizes will be manufactured in sections with visible mullion side frame (downspouts are concealed) for field assembly.

OPTIONS:

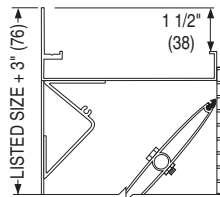
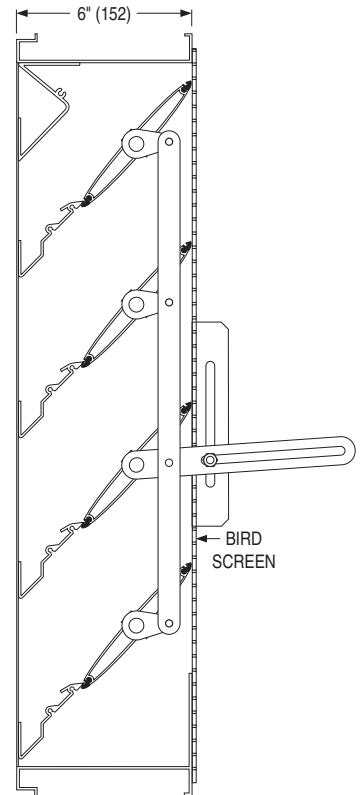
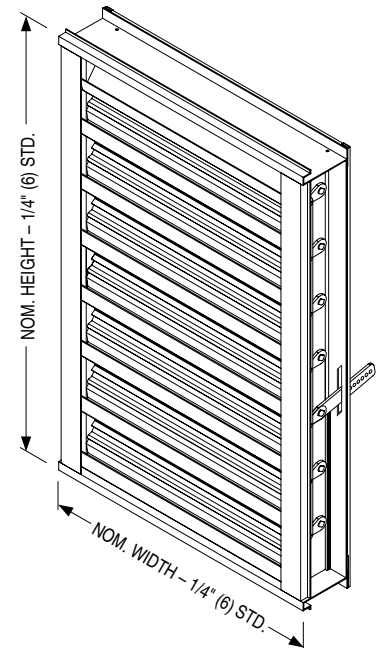
- FL15** Flanged Frame, 1 1/2" (38).
- FL20** Flanged Frame, 2" (51).
- BSSS** Type 304 S.S. Bird Screen.
- BSN** No Bird Screen.
- ISA** Aluminum Insect Screen.
- ISSS** Type 304 S.S. Insect Screen.
- WE** Welded Construction.
- ESI** Extended Sill.
- FR1** Filter Rack, 1" (25).
- FR2** Filter Rack, 2" (51).
- PAC** Perimeter Anchor Clips.
- PASI** Sill Pan.
- ACT** Electric Actuator. Specify: _____.
- Other:** _____.

OPTIONAL FINISHES:

- PC3** Powder Coat AAMA 2603. Color: _____.
 - PC4** High Performance Powder Coat AAMA 2604 (Equivalent to 50% Kynar®). Color: _____.
 - PC5** Fluoropolymer Powder Coat AAMA 2605 (Equivalent to 70% Kynar®). Color: _____.
 - PCC** Prime Coat.
 - AN04** Clear Anodized 204-R1.
 - AN15** Clear Anodized 215-R1.
- Color Anodized:
- ANLB** Light Bronze. **ANMB** Medium Bronze.
 - ANDB** Dark Bronze. **ANBK** Black.

OPTIONAL W x H SIZING (1/4" [6.5] Undersize standard):

- U00** Exact Size. **U38** Undersize 3/8" (9.5).
- U50** Undersize 1/2" (12.7).



OPTIONAL FLANGED FRAME (FL15 STD.)

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 2
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 19 - 24	1600	1 - 19 - 23	1606CDAF



EXTRUDED ALUMINUM COMBINATION LOUVER/DAMPER
6" (152) DEEP • DRAINABLE BLADE
OPERABLE AIRFOIL BLADE
PERFORMANCE DATA
MODEL: 1606CDAF

FREE AREA in Square Feet and Square Meters

		Width in Inches and Meters								
		12 0.30	18 0.46	24 0.61	30 0.76	36 0.91	42 1.07	48 1.22	54 1.37	60 1.52
Height in Inches and Meters	12 0.30	0.27 0.03	0.44 0.04	0.61 0.06	0.78 0.07	0.95 0.09	1.12 0.10	1.28 0.12	1.45 0.14	1.62 0.15
	18 0.46	0.48 0.04	0.78 0.07	1.09 0.10	1.39 0.13	1.69 0.16	1.99 0.18	2.29 0.21	2.59 0.24	2.90 0.27
	24 0.61	0.69 0.06	1.13 0.10	1.56 0.15	2.00 0.19	2.43 0.23	2.87 0.27	3.30 0.31	3.73 0.35	4.17 0.39
	30 0.76	0.95 0.09	1.54 0.14	2.13 0.20	2.72 0.25	3.31 0.31	3.91 0.36	4.50 0.42	5.09 0.47	5.68 0.53
	36 0.36	1.19 0.11	1.93 0.18	2.68 0.25	3.42 0.32	4.17 0.39	4.91 0.46	5.66 0.53	6.40 0.59	7.15 0.66
	42 1.07	1.33 0.12	2.16 0.20	2.99 0.28	3.83 0.36	4.66 0.43	5.49 0.51	6.32 0.59	7.16 0.66	7.99 0.74
	48 1.22	1.58 0.15	2.56 0.24	3.55 0.33	4.53 0.42	5.52 0.51	6.50 0.60	7.33 0.68	8.47 0.79	9.46 0.88
	54 1.37	1.79 0.17	2.91 0.27	4.02 0.37	5.14 0.48	6.26 0.58	7.38 0.69	8.50 0.79	9.62 0.89	10.73 1.00
	60 1.52	2.03 0.19	3.30 0.31	4.58 0.43	5.85 0.54	7.12 0.66	8.39 0.78	9.66 0.90	10.93 1.02	12.21 1.13
	66 1.68	2.28 0.21	3.70 0.34	5.13 0.48	6.55 0.61	7.98 0.74	9.40 0.87	10.83 1.01	12.25 1.14	13.68 1.27
	72 1.83	2.52 0.23	4.10 0.38	5.68 0.53	7.26 0.67	8.84 0.82	10.42 0.97	11.99 1.11	13.57 1.26	15.15 1.41
	78 1.98	2.60 0.24	4.23 0.39	5.86 0.54	7.49 0.70	9.11 0.85	10.74 1.00	12.37 1.15	14.00 1.30	15.63 1.45
84 2.13	2.81 0.26	4.57 0.42	6.33 0.59	8.10 0.75	9.86 0.92	11.62 1.08	13.38 1.24	15.14 1.41	16.90 1.57	
90 2.29	3.03 0.28	4.92 0.46	6.81 0.63	8.70 0.81	10.60 0.98	12.49 1.16	14.38 1.34	16.28 1.51	18.17 1.69	
96 2.44	3.45 0.32	5.61 0.52	7.77 0.72	9.92 0.92	12.08 1.12	14.24 1.32	16.40 1.52	18.56 1.72	20.72 1.92	
102 2.59	3.64 0.34	5.92 0.55	8.20 0.76	10.48 0.97	12.76 1.19	15.04 1.40	17.32 1.61	19.60 1.82	21.88 2.03	
108 2.74	3.89 0.36	6.32 0.59	8.75 0.81	11.19 1.04	13.62 1.27	16.05 1.49	18.49 1.72	20.92 1.94	23.35 2.17	
114 2.90	4.13 0.38	6.72 0.62	9.31 0.86	11.89 1.10	14.48 1.35	17.07 1.59	19.65 1.83	22.24 2.07	24.83 2.31	
120 3.05	4.38 0.41	7.12 0.66	9.86 0.92	12.60 1.17	15.34 1.43	18.08 1.68	20.82 1.93	23.56 2.19	26.30 2.44	

AIRFLOW/WATER PENETRATION DATA
for 48" x 48" (1219 x 1219) Louver Size

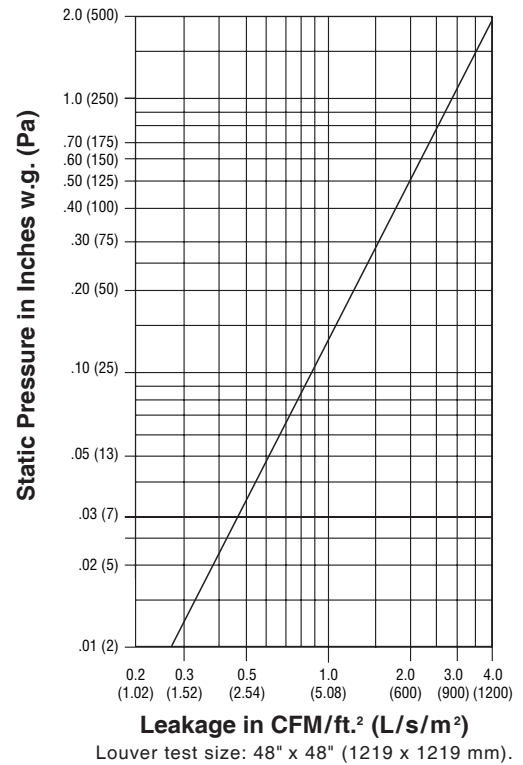
Free Area %	46%	
Free Area sq. ft. (sq. m.)	7.34 (0.68)	
INTAKE	Free Area Velocity at Point of Beginning Water Penetration at .01 oz./sq. ft. (3 ml/sq. m) (15 min. test duration)	1144 fpm (349 m/min.)
	Air Volume at 1144 fpm / Free Area Velocity	8397 cfm (3963 l/s)
	Pressure Drop @ 1144 fpm	.19 in. w.g. (47 Pa)

NOTE: To minimize water penetration when sizing intake louvers, select a Free Area Velocity that is **below** the point of beginning water penetration.

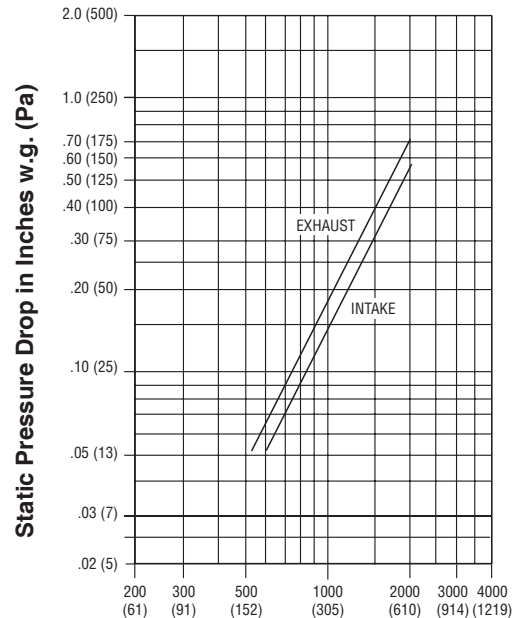


Nailor Industries Inc. certifies the Model 1606CDAF shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. Seal applies to air performance ratings and water penetration ratings.

AIR LEAKAGE (Damper fully closed)



PRESSURE DROP



Air Velocity in Feet (Meters) Per Minute Through Free Area

Louver test size: 48" x 48" (1219 x 1219 mm).

Standard air density @ 0.075 lbs/ft³.

Tested to AMCA Fig. 5.5 – 6.5.

Page 2 of 2

Dimensions are in inches (mm).

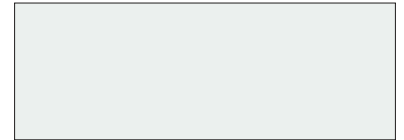
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	1 - 19 - 24	1600	1 - 19 - 23	1606CDAF


 Slate Blue **LF01**

 Medium Bronze **LF02**

 Sandstone **LF03**

 Light Gray **LF04**

 Charcoal **LF05**

 Bone White **LF06**

 Western Tan **LF07**

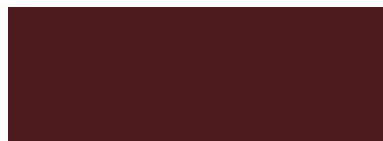
 Architectural Bronze **LF08**

 Regal Blue **LF09**

 Forest Green **LF10**

 Surrey Beige **LF11**

 Royal Brown **LF12**

 Barn Red **LF13**

 Burgundy **LF14**

 Clay **LF15**

 Almond **LF16**

 Coastal White **LF17**

 Vista Green **LF18**

 Black **LF19**

 Gloss Black **LF20**

 Campus Green **LF21**

Nailor offers 21 standard paint colors selected for architectural exterior use which meet or exceed AAMA specifications and performance requirements for color retention, chalk resistance, gloss retention, erosion, corrosion and chemical resistance as well as dry film thickness and hardness. Our state-of-the-art powder coat system provides an environment friendly finishing solution with more uniform coverage and coating thickness. The result is an exceptional finish that better resists scratching, fading and general wear. Additional liquid coat facilities for special requirements complete our ability to provide unmatched beauty and durability for any application.

Custom color matching is also available upon request. Contact your local Nailor representative.

Available Finishes

FINISH TYPE	DESCRIPTION	STANDARD WARRANTY
Fluoropolymer Powder Coat AAMA 2605-Superior Finish (AKA: Powdura® 5000, Corafalon® Powder, Interpon® D3000-Fluoromax, IFS 500FP)	"Ultimate" - A next generation hyper durable powder coating, based on FEVE fluoropolymer resins and ceramic pigmentation that the industry has acknowledged as the foundation for superior performance coatings. They provide a hard surface that is resistant to scratching and scuffing, with superior color and gloss retention, when applied to a variety of exterior architectural applications. This technology represents the "ultimate" in environmentally friendly finishes, with Zero-VOC emissions. A superior alternative to traditional 70% Kynar 500® / Hylar 500® PVDF fluoropolymer liquid coatings.	10 years (Consult Nailor for availability of extended warranty)
High Performance Powder Coat AAMA 2604 - High Performance Finish (AKA: Powdura® 4000, Envirocron® Ultra Durable Powder, Dynadure™ 400, Interpon® D2000, IFS 400SD)	"Better" - A high performance polyester powder coating, based on "super durable" resins that utilize infrared reflective pigments, which provides excellent resistance to outdoor weathering. A harder and more environmentally friendly coating than other liquid paint counterparts and with Zero-VOC emissions. A good alternative to 50% Kynar 500® / Hylar 5000® liquid coatings.	5 years
Durable Powder Coat AAMA 2603 - Pigmented Organic Coatings (AKA: Powdura® 3000, Envirocron® Durable Powder, Dynadure™ 300, Interpon® D1000, IFS 300SP)	"Good" - A durable powder coat based on thermosetting polyester resin technology. Provides a good economical combination of physical and chemical resistance properties. Environmentally superior to liquid spray paints and Zero – VOC emissions.	1 year
Clear Anodize 215-R1 AA-M10C22A41 (0.7 mil. min.)	Architectural Class I. Clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack. Recommended for severely corrosive and abrasive atmospheric exposure.	5 years
Clear Anodize 204-R1 AA-M10C22A31 (0.4 - 0.7 mil.)	Architectural Class II. Clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack. Recommended for normal weather exposure.	1 year
Color Anodize AA-M10C22A44 (0.7 mil. min.)	Architectural Class I. "Two-step" aluminum coating process. Following a standard anodizing procedure, a second electrolytic process deposits colored metallic pigments which penetrate the aluminum oxide pores, producing a corrosion resistant, colorfast finish. Available in light, medium, dark bronze and black.	5 years
Prime Coat	Prime coat provides a stable base for painting of louvers in the field. Surface pretreatment includes degreasing and a chemical cleaning before an epoxy prime coat is applied. Finish coat should be field applied as soon as possible for best adhesion, after a thorough cleaning for dust etc. that can contaminate the final finish and cause premature flaking or peeling.	N/A

Paint finish warranties are not applicable to steel products.

Powdura® is a registered trademark of The Sherwin-Williams Company.

Corafalon® and Envirocron® are registered trademarks of PPG Industries Ohio, Inc.

Interpon® is a registered trademark of Akzo Nobel Powder Coatings Ltd.

Kynar 500® is a registered trademark of Arkema, Inc.

Hylar 5000® is a registered trademark of Solvay Solexis, Inc.