

Miami-Dade Qualified Drainable Blade Louver

Application and Design

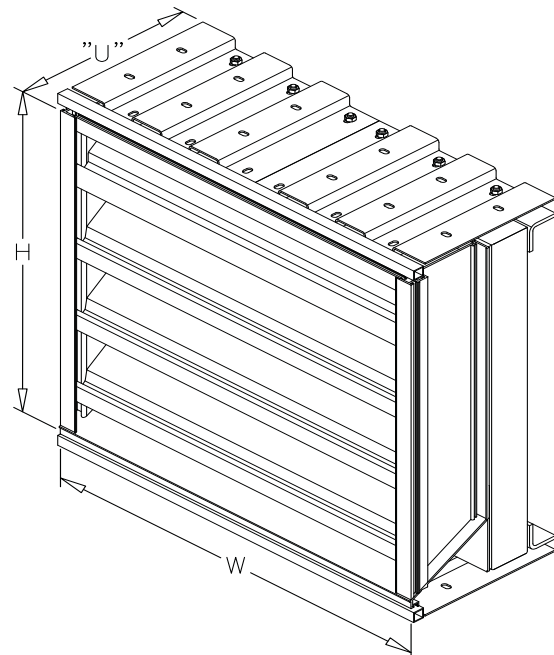
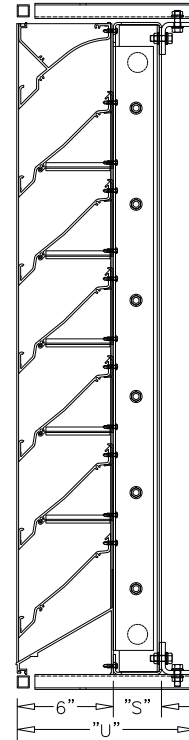
ESD-603D is an extruded aluminum drainable blade louver designed to protect air intake and exhaust openings in building exteriors specifically for applications requiring extremely high structural design loadings. Design characteristics meet the performance requirements established by the Florida Building Code and Miami-Dade County. Tested in accordance with and passes TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure) and TAS 203 (Cyclic Wind Loading). ESD-603D may be installed in locations where the space behind the louver is designed to accept water penetration and houses water resistant/water proof equipment, components or supplies. Qualified for installation within masonry/concrete or structural steel framed building conditions.

Standard Construction

- Frame** Heavy gauge extruded 6063T5 aluminum, 6 in. x 0.125 in. nominal wall thickness
- Blades** Drainable design, heavy gauge extruded aluminum, 0.125 in. nominal wall thickness, positioned at 37° and 45° angles on approximately 6 in. centers
- Construction** . . . Welded and mechanically fastened
- Birdscreen** 3/4 in. x 0.051 flattened expanded aluminum in removable frame, inside mount (rear)
- Finish** Mill
- Anchor Plates** . . . Factory attached, heavy gauge steel, Permatecor finish
- Structural Supports** Heavy gauge steel, Permatecor finish
- Minimum Rough Opening Size** . . . 12 in. W x 15 in. H
- Maximum Rough Opening Size** . . . Unlimited in. W x 120 in. H
- Maximum Single Section Rough Opening Size** . . . 60 1/2 in. W x 120 in. H

Options (at additional cost)

- A variety of bird and insect screens
- Extended sill
- A variety of architectural finishes including:
 - Clear anodize
 - Integral color anodize
 - Baked enamel
 - Kynar



PERFORMANCE DATA

ESD-603D

Florida Product Approval No.: FL4826.1

Miami-Dade NOA No.: 06-0526.02

Maximum Wind-load: 138 PSF

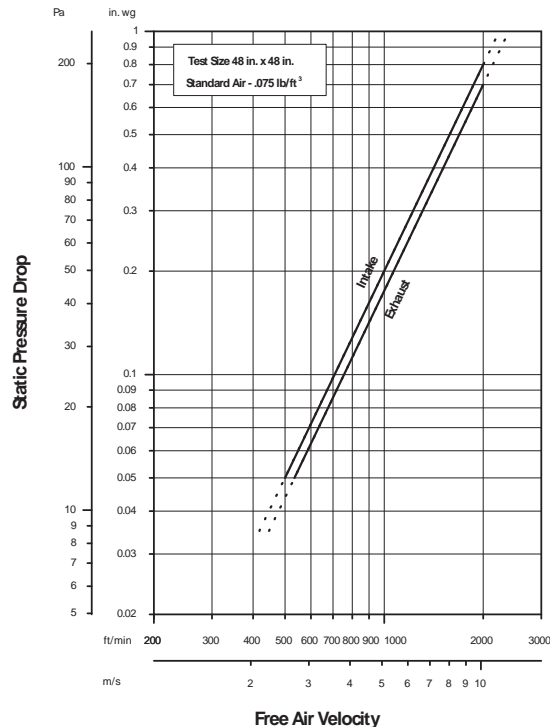
Free Area Chart

R.O Height Inches	Rough Opening Width in Inches																
	12.5	15.5	18.5	21.5	24.5	27.5	30.5	33.5	36.5	39.5	42.5	45.5	48.5	51.5	54.5	57.5	60.5
15	0.27	0.36	0.45	0.54	0.63	0.72	0.80	0.89	0.98	1.03	1.11	1.20	1.29	1.38	1.47	1.56	1.65
18	0.44	0.59	0.73	0.88	1.02	1.16	1.31	1.45	1.60	1.67	1.81	1.96	2.10	2.24	2.39	2.53	2.68
24	0.70	0.93	1.15	1.38	1.61	1.84	2.06	2.29	2.52	2.63	2.86	3.08	3.31	3.54	3.77	3.99	4.22
30	0.96	1.27	1.58	1.89	2.20	2.51	2.82	3.13	3.44	3.59	3.90	4.21	4.52	4.83	5.14	5.45	5.76
36	1.21	1.60	2.00	2.39	2.78	3.17	3.57	3.96	4.35	4.55	4.94	5.33	5.73	6.12	6.51	6.90	7.30
42	1.37	1.81	2.25	2.70	3.14	3.59	4.03	4.47	4.92	5.14	5.58	6.03	6.47	6.91	7.36	7.80	8.24
48	1.62	2.15	2.67	3.20	3.73	4.25	4.78	5.30	5.83	6.09	6.62	7.15	7.67	8.20	8.72	9.25	9.78
54	1.87	2.48	3.09	3.69	4.30	4.91	5.52	6.12	6.73	7.03	7.64	8.25	8.86	9.46	10.07	10.68	11.28
60	2.12	2.81	3.50	4.19	4.88	5.56	6.25	6.94	7.63	7.97	8.66	9.35	10.04	10.73	11.42	12.10	12.79
66	2.38	3.15	3.92	4.69	5.46	6.23	7.00	7.77	8.54	8.93	9.70	10.47	11.24	12.01	12.78	13.55	14.32
72	2.63	3.48	4.34	5.19	6.04	6.90	7.75	8.60	9.46	9.88	10.74	11.59	12.44	13.30	14.15	15.00	15.85
78	2.89	3.82	4.76	5.69	6.63	7.57	8.50	9.44	10.37	10.84	11.78	12.71	13.65	14.59	15.52	16.46	17.39
84	3.14	4.16	5.18	6.20	7.22	8.24	9.26	10.27	11.29	11.80	12.82	13.84	14.86	15.88	16.90	17.92	18.94
90	3.40	4.50	5.60	6.70	7.81	8.91	10.01	11.11	12.21	12.77	13.87	14.97	16.07	17.17	18.28	19.38	20.48
96	3.65	4.84	6.02	7.21	8.40	9.58	10.77	11.95	13.14	13.73	14.91	16.10	17.28	18.47	19.65	20.84	22.02
102	3.91	5.18	6.44	7.71	8.98	10.25	11.51	12.78	14.05	14.68	15.95	17.22	18.49	19.75	21.02	22.29	23.56
108	4.07	5.38	6.70	8.02	9.34	10.66	11.98	13.30	14.61	15.27	16.59	17.91	19.23	20.55	21.87	23.18	24.50
114	4.32	5.72	7.12	8.52	9.92	11.33	12.73	14.13	15.53	16.23	17.63	19.03	20.43	21.83	23.23	24.63	26.04
120	4.57	6.05	7.53	9.02	10.50	11.98	13.46	14.95	16.43	17.17	18.65	20.13	21.62	23.10	24.58	26.06	27.54



Greenheck Fan Corporation certifies that the ESD-603D louvers shown herein are 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 and water penetration ratings.

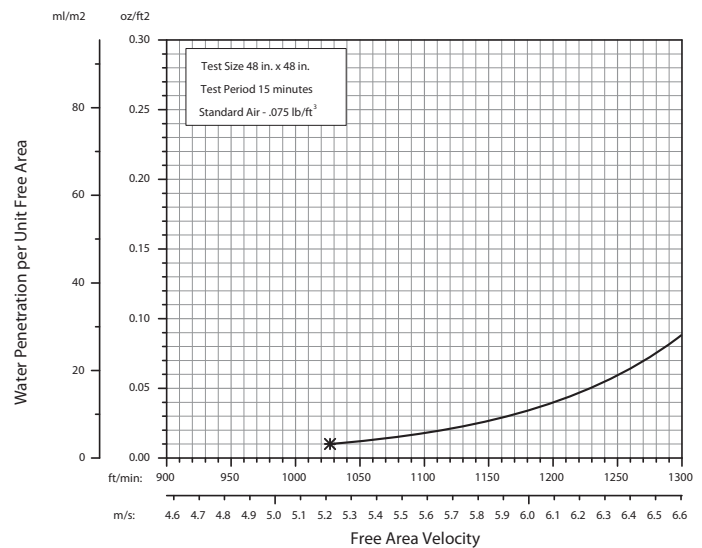
Airflow Resistance (Standard Air - .075 lb/ft³)



Model ESD-603D resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information.

Water Penetration (Standard Air - .075 lb/ft³)

Test size 48 in. x 48 in. Test duration of 15 min.



The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through .01 oz. of water (penetration) per sq. ft. of louver free area. ***The beginning point of water penetration for Model ESD-603D is 1027 fpm free area velocity.** These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.

INSTALLATION DETAILS

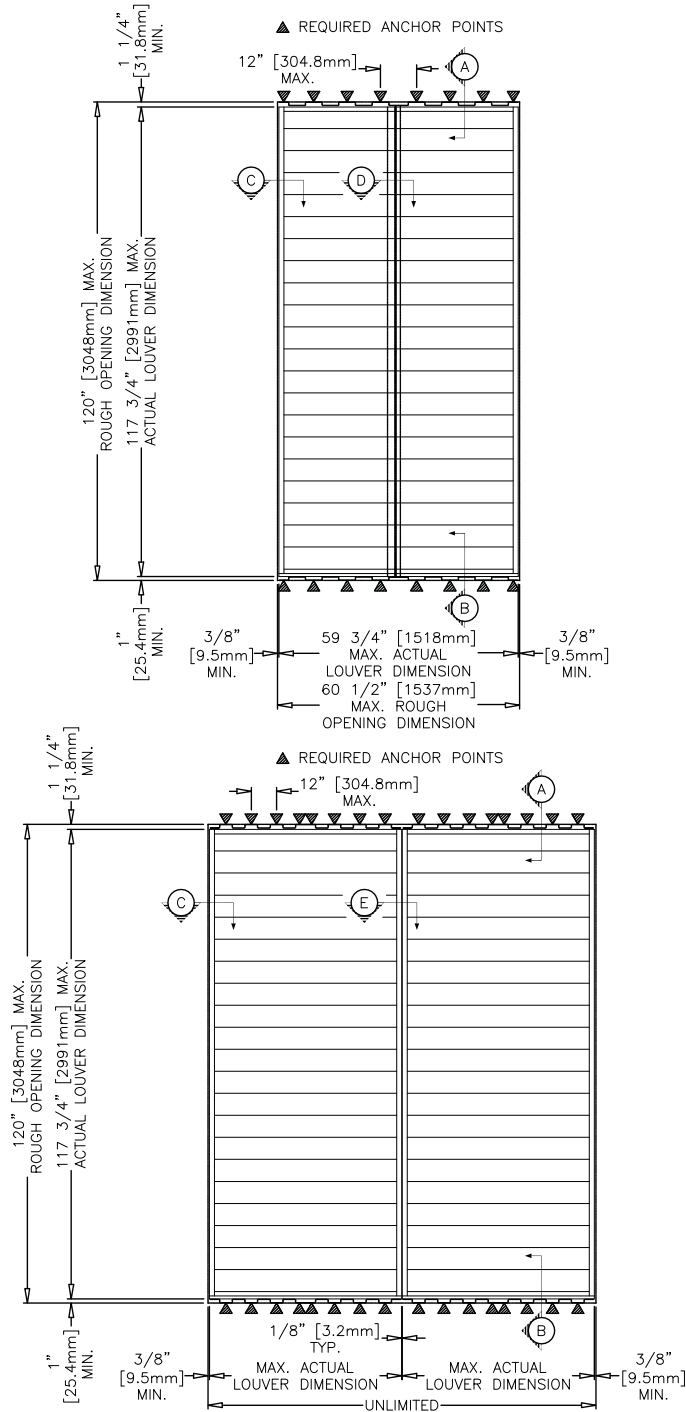
ESD-603D

Florida Product Approval No.: FL4826.1

Miami-Dade NOA No.: 06-0526.02

Maximum Wind-load: 138 PSF

Model ESD-603D is a Miami-Dade Qualified and Florida Product Approved louver and must be installed in accordance with the installation instructions shown herein. Model ESD-603D is qualified for installation within concrete/masonry and structural steel building conditions. Model ESD-603D is structurally calculated to withstand positive and negative wind-loads up to 138 PSF. The maximum single section rough opening width is 60½ in. The maximum rough opening height is 120 in. While the maximum rough opening height is limited to 120 in., the rough opening width may be unlimited as multiple sections may be installed side by side in accordance with installation instructions.



**Minimum Rough
Opening Size**
12 in. W x 15 in. H

**Maximum Single Section
Rough Opening Size**
60½ in. W x 120 in. H

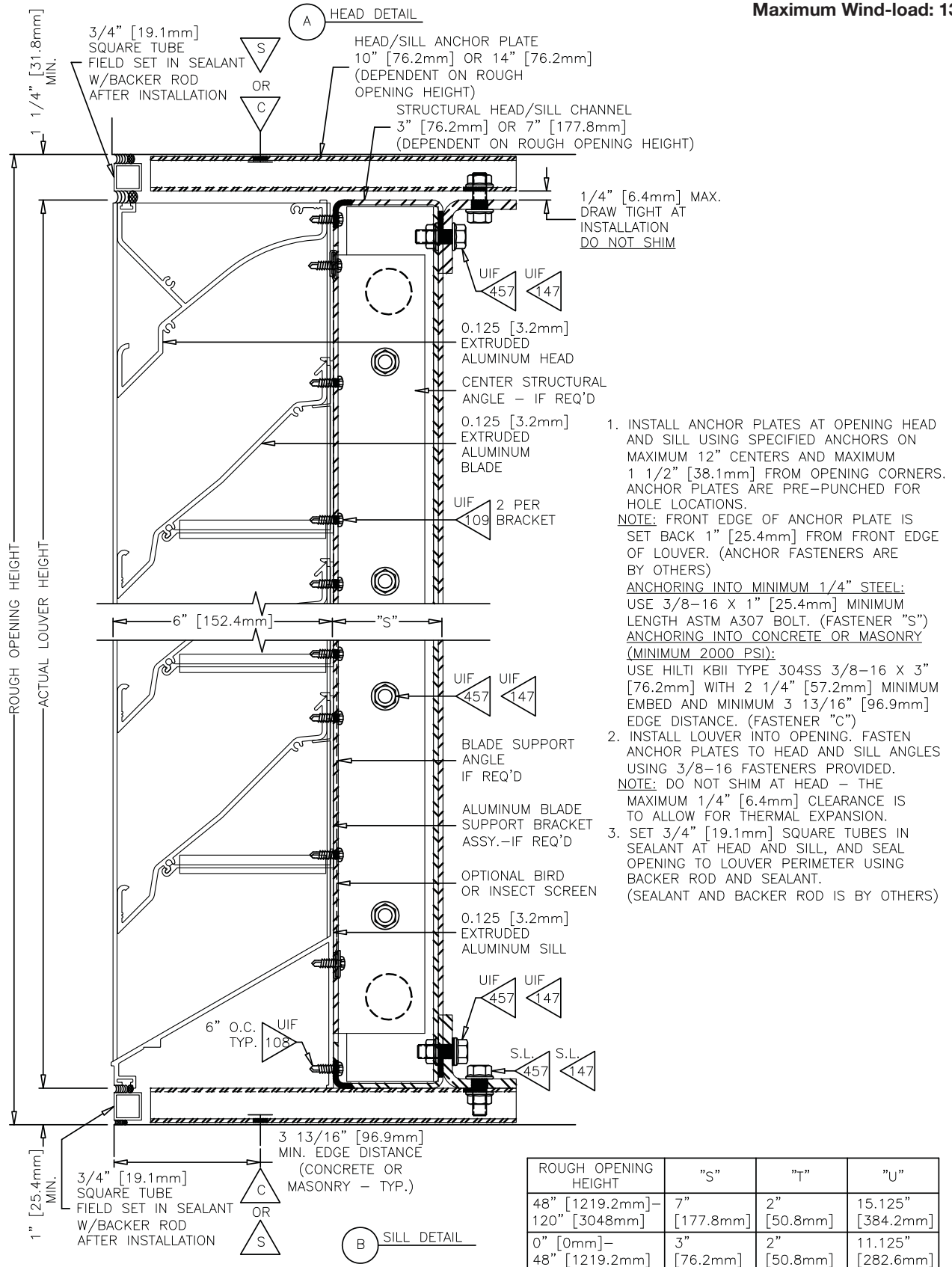
PRODUCT DETAILS

ESD-603D

Florida Product Approval No.: FL4826.1

Miami-Dade NOA No.: 06-0526.02

Maximum Wind-load: 138 PSF



1. INSTALL ANCHOR PLATES AT OPENING HEAD AND SILL USING SPECIFIED ANCHORS ON MAXIMUM 12" CENTERS AND MAXIMUM 1 1/2" [38.1mm] FROM OPENING CORNERS. ANCHOR PLATES ARE PRE-PUNCHED FOR HOLE LOCATIONS.
NOTE: FRONT EDGE OF ANCHOR PLATE IS SET BACK 1" [25.4mm] FROM FRONT EDGE OF LOUVER. (ANCHOR FASTENERS ARE BY OTHERS)
ANCHORING INTO MINIMUM 1/4" STEEL: USE 3/8-16 X 1" [25.4mm] MINIMUM LENGTH ASTM A307 BOLT. (FASTENER "s")
ANCHORING INTO CONCRETE OR MASONRY (MINIMUM 2000 PSI): USE HILTI KBII TYPE 304SS 3/8-16 X 3" [76.2mm] WITH 2 1/4" [57.2mm] MINIMUM EMBED AND MINIMUM 3 13/16" [96.9mm] EDGE DISTANCE. (FASTENER "c")
2. INSTALL LOUVER INTO OPENING. FASTEN ANCHOR PLATES TO HEAD AND SILL ANGLES USING 3/8-16 FASTENERS PROVIDED.
NOTE: DO NOT SHIM AT HEAD - THE MAXIMUM 1/4" [6.4mm] CLEARANCE IS TO ALLOW FOR THERMAL EXPANSION.
3. SET 3/4" [19.1mm] SQUARE TUBES IN SEALANT AT HEAD AND SILL, AND SEAL OPENING TO LOUVER PERIMETER USING BACKER ROD AND SEALANT. (SEALANT AND BACKER ROD IS BY OTHERS)

ROUGH OPENING HEIGHT	"s"	"T"	"U"
48" [1219.2mm]- 120" [3048mm]	7" [177.8mm]	2" [50.8mm]	15.125" [384.2mm]
0" [0mm]- 48" [1219.2mm]	3" [76.2mm]	2" [50.8mm]	11.125" [282.6mm]

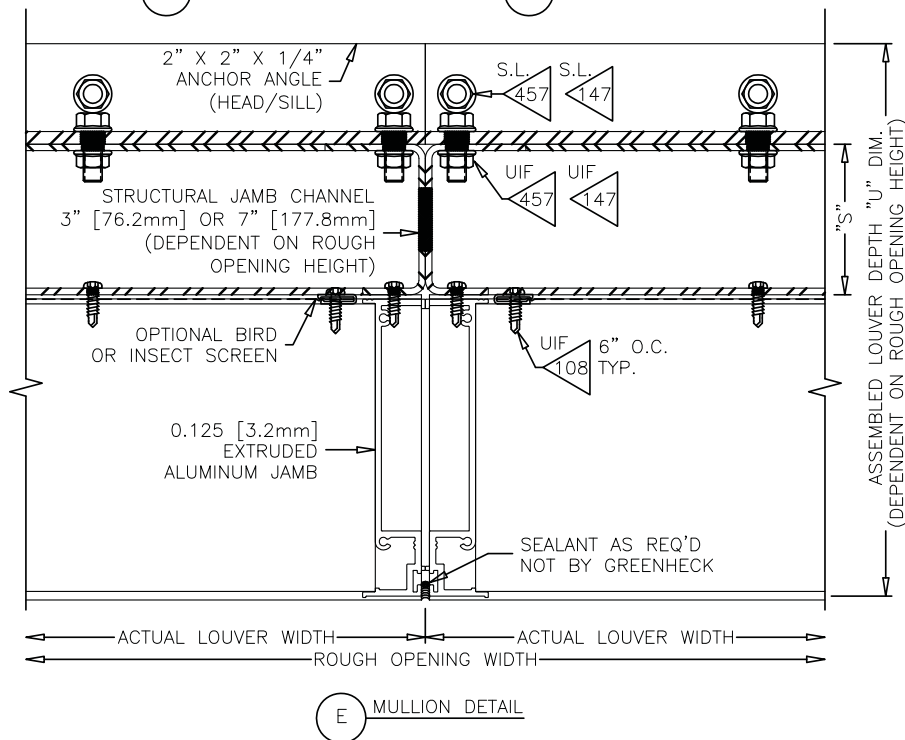
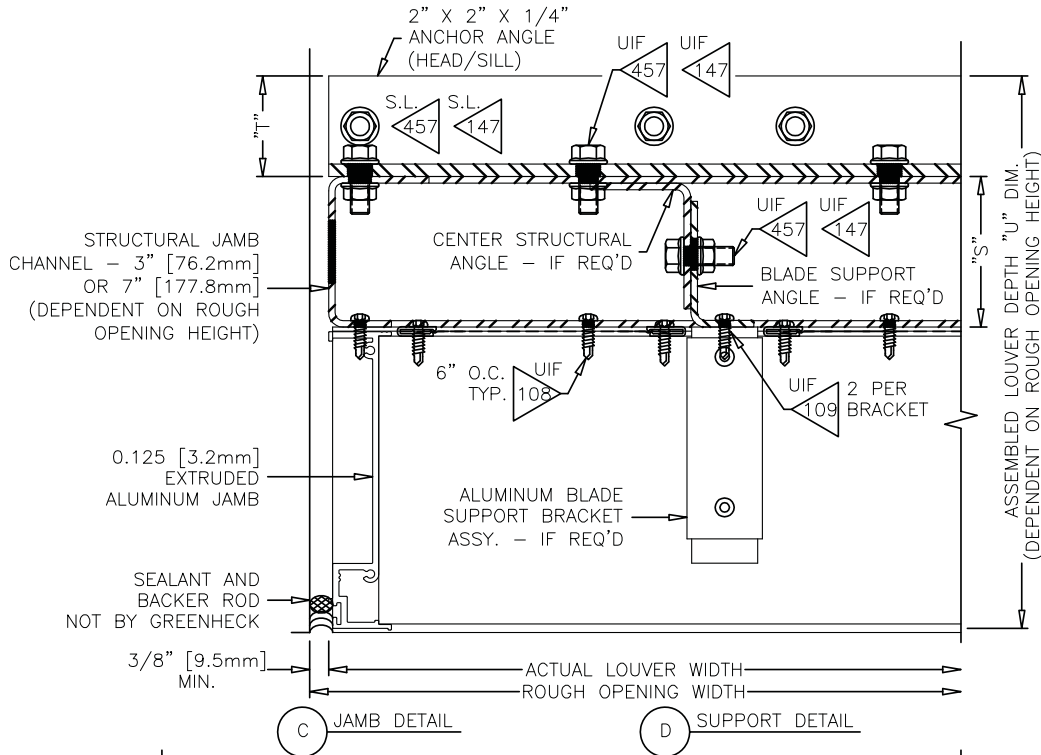
PRODUCT DETAILS

ESD-603D

Florida Product Approval No.: FL4826.1

Miami-Dade NOA No.: 06-0526.02

Maximum Wind-load: 138 PSF



3/8" X 3" (2 1/4" MIN. EMBED)
 HILTI KBII 304SS
 12" MAX. O.C., 1 1/2" MAX.
 FROM CORNERS AT HEAD/SILL

UIF #8-18 X 3/4"
 AB SMS TPH 18-8 SS
 416109 - 2/BRACKET

UIF #10-16 X 3/4"
 AB SMS TPH 18-8 SS
 416108

3/8-16 X 1"
 (ASTM A307) BOLT W/NUT
 12" MAX. O.C., 1 1/2" MAX.
 FROM CORNERS AT HEAD/SILL

UIF 3/8-16 X 1"
 ZP HH SFF
 416147

UIF 3/8-16
 SFF LOCKNUT
 415457

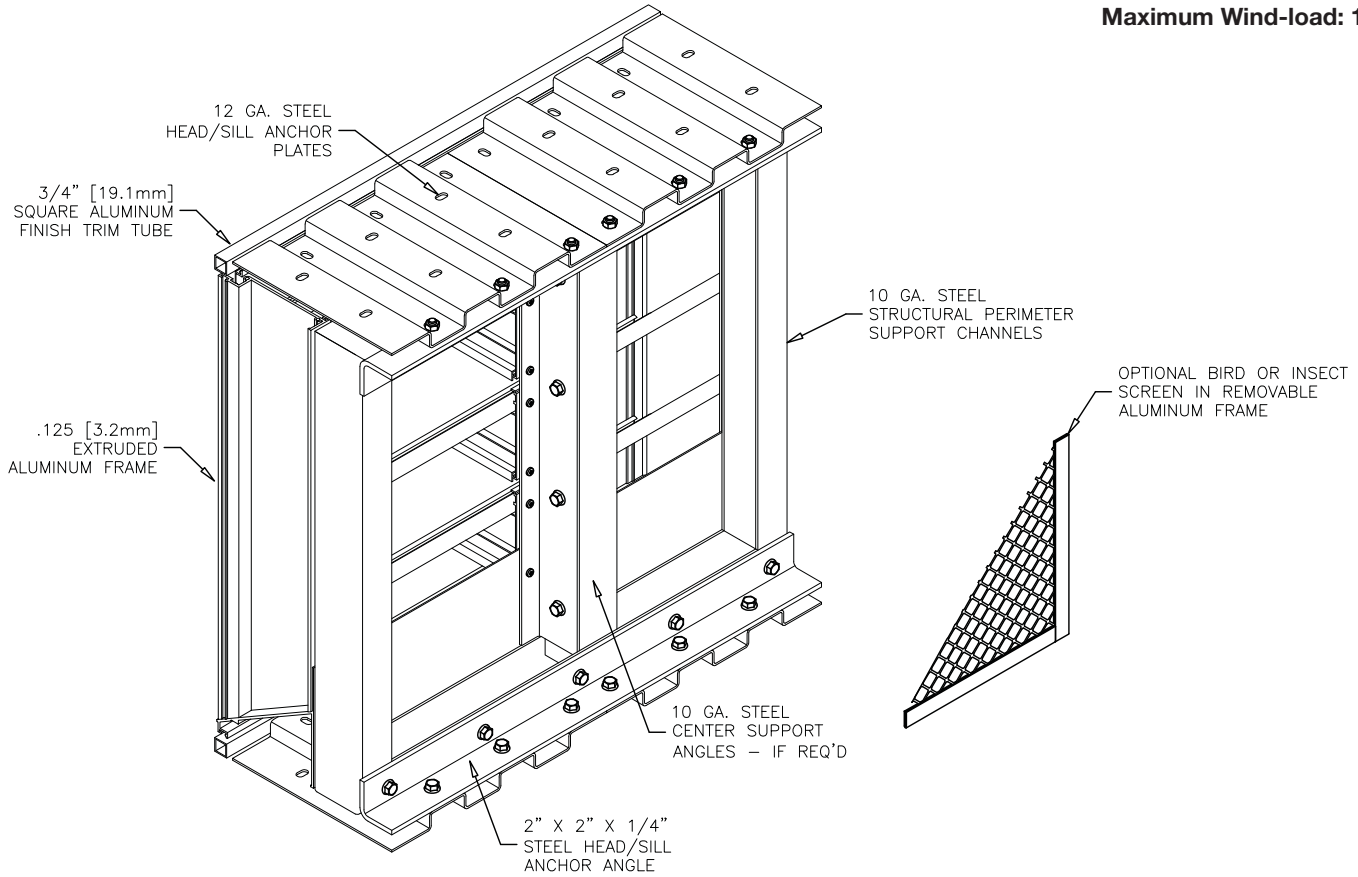
OPTION DRAWINGS

ESD-603D

Florida Product Approval No.: FL4826.1

Miami-Dade NOA No.: 06-0526.02

Maximum Wind-load: 138 PSF



FINISHES

Finish Type	Description/Application	Color Selection	Standard Warranty (Aluminum)
2-coat 70% KYNAR 5000®/HYLAR 5000® AAMA 2605 – Dry film thickness 1.2 mil. (AKA: Duranar®, Fluoropon®, Trinar®, Fluoropolymer, Polyvinylidene Fluoride, PVDF2)	“Best.” The premier finish for extruded aluminum. Tough, long-lasting coating has superior color retention and abrasive properties. Resists chalking, fading, chemical abrasion and weathering.	Standard Colors: Any of the 24 standard colors shown can be furnished in 70% or 50% KYNAR 5000®/HYLAR 5000® or Baked Enamel. 2-Coat Mica: Greenheck offers 9 standard 2-coat Mica colors. Other colors are available. Consult Greenheck for possible extra cost when selecting non-standard colors or special finishes.	10 Years (Consult Greenheck for availability of extended warranty)
2-coat 50% KYNAR 5000®/HYLAR 5000® AAMA 2604 – Dry film thickness 1.2 mil. (AKA: Acroflur®, Acrynar®)	“Better.” Tough, long-lasting coating has excellent color retention and abrasive properties. Resists chalking, fading, chemical abrasion and weathering.		5 Years
Baked Enamel AAMA 2603 – Dry film thickness 0.8 mil. (AKA: Acrabond Plus®, Duracron®)	“Good.” Provides good adhesion and resistance to weathering, corrosion and chemical stain.		1 Year
Integral Color Anodize AA-M10C22A42 (>0.7 mil)	“Two-step” anodizing is produced by following the normal anodizing step with a second, colorfast process.	Light, Medium or Dark Bronze; Champagne; Black	5 years
Clear Anodize 215 R-1 AA-M10C22A41 (>0.7 mil)	Clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack.	Clear	5 years
Clear Anodize 204 R-1 AA-M10C22A31 (0.4-0.7 mil)	Clear, colorless and hard oxide aluminum coating that resists weathering and chemical attack.	Clear	1 Year
Industrial coatings	Greenheck offers a number of industrial coatings such as Hi-Pro Polyester, Epoxy, and Permatector®. Consult a Greenheck Product Specialist for complete color and application information.		Consult Greenheck
Mill	Materials may be supplied in natural aluminum or galvanized steel finish when normal weathering is acceptable and there is no concern for color or color change.		n/a

Finishes meet or exceed AAMA 2605, AAMA 2604, and AAMA 2603 requirements. Please consult www.greenheck.com for complete information on standard and extended paint warranties. Paint finish warranties are not applicable to steel products.



ESD-603D

May 2007 Rev. 3

Copyright © 2007 Greenheck Fan Corporation

Greenheck Fan Corporation reserves the right to make product changes without notice.