

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER) BOARD AND CODE ADMINISTRATION DIVISION NOTICE OF ACCEPTANCE (NOA)

Greenheck Fan Corporation P. O. Box 410. Schofield, WI 54476

Scope:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Model EVH-660D Aluminum Louver

APPROVAL DOCUMENT: Drawing No. **EVH-660D**, titled "EVH-660D", sheets 1 through 9 of 9, dated 12/11/2023, prepared by the manufacturer, signed and sealed by Robert V. Nangia, P.E., bearing the Miami-Dade County Product Control revision stamp with the NOA number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official. This NOA revises NOA # 22-0707.08 and consists of this page 1 and evidence pages E-1, E-2, E-3, E-4 and E-5, as well as approval document mentioned above.

The submitted documentation was reviewed by Ishaq I. Chanda, P.E.



Ishag 1. Chandes

NOA No. 23-1030.05 Expiration Date: October 4, 2027 Approval Date: February 01, 2024 Page 1

1. EVIDENCE SUBMITTED UNDER PREVIOUS NOAs

A. DRAWINGS "Submitted under NOA # 12-0418.06"

1. Drawing No. **EVH-660D**, titled "EVH-660D", sheets 1 through 9 of 9, dated 12/06/2011, prepared by the manufacturer, signed and sealed by Chander P. Nangia, P.E. on 04/06/2012 and 07/19/2012.

B. TESTS "Submitted under NOA # 12-0418.06"

- 1. Test reports on 1) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
 - 2) Large Missile Impact Test per FBC, TAS 201-94
 - 3) Cyclic Wind Pressure Loading per FBC, TAS 203-94

along with marked-up drawings and installation diagram of Model EVH-660D Aluminum Vertical Louvers, prepared by Architectural Testing, Inc, Report No. **B5211.01-602-18**, dated 03/21/2012, signed and sealed by Shawn G. Collins, P.E.

2. Test Report on Wind Driven Rain Resistance per TAS 100(A)-95 and High Velocity Wind Driven Rain Resistance per AMCA 550-09 of a Model EVH-660D Aluminum Vertical Louvers, prepared by Architectural Testing, Inc, Test Report No. **B5211.02-602-18**, dated 03/21/2012, signed and sealed by Shawn G. Collins, P.E.

C. CALCULATIONS "Submitted under NOA # 12-0418.06"

1. Stress, deflection and anchorage calculations prepared by Greenheck Fan Corporation, dated 02/08/2012, signed and sealed by Chander P. Nangia, P.E.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

"Submitted under NOA #16-0201.07"

1. Statement letter of code conformance to the 5th edition (2014) FBC issued by Chander P. Nangia, P.E., dated 01/11/2016, signed and sealed by Chander P. Nangia, P.E.

"Submitted under NOA # 14-0224.10"

2. Statement letter of code conformance to 2010 FBC, issued by Chander P. Nangia, P.E., dated 02/13/2014, signed and sealed by Chander P. Nangia, P.E.

"Submitted under NOA # 12-0418.06"

3. Statement letter of code conformance to 2010 FBC, issued by Chander P. Nangia, P.E., dated 04/02/2012, signed and sealed by Chander P. Nangia, P.E.

"Submitted under NOA # 12-0418.06"

4. No financial interest letter issued by Chander P. Nangia, P.E., dated 04/02/2012, signed and sealed by Chander P. Nangia, P.E.

Ishaq I. Chandes Ishaq I. Chanda, P.E.

2. EVIDENCE SUBMITTED UNDER NOA # 17-0807.20

- A. DRAWINGS
 - 1. None.
- B. TESTS
 - 1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to the 5th Edition (2014) and 6th Edition (2017) FBC and of no financial interest issued by Chander P. Nangia, P.E., dated 07/28/2017, signed and sealed by Chander P. Nangia, P.E.

Ishag 1. Chanda

3. EVIDENCE SUBMITTED UNDER NOA # 21-0526.07

A. DRAWINGS

1. Drawing No. **EVH-660D**, titled "EVH-660D", sheets 1 through 9 of 9, dated 12/06/2011, prepared by the manufacturer, signed and sealed by Chander P. Nangia, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to FBC 2020 (7th Edition) and of no financial interest issued by Chander P. Nangia, P.E., dated May 13, 2021, signed and sealed by Chander P. Nangia, P.E.

G. OTHER

1. This NOA revises NOA #17-0807.20, expiring 10/04/2022.

Ishag 1. Chands

4. **EVIDENCE SUBMITTED previous approval**

A. DRAWINGS

1. Drawing No. EVH-660D, titled "EVH-660D", sheets 1 through 9 of 9, dated 06/24/2022, prepared by the manufacturer, signed and sealed by Chander P. Nangia, P.E.

B. TESTS 1. 7

Test reports on 1) Large Missile Impact Test per FBC, TAS 201-94
2) Cyclic Wind Pressure Loading per FBC, TAS 203-94
along with marked-up drawings and installation diagram of Model EVH-660D
Aluminum Vertical Louver, prepared by Quast Consulting & Testing, Inc, Report No.
QCT22-6695.01, dated 07/01/2022, signed and sealed by Arlen Fisher, P.E.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to the 7th Edition (2020) of the FBC, and of no financial interest, issued by Chander P. Nangia, P.E., dated 06/24/2022, signed and sealed by Chander P. Nangia, P.E.

Ishag 1. Chands

3. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. Drawing No. **EVH-660D**, titled "EVH-660D", sheets 1 through 9 of 9, dated 12/11/2023, prepared by the manufacturer, signed and sealed by Robert N. Nangia, P.E.

B. TESTS

1. None.

C. CALCULATIONS

1. None.

D. QUALITY ASSURANCE

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code conformance to FBC 2023 (8th Edition) and of no financial interest issued by Robert V. Nangia, P.E., dated 10/26/23, signed and sealed by Chander P. Nangia, P.E.

G. OTHER

1. This NOA revises NOA # 22-0707.08, updates to FBC 2023, expiring 10/04/27.

Ishag 1. Chandes



PRODUCT REVISED as complying with the Florida Building Code NOA-No. 23-1030.05 Expiration Date 10/04/2027 By 1949 1. Chint. Miami-Dade Product Control STRUCTURAL ONLY No. 69555 No. 69555			
HMENT OF THE G ANGLES. ES: HOWN) DETAIL CALLOUT	GREANNEGK P.D.BDX 410 SCHOFIELD, WISCONSIN 54476-0410	ITLE EVH-660D	ELEVATION
BE STACKED G THERE IS NG STRUCTURE HEAD/SILL	DRAWN BY DA MES SCALE	SHEET ND. 1 OF 9	cad drawing nd. EVH—660D
SIGN PRESSURE: +/- 150 PSF	рате 6/24/22	л Сл	



PRODUCT REVISED as complying with the Florida Building Code NOA-No. <u>23-1030.05</u> Expiration Date 10/04/2027 By <u>Istag I. Chank</u> Miami-Dade Product Control Miami-Dade Product Control No. 69555 No. 69555					
DESCRIPTION GAP NOTE & SEALING NOTE REPLACED "NOM." WITH "ROUGH OPENING" CAREPLACED "NOM." WITH "ROUGH OPENING" P.D.BIDX 410 SCHDFTELLD, WISCONSIN 54476-0410	EVH-660D	HEAD, SILL, & SUPPORT DETAILS			
REV # DATE (1) 02/05/2014 (3) 06/24/2022 (3) 06/24/2022 MES 6/24/22 SCALE SHEET NO.	2 OF 9	AILS EVH-660D			



22 24 \mathcal{O} ∇ \square ω 09 ND. \bigcirc Õ CAD DRAWING S Ш́ Х \vdash μ DRAWN SHEET SCALE ĹЛ DETAILS D D 5447 GREENH P.O.BOX 410 SC WISCONSIN 544 660D SUPPORT FVH $\cdot \nabla \cdot$ $\overset{}{\sim}$ JAMB **PRODUCT REVISED** as complying with the Florida Building Code NOA-No. 23-1030.05 Expiration Date 10/04/2027 By Ishag I. Chanda Miami-Dade Product Control No. 69555 No. 69555 A STATE OF NO. STATE











DARKENED AREAS INDICATE AREAS SEALED BY FACTORY, TYP AT BOTH SILL ENDS AND ALL BLADE-SILL AND JAMB-SILL FASTENERS. SCREWS ALLOWED TO USE A GASKET FOR SEALING VS A "WET" APPLIED SEAL OVER THE TOP OF THE SCREW.



VIEW OF INTERIOR FACE OF LOUVER, LOWER LEFT CORNER



DARKENED AREAS INDICATE AREAS SEALED BY FACTORY, TYP AT BOTH SILL ENDS.



DESCRIPTION	ļ				rev #	DATE
PREVIOUSLY	DETAILS	7	&	8	3	06/24/2022

22 24 \bigcirc \square DATE ω \bigcirc L Õ \bigcirc Ō DRAWING \bigcirc MES EVH lí m DRAWN SCALE CAD DETAILS 660D GREEN P.O.BOX 410 WISCONSIN 5 SEALING 1 EVH **PRODUCT REVISED** as complying with the Florida Building Code NOA-No. 23-1030.05 Expiration Date 10/04/2027 By Ishag I. Chanda Miami-Dade Product Control WWWWWWW MAL STONAL SUM

DEC 1 1 2823



CONTINU	DUS ANGLE TO LOUVER FRAME SCREW	3
FASTENER NUMBER	11	
DESCRIPTION	1/4"-14 OR 1/4"-20 SCREW, 300 OR 400 SERIES SS, OR COATED STEEL	3
LOUVER HEIGHT (IN.)	SPACING (IN.)	
>84 & ≤120	2	
>0 & ≤84	4	

1/4	′ TAPCON SCREW	FASTENER TABLE	-	
FASTENER NUMBER		12B		
DESCRIPTION		1/4" TAPCON, 410 SS		
SUBSTRATE	CONCR	ETE OR CMU (GROUT FI	LLED)	
MINIMUM	3,192 KSI	3.192 KSI CONCRETE OR 3.192 KSI GROUT		
EDGE DISTANCE (MIN)	1 IN.	1-1/2 IN.	2-1/2 IN.	
PENETRATION (MIN	1-3/4 IN.			
LOUVER HEIGHT (IN.)	SPACING (IN.)			
>108 & ≤120	2	2	4	
>96 & ≤108	2	4	4	
>72 & ≤96	2	4	6	
>48 & ≤72	4	6	6	
>0 & ≤48	6	6	6	

LAG SCREW, SCREW, & BOLT W/NUT FASTENER TABLE					
FASTENER NUMBER	12C	12D	12E		
DESCRIPTION	3/8″ LAG SCREW, 300 SERIES SS	1/4″ LAG SCREW, 300 SERIES SS	1/4"-20 SCREW 300 SEF	OR BOLT W/NUT, RIES SS	
SUBSTRATE	WE	מסו	STE	EEL	
MINIMUM	G=	.42	A36 STEEL D	R Fy>=36 KSI	
EDGE DISTANCE (MIN)	1-1/2	2 IN.	1/2	IN.	
PENETRATION (MIN)	2-3/	4 IN.	16GA (0.06 IN.)	3/16 IN.	
LOUVER HEIGHT (IN.)	SPACING (IN.)		SPACIN	IG (IN.)	
>84 & ≤120	6 4		6	6	
>0 & ≤84	6 6		6	6	

	DRAWN BY DATE MES 6/24/22 Scale Sheet ND. B OF 9 Cad drawing ND. EVH-660D
	FILE EVH-660D FASTENER TABLES
DESCRIPTION REV # DATE	PRODUCT REVISED as complying with the Florida Building Code NOA-No. 23-1030 05
	NOA–No. <u>23-1030.05</u> Expiration Date <u>10/04/2027</u>
REVISED LIMITS OF MAX SPACING102/05/2014REFORMATTED FASTENER 11 TABLEADDED 1/4-14 TO ITEM 11,06/24/2022ADDED STAINLESS STEEL TO ALL306/24/2022DESCRIPTIONS, DELETED POWERSWEDGE BOLT TABLE3	By Ishag I. Chank Miami-Dade Product Control
	No. 69555 * * * * * * * * * * * * * * * * * * *

		·····	
ITEM	DESCRIPTION	MATERIAL	NOTES
1	LOUVER HEAD	ALUM	
5	LOUVER SILL	ALUM	-
3	LOUVER JAMB	ALUM	-
4	LOUVER BLADE	ALUM	3/4" SPACING
5	CONTINUOUS MOUNTING ANGLE	ALUM	AT HEAD AND SILL ONLY
6	BLADE SUPPORT STRAP, FOR HEIGHTS > 60.875" ONLY	ALUM	NOT ATTACHED TO JAMBS
-	-	_	_
10	#10-16 × 3/4" MIN SCREW 3	300 22 **	
11	1/4-20 × 1" MIN SCREW	STEEL*, SS	300 DR 400 SERIES SS, DPTIDNAL: 1/4-14 ③
12A	ITEM DELETED	_	-
12B	1/4" TAPCON SCREW	410 SS	SEE FASTENER TABLE PAGE
12C	3/8″ LAG SCREW	300 22 **	SEE FASTENER TABLE PAGE
12D	1/4" LAG SCREW	300 22 **	SEE FASTENER TABLE PAGE
12E	1/4-20 SCREW OR 1/4-20 BOLT W/NUT	300 22 **	SEE FASTENER TABLE PAGE
	-		
20A	CONCRETE, 3.192 KSI MIN 3	CONCRETE	NDT BY MANUFACTURER
20B	CMU, 3.192 KSI MIN GROUT FILLED 3	CONCRETE	NOT BY MANUFACTURER
20C	STRUCTURAL STEEL, 3/16″ MIN	STEEL	NDT BY MANUFACTURER
20D	STEEL STUD, 16GA MIN	STEEL	NDT BY MANUFACTURER
20E	WOOD SUBSTRATE, G=0.42 MIN DENSITY	WODD	NOT BY MANUFACTURER
-	- .	_	
30	SEALANT, FACTORY APPLIED	VARIES	FACTORY APPLIED
31	SEALED SCREW HEAD, FACTORY APPLIED	VARIES	FACTORY APPLIED
32	SHIMS, OPTIONAL, AS REQUIRED, INCOMPRESSIBLE	VARIES	NOT BY MANUFACTURER
33	SEALANT AND BACKER ROD	VARIES	NDT BY MANUFACTURER

(STEEL/STAINLESS-STEEL/ALUMINUM PARTS MAY BE MADE OUT OF ALTERNATE ALLOY THAT HAS EQUAL OR GREATER YIELD STRENGTH)

* STEEL MUST HAVE CORROSION RESISTANT COATING. ** 300 SERIES STAINLESS STEEL (3)

DESCRIPTION	rev #	DATE
REVISED NOTE 2 FBC REFERENCE	2	01/11/2016
CORRECTED ITEM 10 THREADS, ADDED 1/4-14 OPTION TO ITEM 11, DELETED STEEL OPTIONS FROM ITEMS 10 AND 12, DELETED ITEM 12A POWERS WEDGE BOLT, UPDATED ITEMS 20A & 20B & NOTE 10 MIN PSI VALUE, ADDED ** NOTE, SIMPLIFIED NOTE 3, UPDATED NOTE 5 MAX SIZES, DELETED FBC REFERENCE FROM NOTE 14	3	06/24/2022

GENERAL NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE F VERIFY THE STRUCTURAL INTEGRITY OF THE EX SUPPORT THE LOADS IMPOSED BY THE PENTHO

2. THIS LOUVER HAS BEEN DESIGNED AND TES WITH MIAMI-DADE COUNTY PROTOCOLS [AND Q ACCORDANCE WITH THE CURRENT FLORIDA BUIL TEST PROTOCOLS/STANDARDS]:

TAS-201 (LARGE MISSILE IMPACT)

TAS-202 (UNIFORM STATIC PRESSURE)

TAS-203 (CYCLIC FATIGUE) TAS-100(A) (WIND-DRIVEN RAIN)

AMCA STANDARD 550 (WIND-DRIVEN RAIN)

3. THIS LOUVER HAS BEEN DESIGNED, TESTED, WITHSTAND DESIGN PRESSURES OF +/-150 P

4. THE LOUVER MAY BE INSTALLED IN A LOCAT BEHIND THE LOUVER IS <u>NOT DESIGNED</u> TO DRA INTO THE ROOM OR THE ROOM WILL HOUSE N OR WATER PROOF EQUIPMENT, COMPONENTS, C

5. THE MAXIMUM SINGLE SECTION SIZES ARE 4 AND 96"x60" (WxH). THE MAXIMUM OVERALL/ UNLIMITED WIDE (BY USE OF MULTIPLE SECTION SECTIONS/ASSEMBLIES MAY BE STACKED VERTIC IS SUITABLE STRUCTURAL SUPPORT (DESIGNED OTHERS) TO SUPPORT ALL LOADS TRANSFERRE HEAD AND/OR SILL TO THE SUBSTRATE.

6. A HORIZONTAL BLADE SUPPORT STRAP IS R HEIGHT IS GREATER THAN 63".

7. ALL WOOD SUBSTRATE SHALL BE G = 0.42

8. ALL STEEL STUD SUBSTRATE SHALL BE MIN.

9. ALL STRUCTURAL STEEL SUBSTRATE SHALL FY = 36 KSI.

10. ALL CONCRETE SUBSTRATE SHALL BE MIN.

11. CONCRETE MASONRY SHALL BE MINIMUM O TYPE II, LIGHT/MEDIUM/NORMAL WEIGHT CMU C C90, AND MIN. 1,500 PSI GROUT-FILLED.

12. LOUVER CONSTRUCTION: HEAD, SILL, JAMBS SQUARE CUT AT BOTH ENDS. BLADE SPACING BLADES ARE SECURED TO THE HEAD/SILL WITH BLADE END. EACH JAMB IS SECURED TO THE (2) SCREWS PER JAMB END.

13. THE LOUVER MANUFACTURER DOES NOT DI STRUCTURAL INTEGRITY OF THE SUBSTRATE STI

14. INSTALLER TO PROVIDE SEPARATION OF DIS REQUIRED.

XISTING STRUCTURE TO NOUSE ASSEMBLY. STED IN ACCORDANCE QUALIFIED IN ILDING CODE (FBC) AND D, AND APPROVED TO PSF. (2) ATION WHERE THE ROOM ANN WATER PENETRATING NON-WATER RESISTANT OR SUPPLIES. 48"x120", 60"x96", ASSEMBLED SIZE IS NNS) BY 120" HIGH. ICALLY PROVIDED THERE D AND INSTALLED BY ED FROM THE LOUVER (3) REQUIRED IF SECTION 2 DENSITY OR BETTER. A. 16 GA. FY = 36 KSI. BE MIN. 3/16" THICK 3,192 PSI. (3) DF: 6" WIDE, GRADE N, CONFORMING TO ASTM IS, AND BLADES ARE S IS 3/4" MAX. H (2) SCREWS PER E SILL AND HEAD WITH ETERMINE THE RUCTURE. (3) (4) (4) (4) (4) (4) (4) (5) (5) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7		
ASSEMBLED SIZE IS DNS) BY 120" HIGH. ICALLY PROVIDED THERE AND INSTALLED BY ED FROM THE LOUVER 3 REQUIRED IF SECTION 2 DENSITY OR BETTER. N. 16 GA. FY = 36 KSI. BE MIN. 3/16" THICK . 3,192 PSI. OF: 6" WIDE, GRADE N, CONFORMING TO ASTM S, AND BLADES ARE G IS 3/4" MAX. H (2) SCREWS PER E SILL AND HEAD WITH ETERMINE THE RUCTURE. AND BLADES ARE C IS 3/4" MAX. H (2) SCREWS PER E SILL AND HEAD WITH ETERMINE THE RUCTURE. AND BLADES ARE C IS 3/4" MAX. H (2) SCREWS PER E SILL AND HEAD WITH CONFORMINE THE RUCTURE. AND BLADES ARE C IS 3/4" MAX. CONFORMINE THE CONFORMINE	PERMIT HOLDER TO XISTING STRUCTURE TO IOUSE ASSEMBLY. STED IN ACCORDANCE QUALIFIED IN ILDING CODE (FBC) AND	BY DATE MES 6, ND. 9 0 F Rawing nd.
THOMAS TO BAD A CINE	ATION WHERE THE ROOM ANN WATER PENETRATING NON-WATER RESISTANT OR SUPPLIES. 48"x120", 60"x96", /ASSEMBLED SIZE IS DNS) BY 120" HIGH. ICALLY PROVIDED THERE D AND INSTALLED BY ED FROM THE LOUVER (3) REQUIRED IF SECTION 2 DENSITY OR BETTER. N. 16 GA. FY = 36 KSI. BE MIN. 3/16" THICK . 3,192 PSI. 0F: 6" WIDE, GRADE N, CONFORMING TO ASTM PS, AND BLADES ARE G IS 3/4" MAX. H (2) SCREWS PER E SILL AND HEAD WITH ETERMINE THE RUCTURE.	PRODUCT REVISED as complying with the Florida Building Code NOA-No. 23-1030.05 Expiration Date 10/04/2027 By Istag I. Chank Miami-Dade Product Control

1