

Manufacturers:

Greenheck Fan Corporation, PO Box 410, 400 Ross Ave, Schofield, WI 54476
The Airolite Company, LLC, PO Box 410, 400 Ross Ave, Schofield, WI 54476

Product Line(s):

Greenheck Louver Model EHV-550D, and equivalent nameplate Airolite Louver Model SCC550MD.

Compliance Method:

The above mentioned products have been evaluated for compliance with the requirements of the Florida Department of Business and Professional Regulation for Statewide Acceptance per Rule 61G20-3 of the FL Administrative Code, and comply with the 8th Edition (2023) Florida Building Code.

Product Description:

Aluminum louvers with vertical fixed blades and butt-type frame corner construction with blade/frame material as noted in its Miami-Dade NOA.

Performance Summary (for entire product line):

Tested design pressure is +/- 100 PSF. Passed ANSI/AMCA Standard 540-13 at Enhanced Impact Missile Level E (80 fps impact speed). Passed ANSI/AMCA Standard 550-15 (Rev. 09-18) with blades fully open. Passed TAS 201-94 (large missile, 50 fps impact speed), TAS 202-94, and TAS 203-94. Product can be used inside and outside of the HVHZ and is impact resistant.

Performance Standards:

1. ANSI/AMCA Standard 540-13, Test Method for Louvers Impacted by Wind Borne Debris.
2. ANSI/AMCA Standard 550-15 (Rev. 09-18), Test Method for High Velocity Wind Driven Rain Resistant Louvers (with louver blades in the fully open position).
3. FBC TAS 201-94, Impact Test Procedures, Basic Impact Missile Level D (50 fps impact speed).
4. FBC TAS 202-94, Criteria for Testing Impact & Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.
5. FBC TAS 203-94, Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.

Supporting Technical Documents:

1. Approval Documents:
 - a. NOA 23-1101.03 for EHV-550D, approved on 11/22/2023
 - b. NOA 23-1101.04 for SCC550MD, approved on 11/22/2023
2. Listing Documents:
 - a. AMCA License Agreement to use the AMCA Listing Label for ANSI/AMCA Standard 540 (Enhanced Impact Missile Level D, 80 fps) and ANSI/AMCA Standard 550:
 - i. EHV-550D, issued 6/27/2019
 - ii. SCC550MD, issued 6/27/2019
3. Test Reports:
 - a. QCT18-5153.02, signed and sealed on 4/17/2019 by Brian Sasman, P.E., Quast Consulting & Testing, Inc., Mosinee, WI
 - i. FBC TAS 201-94, FBC TAS 202-94, and FBC TAS 203-94
 - b. QCT18-5093.06, signed and sealed on 4/17/2019 by Brian Sasman, P.E., Quast Consulting & Testing, Inc., Mosinee, WI
 - i. ANSI/AMCA Standard 550-15 (Rev. 09-18)
 - c. QCT18-5093.08, signed and sealed on 5/1/2019 by Brian Sasman, P.E., Quast Consulting & Testing, Inc., Mosinee, WI
 - i. ANSI/AMCA Standard 540-13

Limits and Conditions Use:

1. Limits/Conditions are as per their Miami-Dade NOA and AMCA Listing documents.
2. Maximum Design Pressure is +/- 100 PSF.
3. Maximum Panel Size is 60" wide x 96" high.
4. Rated to be used inside and outside of the HVHZ.
5. Impact resistant for Enhanced Impact Missile Level E (80 fps).
6. With blades fully open, the louver may be installed in a location where the room behind the louver is NOT designed to drain water penetrating into the room and the room may house NON-water resistant/proof equipment, components, and/or supplies.

Installation:

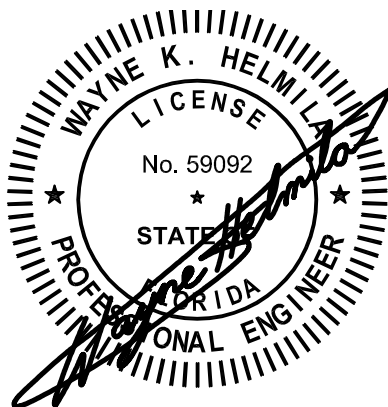
Must be installed in accordance with the Miami-Dade NOA documents (NOA 23-1101.03 for EHV-550D and NOA 23-1101.04 for SCC550MD) along with the following Anchor substitutions on Sheet 7 of each NOA:

1. Concrete Anchors – In lieu of Hilti Kwik Bolt TZ
 - a. Use 3/8" Dia Hilti Kwik Bolt TZ2 – SS 316/304.
 - i. Min. Embed = 2-1/2"
 - ii. Min. Edge Dis. = 3"
 - iii. Min. F'c = 2,500 psi Normal Weight Concrete.
 - iv. Min. Concrete Thickness = 6"
2. Masonry Anchors – In lieu of Hilti Hit-Hy 270 Adhesive Anchors
 - a. Use 1/2" Dia Hilti Hit-Hy 100 Adhesive Anchors – SS 316/304.
 - i. Min. Embed = 4-1/2"
 - ii. Min. Edge Dis. = 1-3/4"
 - iii. Min. F'm = 1,500 psi Grout Filled CMU

Certification of Independence:

Rice Engineering, Inc. and Wayne K Helmila, P.E. do not have and will not acquire a financial interest in any company manufacturing or distributing the products for which this report is being issued. Rice Engineering, Inc. and Wayne K Helmila, P.E., do not have and will not acquire a financial interest in any other entity involved in the approval process of the above listed products.

Evaluation Report By and PE Stamp:



02/12/2024
COA: 9090

RICE
ENGINEERING

105 School Creek Trail
Luxemburg, WI 54217
Phone: (920) 617-1042
Fax: (920) 617-1100
www.rice-inc.com

Florida Firm No: F-01000005061
Certificate of Authorization: #9090
Wayne K. Helmila
Registration No: 59092

Wayne K Helmila

Digitally signed by Wayne K Helmila
DN: CN=Wayne K Helmila,
dnQualifier=A01410C0000018CDBF4AFB001A652B,
O=Wisconsin, C=US
Date: 2024.02.12 17:15:01-0600



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

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/economy

Greenheck Fan Corporation
1110 Greenheck Drive (PO 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 EHV-550D Aluminum Louver

APPROVAL DOCUMENT: Drawing No. **EHV-550D**, titled "EHV-550D", sheets 1 through 8 of 8, dated 06/06/2019, prepared by Greenheck Fan Corporation, signed and sealed by Wayne K. Helmila, P.E. on 09/09/2021, bearing the Miami-Dade County Product Control renewal stamp with the NOA number and approval 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, Schofield, WI or Shelby, NC, 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 & renews** NOA # **21-0917.10** and consists of this page 1 and evidence pages E-1, E-2 and E-3, as well as approval document mentioned above.

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



NOA No. 23-1101.03
Expiration Date: August 15, 2029
Approval Date: November 22, 2023
Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. Evidence submitted under NOA # 19-0430.03

A. DRAWINGS

1. Manufacturer's die drawings and sections.
2. Drawing No. **EHV-550D**, titled "EHV-550D", sheets 1 through 8 of 8, dated AUG 06, 2019, prepared by the RICE Engineering, signed and sealed by Wayne K. Helmila, P.E.

B. TESTS

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 203-94along with marked-up drawings and installation diagram of Model EHV-550D Aluminum Vertical Louvers, prepared by Quast Consulting & Testing, Inc., Report No. **QCT18-5153.02**, dated 04/12/2019, signed and sealed by Brian N. Sasman, P.E.
Note: This test report has been revised by an addendum letter dated 06/26/2019, issued Quast Consulting & Testing, Inc, signed and sealed by Brian N. Sasman, P.E.
2. Test Report No. **QCT18-5093.06**, issued by Quast Consulting & Testing, Inc. dated April 11, 2019 for Wind Driven Rain Resistance per ANSI/AMCA 550-15 (Rev 09-18), signed and sealed by Brian N. Sasman, P.E.

C. CALCULATIONS

1. Structural load calculations prepared by Rice Engineering, dated 04/25/2019, signed and sealed by Wayne K. Helmila, P.E.
2. Supplement Engineering evaluation of vertical shims dated June 25, 2019 and July 26, 2019, signed and sealed by Wayne K. Helmila, P.E.

D. QUALITY ASSURANCE

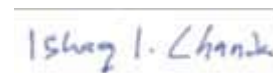
1. Miami-Dade Department of Regulatory and Economic Resources (RER)

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter dated June 25, 2019 of compliance to FBC 2017(6th Edition) and "No financial interest, both dated June 25, 2019, issued by Rice Engineering, signed and sealed by Wayne K. Helmila, P.E.
2. Test Lab compliance statement, as part of the report. *The submitted documentation was reviewed by Ishaq I. Chanda, P.E.*



Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No. 23-1101.03
Expiration Date: August 15, 2029
Approval Date: November 22, 2023

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. Evidence submitted under previous approval (#21-0917.10)

A. DRAWINGS

1. Drawing No. **EHV-550D**, titled “EHV-550D”, sheets 1 through 8 of 8, dated 06/06/2019, prepared by Greenheck Fan Corporation, signed and sealed by Wayne K. Helmila, P.E. on 09/09/2021.

B. TESTS

1. None.

C. CALCULATIONS

1. Structural load calculations prepared by Rice Engineering, dated 09/08/2021, signed and sealed by Wayne K. Helmila, P.E.

D. QUALITY ASSURANCE

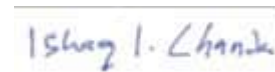
1. Miami-Dade Department of Regulatory and Economic Resources (RER).

E. MATERIAL CERTIFICATIONS

1. None.

F. STATEMENTS

1. Statement letter of code compliance to 7th edition (2020) of the FBC and of no financial interest, dated 09/09/2021, issued by Rice Engineering, signed and sealed by Wayne K. Helmila, P.E.



Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No. 23-1101.03
Expiration Date: August 15, 2029
Approval Date: November 22, 2023

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

3. New evidence submitted

A. DRAWINGS

1. Drawing No. **EHV-550D**, titled “EHV-550D”, sheets 1 through 8 of 8, dated 06/06/2019, prepared by Greenheck Fan Corporation, signed and sealed by Wayne K. Helmila, P.E. on 09/09/2021(submitted under previous submittal)

B. TESTS (submitted under previous submittal)

1. None.

C. CALCULATIONS (submitted under previous submittal)

1. None.

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

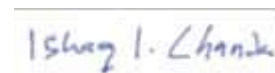
1. None.

F. STATEMENTS

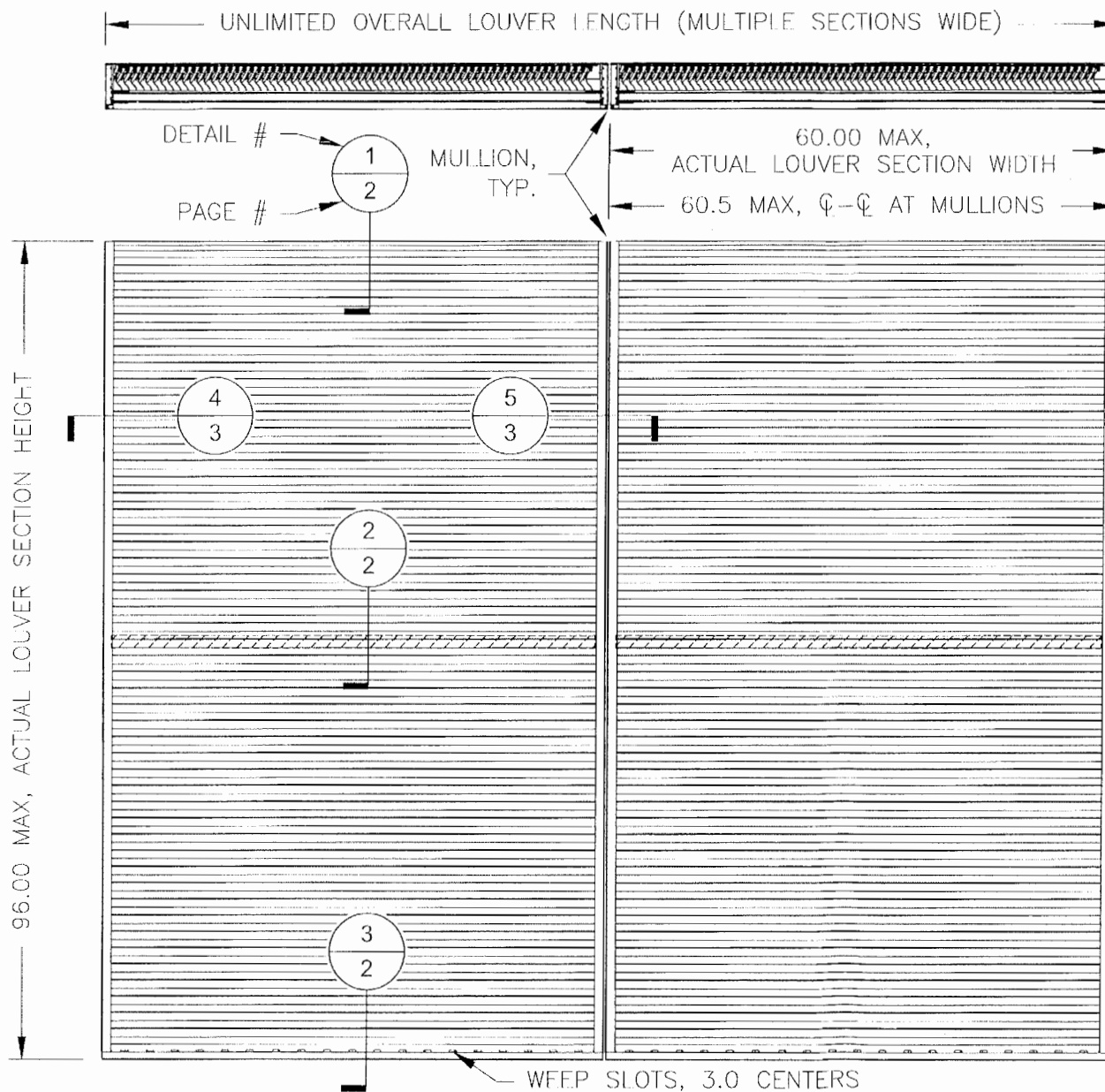
1. Statement letter dated 10/26/23 from Greenheck Corp./Aerolite, LLC requesting renewal with no changes, signed by Mike Steele, Product Development Engineer II.
2. Statement letter of code compliance to 8th edition (2023) of the FBC and of no financial interest, dated 10/26/2023, issued by Rice Engineering, signed and sealed by Wayne K. Helmila, P.E.
3. Statement letter of code compliance to 7th edition (2020) of the FBC and of no financial interest, dated 09/09/2021, issued by Rice Engineering, signed and sealed by Wayne K. Helmila, P.E.

G. OTHER

1. This NOA revises & renews NOA # 21-0917.10, expiring 08/15/29.



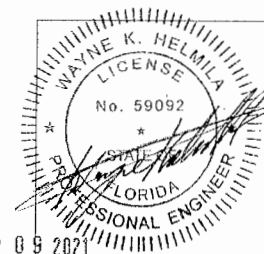
Ishaq I. Chanda, P.E.
Product Control Unit Supervisor
NOA No. 23-1101.03
Expiration Date: August 15, 2029
Approval Date: November 22, 2023



RICE
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Florida Firm No. F-01000005081
Certificate of Authorization #9090
Wayne K. Helmila
Registration No. 59092

DESIGN PRESSURE RATING		DATE	SCALE	SHEET NO.	OF
+/- 100 PSF		6/6/2019		1	8
				EHV-550D	



SEP 09 2021

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 21-0917.10
Expiration Date 08/15/2024
By *[Signature]*
Miami-Dade Product Control

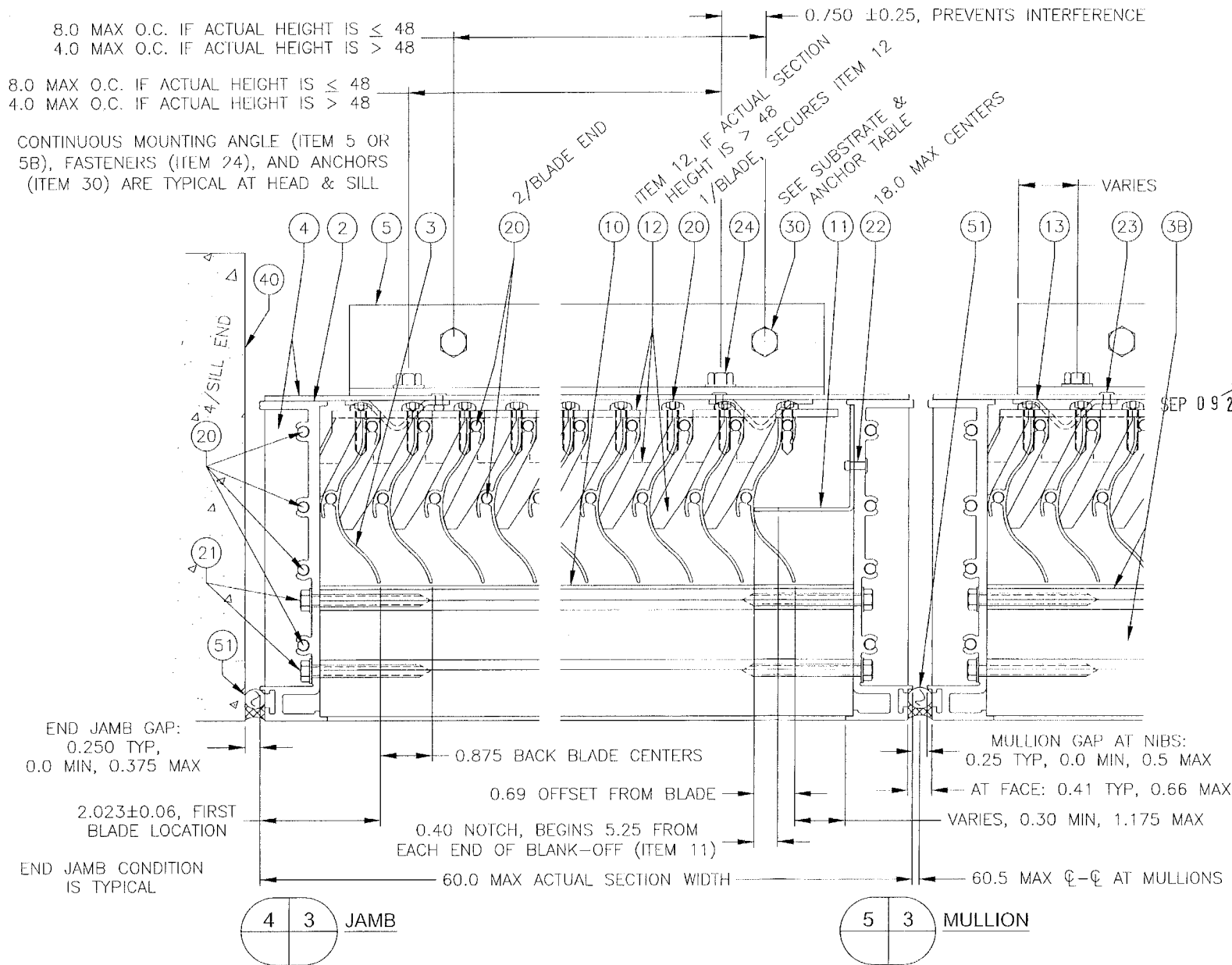
(FOR MIAMI-DADE D.R.E.R. USE ONLY)

PRODUCT RENEWED
as complying with the Florida
Building Code
NOA-No. 23-1101.03
Expiration Date 08/15/2029
By *[Signature]*
Miami-Dade Product Control

(FOR MIAMI-DADE D.R.E.R. USE ONLY)

PAGE NOTES:

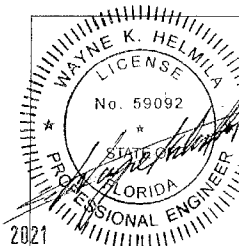
TITLE:
EHV-550D
ELEVATION & SECTION CUTS



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Florida Firm No. F 01000005081
Certificate of Authorization #9090
Wayne K. Helmila
Registration No. 59092



PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. 21-0917.10

Expiration Date 08/15/2024

By *Isang I. Chank*
Miami-Dade Product Control

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PRODUCT RENEWED
as complying with the Florida
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NOA-No. 23-1101.03

Expiration Date 08/15/2029

By *Isang I. Chank*
Miami-Dade Product Control

(FOR MIAMI-DADE D.R.E.R. USE ONLY)

DATE	6/6/2019
DESIGNER	MES
SCALE	
SHEET NO.	3 OF 8
PROJECT NO.	EHV-550D
TITLE	JAMB & MULLION DETAILS

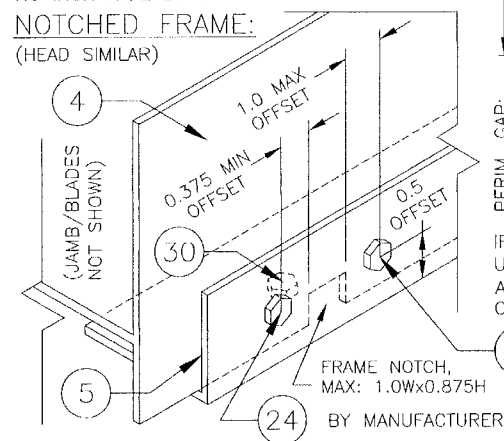
PAGE NOTES:

CAUTION! WITHOUT MODIFYING THE HEAD OR SILL FRAME MEMBER, THE CONTINUOUS MOUNTING ANGLES (ITEM 5 OR 5B) CAN ONLY BE USED IN THE INVERTED POSITION IF ONLY ONE OF THE ANGLES IS INVERTED. EITHER AT THE HEAD OR AT THE SILL, NOT BOTH. (LARGER SUBSTRATE ANCHOR (ITEM 30) HEAD STYLES MAY ALSO REQUIRE THE BELOW INVERTED ANGLE FIELD MODIFICATION EVEN IF ONLY ONE ANGLE IS INVERTED.)

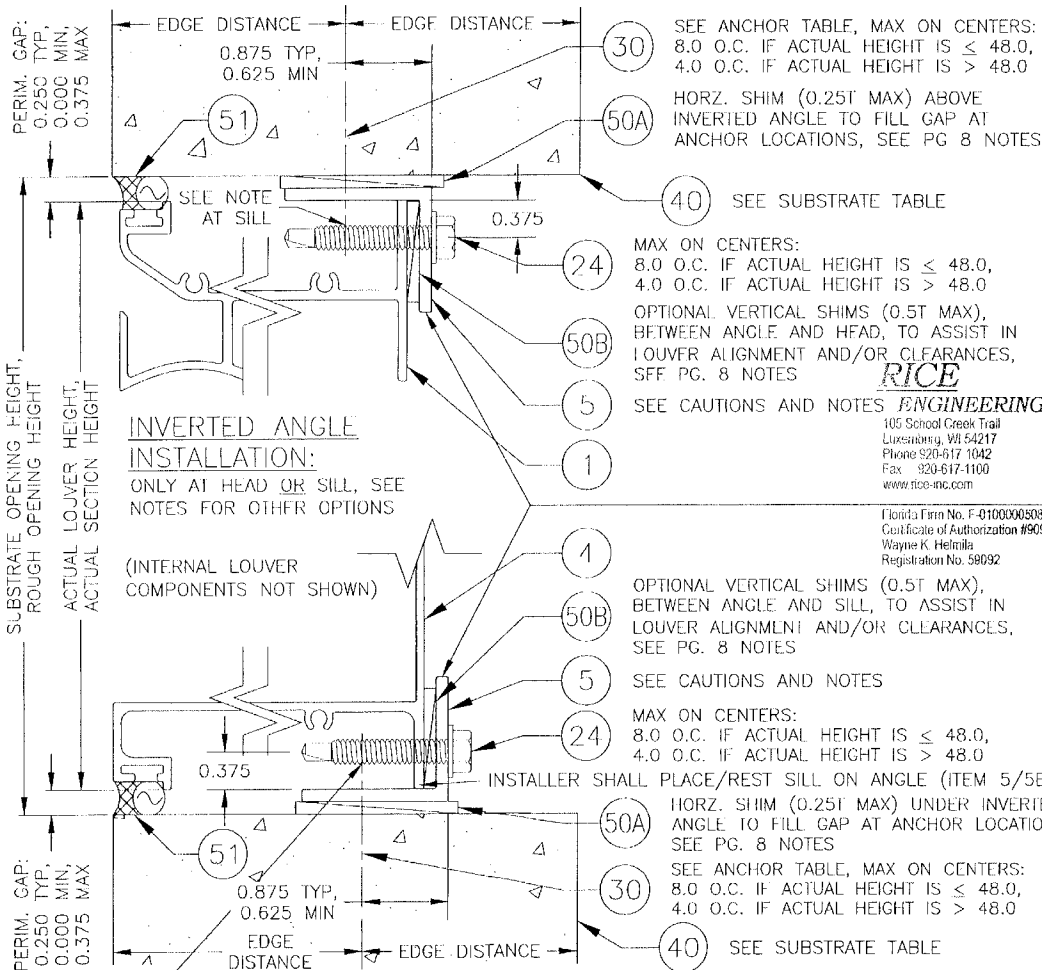
WHY: DUE TO REQUIRED OFFSETS OF THE HOLES IN THE CONTINUOUS MOUNTING ANGLE, THE HORIZONTAL LEG OF THE ANGLE WILL BE UP AGAINST THE HEAD/SILL FRAME MEMBER (AS SHOWN ON THIS PAGE). THEREFORE, IT IS IMPOSSIBLE TO PRE-MOUNT BOTH THE HEAD AND SILL ANGLES TO THE SUBSTRATE IN THE INVERTED POSITION AND STILL HAVE CLEARANCE FOR THE LOUVER'S HEAD/SILL FRAME TO SLIDE PAST THE HEADS OF THE SUBSTRATE ANCHOR.

SOLUTION: TO OVERCOME THE ABOVE ISSUE AND BE ABLE TO INVERT THE ANGLE AT BOTH THE HEAD AND SILL LOCATIONS, THE HEAD AND/OR SILL FRAME MEMBER HAVE TO BE NOTCHED (BY OTHERS) AT EVERY LOCATION WHERE THE SUBSTRATE FASTENER HEAD WOULD CAUSE INTERFERENCE WITH SLIDING THE LOUVER UP TO THE CONTINUOUS MOUNTING ANGLE. AN ADDITIONAL ITEM 24 ANGLE TO LOUVER FASTENER SHALL BE USED AT EACH NOTCHED LOCATION, AND SHALL BE LOCATED AS SHOWN IN THE BELOW "NOTCHED FRAME" EXAMPLE. THE ADDITIONAL ITEM 24 FASTENER IS NOT PROVIDED BY THE MANUFACTURER. MAX NOTCH SIZE IS 1.0 INCH WIDE BY 0.875 INCH HIGH.

NOTCHED FRAME: (HEAD SIMILAR)



OPTIONAL INVERTED CONTINUOUS MOUNTING ANGLE: SETUPS, CAUTIONS, & NOTES



SEE ANCHOR TABLE, MAX ON CENTERS:
8.0 O.C. IF ACTUAL HEIGHT IS $\leq$ 48.0,
4.0 O.C. IF ACTUAL HEIGHT IS $>$ 48.0

HORZ. SHIM (0.25" MAX) ABOVE
INVERTED ANGLE TO FILL GAP AT
ANCHOR LOCATIONS, SEE PG 8 NOTES

SEE SUBSTRATE TABLE

MAX ON CENTERS:
8.0 O.C. IF ACTUAL HEIGHT IS $\leq$ 48.0,
4.0 O.C. IF ACTUAL HEIGHT IS $>$ 48.0

OPTIONAL VERTICAL SHIMS (0.5T MAX),
BETWEEN ANGLE AND HEAD, TO ASSIST IN
LOUVER ALIGNMENT AND/OR CLEARANCES,
SEE PG. 8 NOTES

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Certificate of Authorization #9090
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Registration No. 58092

OPTIONAL VERTICAL SHIMS (0.5T MAX),
BETWEEN ANGLE AND SILL, TO ASSIST IN
LOUVER ALIGNMENT AND/OR CLEARANCES,
SEE PG. 8 NOTES

SEE CAUTIONS AND NOTES

MAX ON CENTERS:
8.0 O.C. IF ACTUAL HEIGHT IS $\leq$ 48.0,
4.0 O.C. IF ACTUAL HEIGHT IS $>$ 48.0

HORZ. SHIM (0.25" MAX) UNDER INVERTED
ANGLE TO FILL GAP AT ANCHOR LOCATIONS,
SEE PG. 8 NOTES

SEE ANCHOR TABLE, MAX ON CENTERS:
8.0 O.C. IF ACTUAL HEIGHT IS $\leq$ 48.0,
4.0 O.C. IF ACTUAL HEIGHT IS $>$ 48.0

SEE SUBSTRATE TABLE

NOTES: INVERTED ANGLE
OPTION SHOWN UTILIZING
THE THE MANUFACTURER
PROVIDED STANDARD
CONTINUOUS MOUNTING
ANGEL (ITEM 5) AT THE
HEAD/SILL. THE ANGEL
SHALL NOT EXTEND MORE
THAN THE THICKNESS OF
THE ANGLE ABOVE/BELOW
THE THE HEAD/SILL.

THE CONTINUOUS MOUNTING
ANGLES (ITEM 5 OR 5B)
CAN BE USED IN THE
INVERTED POSITION AT BOTH
THE HEAD AND SILL
LOCATIONS ONLY IF THE
ANGLES ARE FIELD NOTCHED
(BY OTHERS) AND ONE
ADDITIONAL FASTENER (BY
OTHERS) IS REQUIRED PER
EVERY NOTCH LOCATION. SEE
"CAUTION/SOLUTION" NOTES
AND "NOTCHED FRAME"
EXAMPLE ON THIS PAGE.

(FOR MIAMI-DADE D.R.E.R. USE ONLY)

PRODUCT REVISED
as complying with the Florida
Building Code
NOA-No. **21-0917.10**

Expiration Date **08/15/2024**

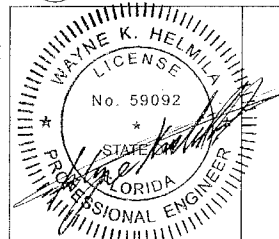
By *[Signature]*
Miami-Dade Product Control

(FOR MIAMI-DADE D.R.E.R. USE ONLY)

PRODUCT RENEWED
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Building Code
NOA-No. **23-1101.03**

Expiration Date **08/15/2029**

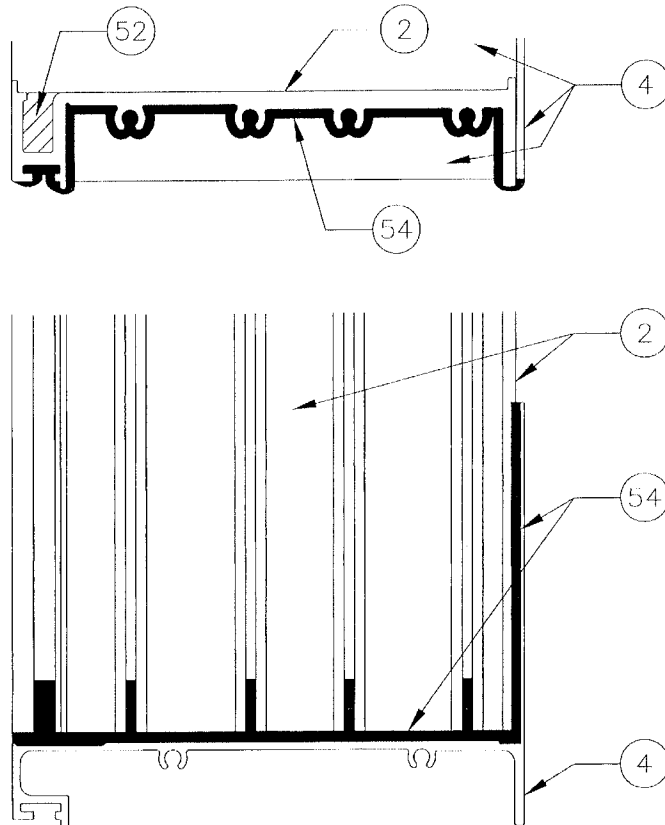
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Miami-Dade Product Control



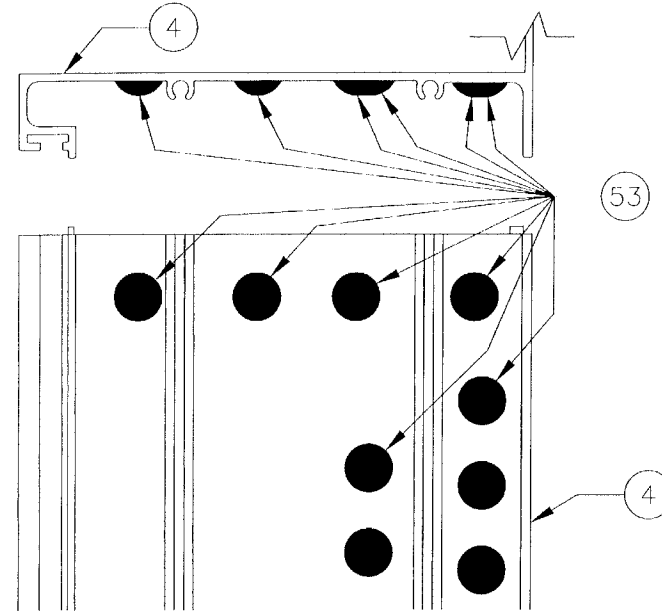
SEP 09 2021

DATE 8/5/2018	DESIGNED BY MCS	CHECKED BY SALE	SHEET NO. 4 OF 8	PROJECT NO. EHV-5500
GREENHECK POLYMER SCIENCE, LLC WISCONSIN 54478-0410				
TITLE: OPTIONAL INVERTED ANGLE DETAILS				

TYP CORNER SEALING,
TOP AND SIDE VIEW OF JAMB



TYP SILL SEALING,
SIDE AND BOTTOM VIEW OF SILL



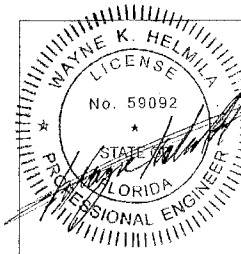
THIS PAGE: ALL SHOWN SEALING IS BY MANUFACTURER,
AND IS REQUIRED (ALONG WITH PERIMETER AND MULLION
GAP SEALING, BY OTHERS) TO PASS ANSI/AMCA 550.

RICE
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SEP 09 2021



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By *[Signature]*
Miami-Dade Product Control

(FOR MIAMI-DADE D.P.E.R. USE ONLY)

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PRODUCT RENEWED
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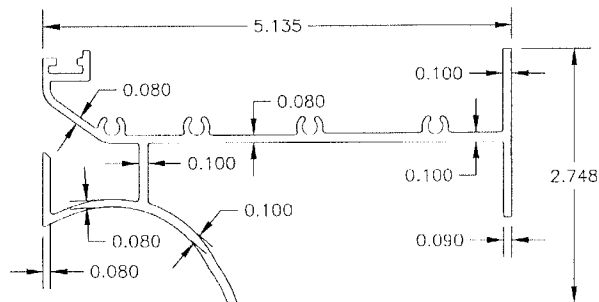
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GREENHECK
CORPORATION
410 SCHMIDT FIELD,
WISCONSIN 54475-0410

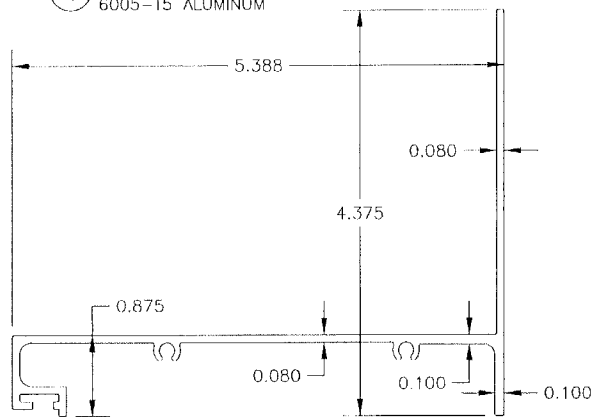
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EHV-550D
FACTORY SEALING

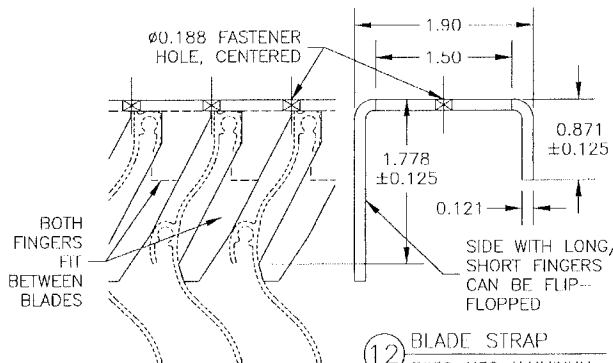
DRAWN BY: MES
DATE: 6/5/2019
SCALE:
SHEET NO. 5 OF 8
DOC. DESIGN. NO. EHV-550D



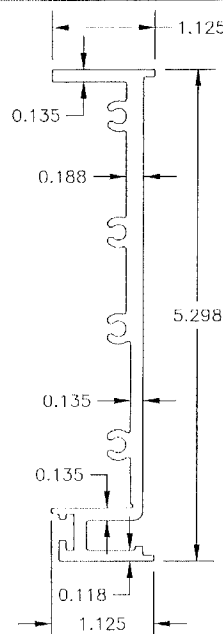
① HEAD
6005-T5 ALUMINUM



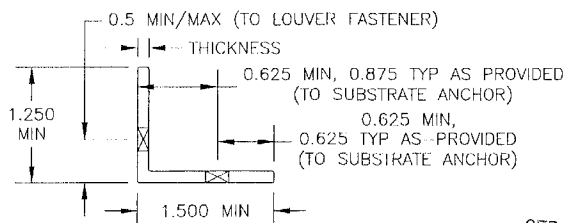
④ SILL
6005-T5 ALUMINUM



⑫ BLADE STRAP
5052-H32 ALUMINUM



② JAMB
6005-T5 ALUMINUM



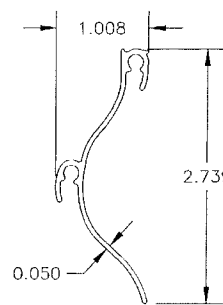
⑤ STANDARD CONTINUOUS MOUNTING ANGLE
6061-T6 ALUMINUM, 0.125 MIN THICKNESS, TYP AS PROVIDED

⑤B ALTERNATE CONTINUOUS MOUNTING ANGLE
6005-T5 ALUMINUM, 0.125 MIN THICKNESS, BY OTHERS

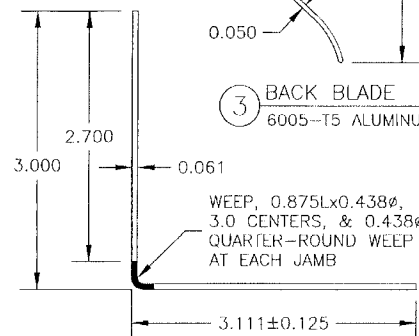
⑤B ALTERNATE CONTINUOUS MOUNTING ANGLE
A36 STEEL, 0.125 MIN THICKNESS, BY OTHERS

⑤B ALTERNATE CONTINUOUS MOUNTING ANGLE
1008 HOT ROLLED STEEL, 11GA MIN THICKNESS, BY OTHERS

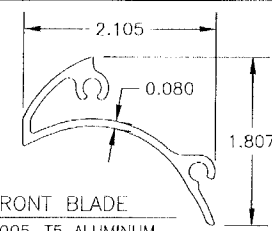
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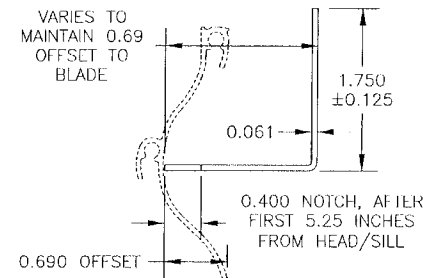
③ BACK BLADE
6005-T5 ALUMINUM



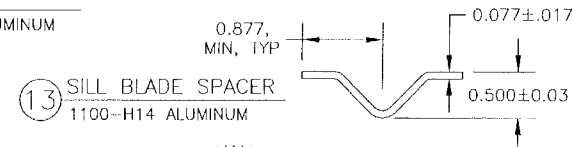
⑩ SILL BAFFLE
5052-H32 ALUMINUM



③B FRONT BLADE
6005 T5 ALUMINUM

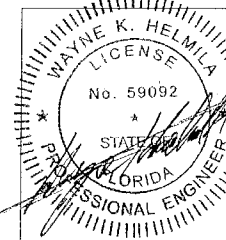


⑪ JAMB BLANK-OFF
5052-H32 ALUMINUM



⑬ SILL BLADE SPACER
1100-H14 ALUMINUM

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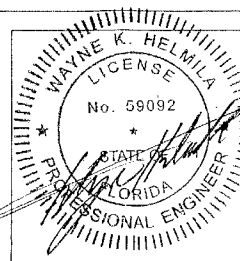
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SUBSTRATE & ANCHOR TABLE			MAX. ANCHOR SPACING IS BASED ON ACTUAL HEIGHT: 8.0 IN. FOR ≤ 48.0 IN., & 4.0 IN. FOR > 48.0 IN.					
SUBSTRATE (ITEM 40)			ANCHOR (ITEM 30)	ANCHOR MINIMUMS				
TYPE	THICKNESS MIN. (IN.)	PROPERTY MINIMUM		LENGTH (IN.)	THREADED LENGTH (IN.)	EMBEDMENT (IN.)	TO EDGE (IN.)	Fy, Fu (KSI)
WOOD (7)	3, (2 LAYERS OF 2x LUMBER)	SG 0.42	1/4 IN. LAG SCREW, COATED STEEL (6) (1)	3	2 1/2	2 1/2	1 1/2	70, 105
			1/4 IN. LAG SCREW, 300 SERIES STAINLESS (1)					65, 100
			1/4 IN. SPAX POWERLAG, HEX OR T-STAR WASHER HEAD, COATED STEEL (6) (1)		1 3/4			70, -
			6 MM SPAX TIMBER SCREW, WASHER HEAD, 300 SERIES STAINLESS	80 MM	61 MM	2 11/16		65, -
STEEL (8)	16 GA	Fy 33 KSI Fu 45 KSI	1/4-14 DEWALT/ELCO BI-FLEX SCREW OR EQUAL 1/4-14 18-8 SS SCREW (1)	VARIES (2)	VARIES (2)	FULL	1/2	65, -
			1/4-20 BOLT, 300 SERIES STAINLESS (1)			BOLTED		
ALUMINUM (8)	1/8	Fy 25 KSI (6063-T6)	1/4-20 DEWALT/ELCO BI-FLEX SCREW OR EQUAL 1/4-20 18-8 SS SCREW (1)	VARIES (2)	VARIES (2)	FULL	1/2	65, -
			1/4-20 SCREW OR THRU BOLT, 300 SERIES STAINLESS (1)			FULL/BOLTED		
CONCRETE (3) (9)	4 (10)	Fc 2.5 KSI	3/8 IN. HILTI KWIK BOLT TZ EXPANSION, 304 OR 316 STAINLESS (5)	VARIES (2)	VARIES (2)	2 5/16 NOM.	3	-
GROUT FILLED CMU (4) (9)	4x4x16 (10)	Fm 1.5 KSI	3/8 IN. DEWALT SCREW-BOLT+, COATED STEEL (5) (6) (1)	VARIES (2)	VARIES (2)	3 1/4 NOM.	1 1/2	-
			1/2 IN. THREADED ROD W/ HIT-HY 270 ADHESIVE, 300 SERIES STAINLESS (5)			4 1/2 EFF.	1 3/4	65, -
1) ANCHOR MANUFACTURING PROCESS IS COLD-WORKED.								
2) AS NEEDED TO COMPLY WITH THE EMBEDMENT WHILE ACCOUNTING FOR THE THICKNESS OF THE CONTINUOUS MOUNTING ANGLE, SHIM(S), ETC.								
3) ANCHOR QUALIFIED FOR NON-CRACKED AND CRACKED CONCRETE SUBSTRATES, NORMAL WEIGHT CONCRETE, INCLUDING PRE-CAST. (1)								
4) LIGHT/MEDIUM/NORMAL-WEIGHT CMU CONFORMING TO ASTM C90, TYPE II, GROUT FILLED CONFORMING TO C476, AS ALLOWED BY CURRENT FBC.								
5) THE 1/4 IN. DIAMETER ANCHOR CLEARANCE HOLES IN THE MANUFACTURER PROVIDED STANDARD CONTINUOUS MOUNTING ANGLE (ITEM 5) WILL NEED TO BE FIELD ENLARGED TO ACCEPT THE ANCHOR.								
6) WITH GALVANIZED COATING OR FIELD SEALED POST INSTALLATION WITH LIQUID PROSUGO FLASHING. (1)								
7) 2x WOOD BUCK, BY OTHERS, TO BE PROPERLY DESIGNED AND SECURED TO TRANSFER IMPOSED LOADS, TO BE REVIEWED BY AUTHORITY HAVING JURISDICTION (A.H.J.).								
8) METAL SUBSTRATE OR STUD, BY OTHERS, TO BE DESIGNED TO TRANSFER IMPOSED LOADS, TO BE REVIEWED BY A.H.J.								
9) CONCRETE/CMU, BY OTHERS, TO BE DESIGNED TO TRANSFER IMPOSED LOADS, TO BE REVIEWED BY A.H.J.								
10) SUBSTRATE THICKNESS SHALL ALSO MEET THE MINIMUMS AS ALLOWED PER THE CURRENT FBC.								

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DATE 6/6/2019	SCALE	SHEET NO. 7 OF 8	LOG NUMBER NO. EHV-5500
GREENMECK PUBLIC & SCHUPFELD, WISCONSIN 54476-0410			
TITLE: SUBSTRATE & ANCHOR TABLE			
PAGE NOTES: 1) 8/20/21 ADDED. SEVERAL CALLOUTS TO REFERENCE NOTE 6, REPLACED 2 STEEL SUBSTRATE ANCHOR ROWS OF 1/4-14 SCREW WITH A SINGLE ROW OF 1/4-14 DEWALT/ELCO BI-FLEX OR EQUAL, REPLACED ALUMINUM SUBSTRATE ANCHOR 1/4-20 COATED STEEL SCREW WITH ROWS OF 2 DEWALT/ELCO BI-FLEX OR EQUAL, COMBINED CRACKED CONCRETE AND CONCRETE ROWS INTO ONE ROW, AD QUALIFIED CONCRETES TO NOTE 3, AND REPLACED NOTE 6 WITH COMPLETELY NEW CONTENT.			

RICE

ENGINEERING

ITEM	DESCRIPTION	MATERIAL (MIN)	ID #	NOTES
1	LOUVER HEAD	6005-T5 ALUM	126145	---
2	LOUVER JAMB	6005-T5 ALUM	126147	---
3	LOUVER BACK BLADE	6005-T5 ALUM	126200	0.875 BLADE SPACING
3B	LOUVER FRONT BLADE	6005-T5 ALUM	126223	1.905 BLADE SPACING
4	LOUVER SILL	6005-T5 ALUM	126204	---
5	STANDARD CONTINUOUS MOUNTING ANGLE, TYPICAL AS PROVIDED BY MANUFACTURER	6061-T6 OR 6005-T5 ALUM	125811	ALONG HEAD AND SILL ONLY, MINIMUM LENGTH IS SECTION WIDTH MINUS 3.0, 0.125 MAX OFFSET FROM FRAME AT HEAD/SILL
5B	ALTERNATE CONTINUOUS MOUNTING ANGLE, NOT PROVIDED BY MANUFACTURER	VARIES	N/A	ALONG HEAD AND/OR SILL ONLY, AS AN ALTERNATE TO ITEM 5, MINIMUM LENGTH IS SECTION WIDTH MINUS 3.0, 0.125 MAX OFFSET FROM FRAME AT HEAD/SILL
---	---	---	---	---
10	LOUVER SILL BAFFLE	5052-H32 ALUM	100172	CONTINUOUS ALONG SILL, BETWEEN JAMBS
11	LOUVER JAMB BLANK OFF	5052-H32 ALUM	100172	CONTINUOUS ALONG ONE JAMB BETWEEN HEAD AND SILL, IS NOTCHED AFTER THE FIRST 5.25 IN. FROM THE HEAD AND SILL
12	LOUVER BLADE STRAP	5052-H32 ALUM	100172	APPROXIMATELY CENTERED, NOT CONNECTED TO EITHER JAMB
13	LOUVER SILL BLADE SPACER	1100-H14 ALUM	NA	BETWEEN FIRST/LAST PAIR OF BLADES, 2 PER SECTION
---	---	---	---	---
20	FRAME CORNER, BACK BLADE, AND BLADE STRAP SCREW, #10x0.75	300 SERIES SS	416108	4 PER FRAME CORNER, 2 PER BACK BLADE END, 1 PER BLADE ALONG STRAP
21	FRONT BLADE SCREW, #12x2	300 SERIES SS	417396	2 PER FRONT BLADE END
22	JAMB BLANK-OFF RIVET, #1/8	ALUM	415706	18 IN. MAX CENTERS
23	SILL BLADE SPACER RIVET, #1/8	ALUM	415706	1 PER SPACER
24	ANGLE TO LOUVER FASTENER, 1/4-20, DEWALT/ELCO BI-FLEX OR EQUAL	18-8 SS HEAD & SHANK	① ---	8.0 MAX O.C. FOR ACTUAL HEIGHT ≤ 48.0, 4.0 MAX O.C. FOR ACTUAL HEIGHT > 48.0, FIRST AND LAST END SPACE VARIES (6.0 MAX)
---	---	---	---	---
30	ANCHOR, TYPE VARIES BY SUBSTRATE, SEE 'SUBSTRATE & ANCHOR TABLE'	VARIES	N/A	8.0 MAX O.C. FOR ACTUAL HEIGHT ≤ 48.0, 4.0 MAX O.C. FOR ACTUAL HEIGHT > 48.0, FIRST AND LAST END SPACE VARIES (6.0 MAX)
---	---	---	---	---
40	SUBSTRATE: WOOD, STEEL, ALUMINUM, CONCRETE, CRACKED CONCRETE, GROUT FILLED CMU	VARIES	N/A	BY OTHERS, MORE THAN ONE SUBSTRATE TYPE CAN BE USED, ONLY REQUIRED ALONG THE HEAD AND SILL. JAMB SUBSTRATE CAN BE ANY APPROPRIATE SUBSTRATE DEEMED SUITABLE PER AUTHORITY HAVING JURISDICTION. SEE 'SUBSTRATE & ANCHOR TABLE' FOR REQUIREMENTS.
---	---	---	---	---
50A	HORIZONTAL SHIM, NON-COMPRESSIBLE, REQUIRED IF NOTED GAPS ARE PRESENT	VARIES	N/A	BY OTHERS, 50A SHALL SPAN ANY ITEM 5/5B & SUBSTRATE GAP, 50A=0.375" MAX IF BETWEEN NON-INVERTED ANGLE & SUBSTRATE, 50A=0.25" MAX IF BETWEEN INVERTED ANGLE & SUBSTRATE, 50B=0.5" MAX (FOR BETWEEN EITHER ANGLE TYPE & FRAME MEMBER). USE OF 'U' SHAPED SHIMS AT ANCHOR/FASTENER LOCATIONS ONLY IS ACCEPTABLE (SHIMS DO NOT NEED TO BE CONTINUOUS). MIN 600 PSI COMPRESSIVE OR TENSILE STRENGTH.
50B	OPTIONAL VERTICAL SHIM, NON-COMPRESSIBLE, AS NOTED TO ASSIST WITH ALIGNMENT	VARIES	N/A	
51	PERIMETER SEALANT / BACKER ROD	VARIES	N/A	BY OTHERS, REQUIRED TO PASS ANSI/AMCA 550
52	JAMB DRAIN SEALANT	SILICONE	N/A	AT HEAD-JAMB CORNERS ONLY, CLOSES OFF TOP OF JAMB DRAIN
53	BLADE SCREW SEALANT	SILICONE	N/A	ON ALL BLADE/JAMB SCREW HEADS UNDER SILL
54	FRAME JOINT SEALANT	SILICONE	N/A	ON JAMB-SILL JOINTS ONLY

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4. THE MAXIMUM SINGLE SECTION ACTUAL SIZE IS 60.0 IN. WIDE (60.5 C-C AT MULLION) BY 96.0 IN. HIGH. SECTIONS MAY BE MOUNTED TO CREATE A MULTI-WIDE HORIZONTAL ASSEMBLY WITHOUT ANY ADDITIONAL FIELD SUPPORT.

GENERAL LOUVER CONSTRUCTION: HEAD, SILL, JAMBS, AND BLADES ARE EXTRUDED ALUMINUM. FRONT BLADE SPACING IS 1.905, BACK BLADE SPACING IS 0.875 IN., BLADES, HEADS, JAMBS, AND SILLS ARE SECURED WITH TWO SCREWS PER END.

6. THIS LOUVER PASSED ANSI/AMCA STANDARD 550, AND IS DESIGNED TO SIGNIFICANTLY DETER RAIN FROM PENETRATING THE SPACE BEHIND THE LOUVER. PER MIAMI-DADE D.R.E.R.: THE LOUVER MAY BE INSTALLED IN A LOCATION WHERE THE SPACE BEHIND THE LOUVER IS NOT DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM OR THE ROOM WILL HOUSE NON-WATER RESISTANT/PROOF EQUIPMENT, COMPONENTS, OR SUPPLIES.

7. INSTALLER TO PROVIDE SEPARATION OF DIS-SIMILAR MATERIALS AS REQUIRED (SEE CURRENT FLORIDA BUILDING CODE). SEE OLDER 2010 FL BUILDING CODE, BUILDING, CHAPTER 20, SECTION 2003.8.4, FOR ADDITIONAL INFORMATION ON SEPARATION OF DIS-SIMILAR MATERIALS.

8. ALL ALUMINUM, STAINLESS STEEL (SS), AND PLATED/COATED STEEL PARTS PROVIDED BY MANUFACTURER ARE INHERENTLY CORROSION RESISTANT OR HAVE A CORROSION RESISTANT COATING.

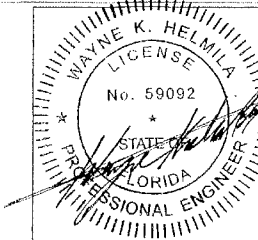
9. STEEL, STAINLESS STEEL, AND ALUMINUM PARTS MAY BE MADE OUT OF ALTERNATE ALLOYS THAT HAVE EQUAL OR GREATER YIELD & ULTIMATE STRENGTHS. PART DIMENSIONS ARE MINIMUMS UNLESS DEFINED OTHERWISE.

10. THE ITEM ID NUMBERS SHOWN ON THIS PAGE ARE FOR FACTORY USE AND INTERNAL TRACKING PURPOSES AND MAY BE UPDATED AT ANY TIME AND WILL BE DOCUMENTED IN THE Q.A. MANUAL. ANY UPDATES WILL NOT ALTER THE ITEM AS DESCRIBED HEREIN. ALL DIMENSIONS ARE IN INCHES (IMPERIAL/ USCS) UNLESS NOTED OTHERWISE.

①

- IT IS THE RESPONSIBILITY OF THE PERMIT HOLDER TO VERIFY THE STRUCTURAL INTEGRITY OF THE EXISTING STRUCTURE TO SUPPORT THE LOADS IMPOSED BY THE LOUVER ASSEMBLY. THE LOUVER MANUFACTURER DOES NOT DETERMINE THE STRUCTURAL INTEGRITY OF THE SUBSTRATE STRUCTURE.
- THIS LOUVER HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH MIAMI-DADE COUNTY PROTOCOLS (AND QUALIFIED IN ACCORDANCE WITH THE CURRENT FLORIDA BUILDING CODE AND TEST PROTOCOLS/STANDARDS THEREIN): TAS 201 (LARGE MISSILE IMPACT, 50 FT/S IMPACT SPEED), TAS 202 (UNIFORM STATIC WIND PRESSURE), TAS 203 (UNIFORM CYCLIC WIND PRESSURE), AND ANSI/AMCA STANDARD 550-15 REV. 09-18 (HIGH VELOCITY WIND DRIVEN RAIN). ①
- THIS LOUVER HAS BEEN DESIGNED, TESTED, AND APPROVED TO WITHSTAND DESIGN PRESSURES OF UP TO AND INCLUDING +/-100 PSF.

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DATE	6/6/2019	DRAWN BY	MES	SCALE	SHEET NO.	8 OF 8	CONTRACT NO.	EHV-550D
DATE	6/6/2019							
GREENHECK P.O. BOX 410, SUITE 100 WISCONSIN 54476-0410 EHV-550D PART INDEX & NOTES								
PAGE NOTES: ① 8/20/2021, REMOVED AMCA 550 EQUIVALENCY FROM NOTE 11, AND ② UPDATED ITEM 24 FROM ORIL-FLEX TO BI-FLEX.								