



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

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](http://www.miamidade.gov/economy)

**NOTICE OF ACCEPTANCE (NOA)**

**High Velocity Hurricane Protection Systems, Inc.**  
3827 Progress Avenue  
Naples, Florida 34104-3647

**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 High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: "Category 5" Aluminum Accordion Shutter**

**APPROVAL DOCUMENT:** Drawing No. 23-61977, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated February 26, 2010, last revision dated September 21, 2023, signed and sealed by Frank L. Bennardo, P.E., on September 26, 2023, bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number and the 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, the following statement: "Miami-Dade County Product Control Approved", and NOA number, per TAS-201, TAS-202, and TAS-203, 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 **renews** NOA #23-1010.09 and consists of this page 1, evidence submitted pages E-1, E-2, E-3, E-4, E-5, and E-6 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



*Helmy A. Makar*  
05/09/24

NOA No. 24-0319.04  
Expiration Date: 04/14/2029  
Approval Date: 05/09/2024

**High Velocity Hurricane Protection Systems, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #04-1220.03**

**A. DRAWINGS**

1. *Drawing No. 04-04, titled "Category 5 Accordion Shutter System", sheets 1 through 4 of 4, prepared by Al-Farooq Corporation, dated February 28, 2004, last revision #A dated January 25, 2005, signed and sealed by Humayoun Farooq, P.E.*

**B. TESTS**

1. *Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of Category 5 Accordion Shutter System, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-03-1842, dated August 18, 2003, signed and sealed by Rafael E. Droz-Seda, P.E.*
2. *Test report on Uniform Static Air Pressure Test of Category 5 Accordion Shutter System, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-03-1843, dated August 18, 2003, signed and sealed by Rafael E. Droz-Seda, P.E.*

**C. CALCULATIONS**

1. *Anchor analysis dated March 23, 2004, Sheets A-1 through A-12 & AP-1 through AP-16, prepared by Al-Farooq Corporation, signed and sealed by Humayoun Farooq, P.E.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Building Code Compliance Office.*

**E. MATERIAL CERTIFICATIONS**

1. *Certified Tensile Test Report from Hurricane Engineering & Testing Inc., Report No. HETI-03-T052, dated September 03, 2003, for aluminum accordion sample.*

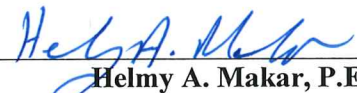
**F. STATEMENTS**

1. *Statement letter of conformance by Al-Farooq Corporation, dated October 26, 2004, signed and sealed by Humayoun Farooq, P.E.*

**2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 10-0316.02**

**A. DRAWINGS**

1. *Drawing No. 10-HVH-0001, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated February 26, 2010, last revision dated April 30, 2010, signed and sealed by Frank L. Bennardo, P.E.*

  
\_\_\_\_\_  
**Helmy A. Makar, P.E., M.S.**  
**Product Control Section Supervisor**  
**NOA No. 24-0319.04**  
**Expiration Date: 04/14/2029**  
**Approval Date: 05/09/2024**

**High Velocity Hurricane Protection Systems, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *Anchor analysis dated March 07, 2010, Sheets 1 through 32 of 32, prepared by Engineering Express, signed and sealed by Frank L. Bennardo, P.E.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Building Code Compliance Office.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of conformance by Engineering Express, dated March 11, 2010, signed and sealed by Frank L. Bennardo, P.E.*

**3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 12-0523.15**

**A. DRAWINGS**

1. *Drawing No. 10-HVH-0001, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated February 26, 2010, last revision dated January 15, 2012, signed and sealed by Frank L. Bennardo, P.E.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2010 by Engineering Express, dated May 18, 2012, signed and sealed by Frank L. Bennardo, P.E.*



Helmy A. Makar, P.E., M.S.  
Product Control Section Supervisor  
NOA No. 24-0319.04  
Expiration Date: 04/14/2029  
Approval Date: 05/09/2024

**High Velocity Hurricane Protection Systems, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 15-0323.03**

**A. DRAWINGS**

1. *Drawing No. 14-2100, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated February 26, 2010, last revision dated March 17, 2015, signed and sealed by Frank L. Bennardo, P.E.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2014 by Engineering Express, dated March 19, 2015, signed and sealed by Frank L. Bennardo, P.E.*

**5. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 16-0418.03**

**A. DRAWINGS**

1. *None.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*



**Helmy A. Makar, P.E., M.S.**  
**Product Control Section Supervisor**  
**NOA No. 24-0319.04**  
**Expiration Date: 04/14/2029**  
**Approval Date: 05/09/2024**

**High Velocity Hurricane Protection Systems, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**6. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 17-0402.02**

**A. DRAWINGS**

1. *None.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**7. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 18-0212.01**

**A. DRAWINGS**

1. *Drawing No. 14-2100, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated February 26, 2010, last revision dated February 23, 2018, signed and sealed by Frank L. Bennardo, P.E.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2017 by Engineering Express, dated February 23, 2018, signed and sealed by Frank L. Bennardo, P.E.*

**8. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 19-0411.03**

**A. DRAWINGS**

1. *Drawing No. 14-2100, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated 02/26/2010; last revision dated 02/23/2018, signed and sealed by Frank L. Bennardo, P.E. on 04/08/19.*



**Helmy A. Makar, P.E., M.S.**  
**Product Control Section Supervisor**  
**NOA No. 24-0319.04**  
**Expiration Date: 04/14/2029**  
**Approval Date: 05/09/2024**

**High Velocity Hurricane Protection Systems, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**B. TESTS**

1. *Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of Category 5 Accordion Shutter System, prepared by Hurricane Engineering & Testing, Inc., Report # HETI-19-7014, dated 03/29/19, signed & sealed by Rafael Droz-Seda, P.E.*
2. *Test report on Uniform Static Air Pressure Test of Category 5 Accordion Shutter System, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-19-7013, dated March 29, 2019, signed and sealed by Rafael E. Droz-Seda, P.E.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2017 by Engineering Express, dated February 23, 2018, signed and sealed by Frank L. Bennardo, P.E.*

**9. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 20-1102.11**

**A. DRAWINGS**

1. *Drawing No. 20-29527, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated 02/26/10, last revision dated 10/19/20, signed and sealed by Frank L. Bennardo, P.E., on 10/19/2020.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**


1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2020 by Engineering Express, dated 10/19/20, signed and sealed by Frank L. Bennardo, P.E.*

  
\_\_\_\_\_  
**Helmy A. Makar, P.E., M.S.**  
**Product Control Section Supervisor**  
**NOA No. 24-0319.04**  
**Expiration Date: 04/14/2029**  
**Approval Date: 05/09/2024**

**High Velocity Hurricane Protection Systems, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**10. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 23-1010.09**

**A. DRAWINGS**

1. *Drawing No. 23-61977, titled "Category 5 Accordion Shutter System", sheets 1 through 5 of 5, prepared by Engineering Express, dated February 26, 2010, last revision dated September 21, 2023, signed and sealed by Frank L. Bennardo, P.E., on September 26, 2023.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**

1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2023 by Engineering Express, dated 09/26/23, signed and sealed by Frank L. Bennardo, P.E.*

**11. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *None.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. QUALITY ASSURANCE**


1. *By Miami-Dade County Department of Regulatory and Economic Resources.*

**E. MATERIAL CERTIFICATIONS**

1. *None.*

**F. STATEMENTS**

1. *Statement letter of compliance with FBC 2023 by Engineering Express, dated 03/07/24, signed and sealed by Frank L. Bennardo, P.E.*



**Helmy A. Makar, P.E., M.S.**  
**Product Control Section Supervisor**  
**NOA No. 24-0319.04**  
**Expiration Date: 04/14/2029**  
**Approval Date: 05/09/2024**

# HIGH VELOCITY HURRICANE PROTECTION SYSTEMS, INC.

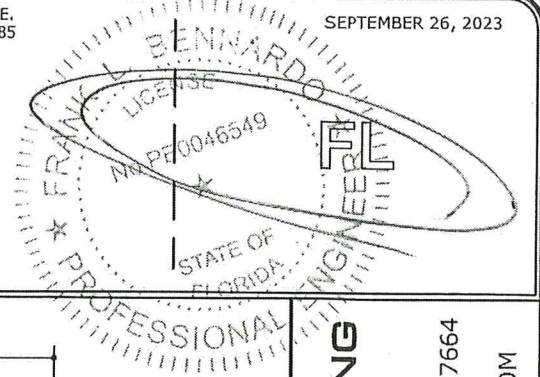
CATEGORY 5 ACCORDION SHUTTER SYSTEM  
LARGE MISSILE IMPACT RESISTANT (MISSILE LEVEL D)

VALID FOR USE INSIDE AND OUTSIDE THE HVHZ (SEE LIMITATIONS HEREIN)

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

FRANK BENNARDO, P.E.  
PE# 0046549 CA# 9885

SEPTEMBER 26, 2023



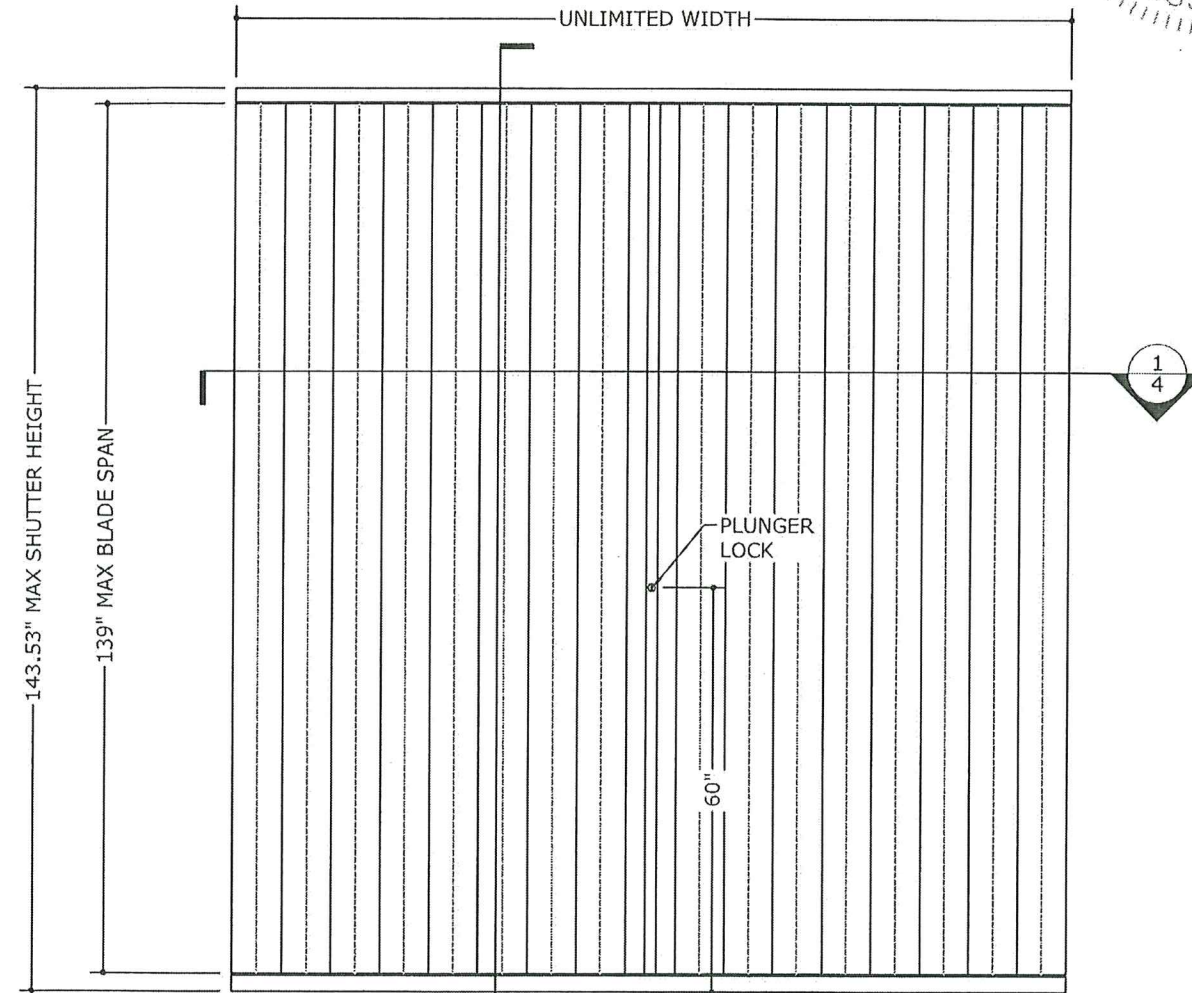
**ALLOWABLE (ASD)  
DESIGN PRESSURES**  
  
**± 140 PSF**

**NOTE REGARDING USE OF THIS DOCUMENT & USE OUTSIDE FLORIDA:**

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. THIS PRODUCT EVALUATION IS VALID FOR USE IN **FLORIDA ONLY**. USE OF THIS EVALUATION REQUIRES A REVIEW & CERTIFICATION BY A LOCAL DESIGN PROFESSIONAL WHO SHALL BE RESPONSIBLE FOR THE PROPER ADAPTATION OF THIS GENERAL PERFORMANCE EVALUATION TO ANY SITE-SPECIFIC PROJECT. CONTACT ENGINEERING EXPRESS FOR ASSISTANCE WITH YOUR PROJECT-SPECIFIC NEEDS & FOR ADAPTATION & CERTIFICATION OF THIS DOCUMENT OUTSIDE OF FLORIDA.

**GENERAL NOTES:**

- THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023), FOR USE INSIDE AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE (HVHZ), PER TAS 201 / 202 / 203 TEST STANDARDS.
- WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE EIGHTH EDITION (2023) SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN. PRESSURE VALUES IN THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN PRESSURES UNLESS NOTED OTHERWISE.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
- PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
- ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI, UNLESS NOTED OTHERWISE HEREIN. ALL 3/16" Ø OR 1/4" Ø POP RIVETS SHALL BE 5056-H32 ALUMINUM ALLOY OR STRONGER. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION INC., AND ANY APPLICABLE FEDERAL, STATE AND OR LOCAL CODES.
- REFER TO FASTENER MANUFACTURER'S PUBLISHED DATA SHEETS AND RECOMMENDATIONS FOR FASTENER INSTALLATION INSTRUCTIONS.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- THE SYSTEM SHALL BE LABELED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND MIAMI-DADE REQUIREMENTS. PRODUCT MARKINGS SHALL BE PLACED ON THE OUTSIDE OF THE SHUTTER AT THE BOTTOM OF THE CENTERMATE, AND SHALL BE PERMANENTLY LABELED WITH THE FOLLOWING MINIMUM INFORMATION:  
HIGH VELOCITY HURRICANE PROTECTION SYSTEMS  
NAPLES, FLORIDA  
TAS 201, 202 & 203  
MIAMI-DADE COUNTY PRODUCT APPROVED
- ENGINEER SEAL AFFIXED HERETO VALIDATE STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
- ALTERATIONS, ADDITIONS, AND OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
- EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.



**PRODUCT RENEWED**  
as complying with the Florida  
Building Code  
Acceptance No **24-0319.04**  
Expiration Date **04/14/2029**  
By *Healy A. Miller*  
Miami Dade Product Control

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
Acceptance No **23-1010.09**  
Expiration Date **04/14/2024**  
By *Healy A. Miller*  
Miami Dade Product Control

1 TYPICAL ELEVATION  
1 NOT TO SCALE EXTERIOR ELEV

**PAGE INDEX:**

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**TERMINOLOGY:**

THE FOLLOWING ABBREVIATIONS MAY APPEAR IN THIS APPROVAL:

"ADDTL." FOR "ADDITIONAL", "AHJ" FOR "AUTHORITY HAVING JURISDICTION", "ALUM" FOR "ALUMINUM", "ASD" FOR "ALLOWABLE STRESS DESIGN", "BO" FOR "BUILD-OUT", "CS" FOR "CARBON STEEL", "EA." FOR "EACH", "E.D." FOR "EDGE"/"EDGE DIST." FOR "EDGE DISTANCE", "ELEV" FOR "ELEVATION", "EMBED" FOR "EMBEDMENT", "EQ" FOR "EQUIV.", "EQV." FOR "EQUIVALENT", "EXT" FOR "EXTERIOR", "FBC" FOR "FLORIDA BUILDING CODE", "ft" OR " ' " FOR "FEET", "G" FOR "SPECIFIC GRAVITY", "GA" FOR "GAUGE", "GALV" FOR "GALVANIZED", "GFB" FOR "GROUT-FILLED BLOCK", "GR" FOR "GRADE", "HOLLOW" FOR "HOLLOW BLOCK", "HORIZ" FOR "HORIZONTAL", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "in" OR " \" " FOR "INCHES", "INT" FOR "INTERIOR", "KST" FOR "1,000 lb / in<sup>2</sup>", "L" FOR "LENGTH", "LB" FOR "POUND", "MAX" FOR "MAXIMUM", "MIN" FOR "MINIMUM", "N.T.S." FOR "NOT TO SCALE", "O.C." FOR "ON-CENTER", "P.E." FOR "PROFESSIONAL ENGINEER", "PERP" FOR "PERPENDICULAR", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft<sup>2</sup>)", "PSI" FOR "POUNDS PER SQUARE INCH (lb/in<sup>2</sup>)", "QTY" FOR "QUANTITY", "REF." FOR "REFERENCE", "SCHED." FOR "SCHEDULE", "SDS" FOR "SELF-DRILLING SCREWS", "SMS" FOR "SHEET METAL SCREWS", "SPECS" FOR "SPECIFICATIONS", "SS" FOR "STAINLESS STEEL", "SUB" FOR "SUBMITTAL", "TAS" FOR "TESTING APPLICATION STANDARD", "TYP." FOR "TYPICAL", "ULT" FOR "ULTIMATE LOADS", "U.N.O." FOR "UNLESS NOTED OTHERWISE", "UTS" OR "Fu" FOR "ULTIMATE TENSILE STRENGTH/STRESS", "VERT" FOR "VERTICAL", "WLL" FOR "WORKING LOAD LIMIT", "W/" FOR "WITH", "W/O" FOR "WITHOUT", "YS" FOR "YIELD STRENGTH", "#" FOR "NUMBER", "&" FOR "AND", AND "Ø" FOR "DIAMETER".

CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

**ENGINEERING EXPRESS**  
POSTAL ADDRESS:  
2234 NORTH FEDERAL HWY #7664  
BOCA RATON, FL 33431  
ENGINEERINGEXPRESS.COM

**HIGH VELOCITY HURRICANE PROTECTION SYSTEMS, INC.**  
3827 PROGRESS AVE, NAPLES, FL 34104  
(239) 403-2650

CATEGORY 5 ACCORDION SHUTTER SYSTEM  
FLORIDA BUILDING CODE EIGHTH EDITION (2023)  
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

DRWN	CHKD	DATE
CCB	RWN	10/19/20
EPR	RWN	09/21/23

REMARKS  
PREV. SUB. NOA 20-1102.11  
2023 FBC UPDATE

23-61977

SCALE: NTS UNLESS NOTED

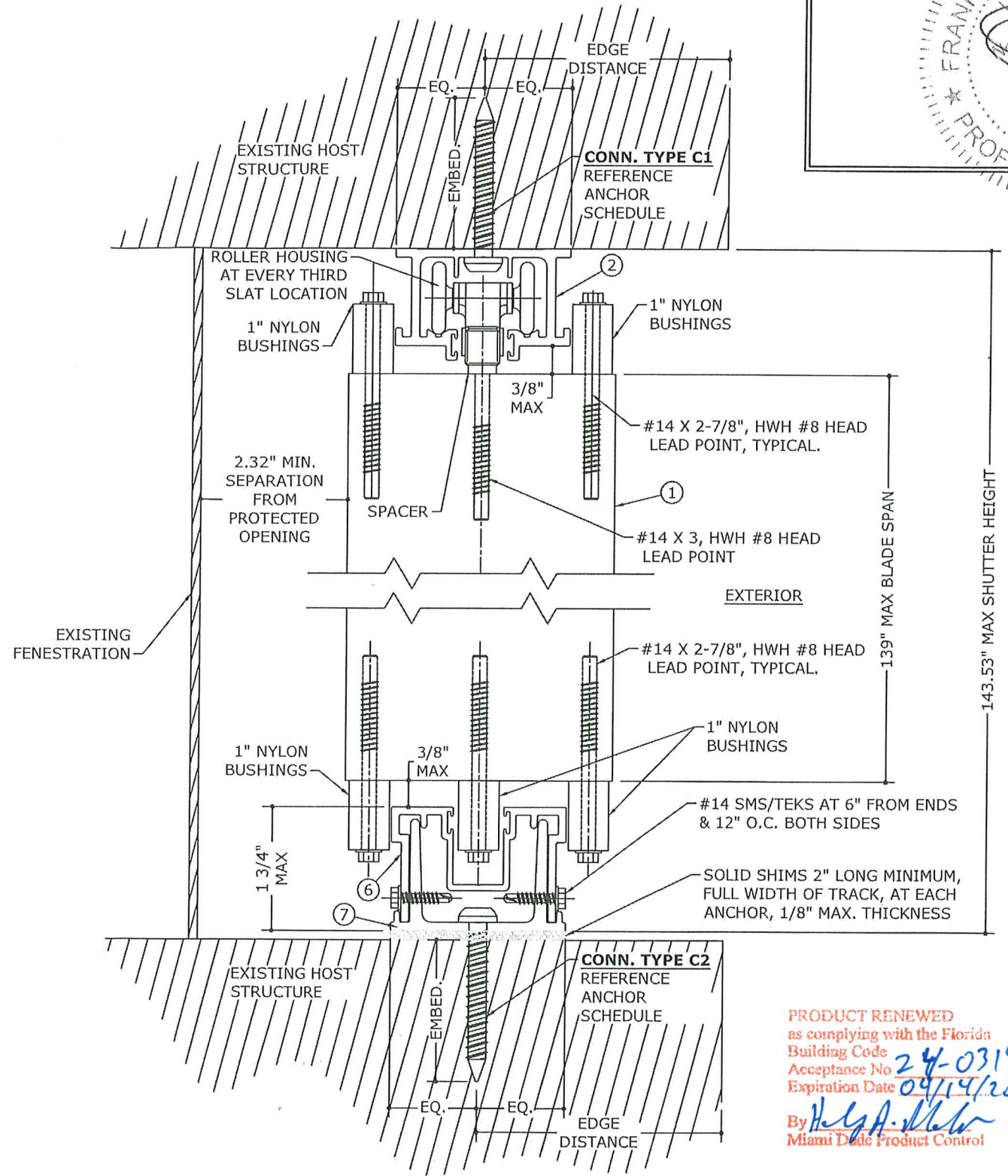
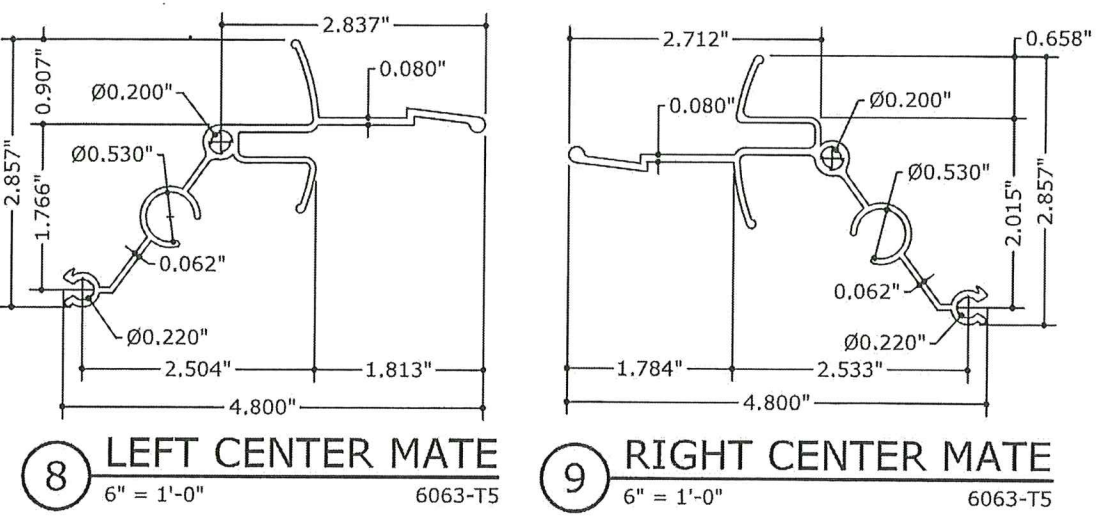
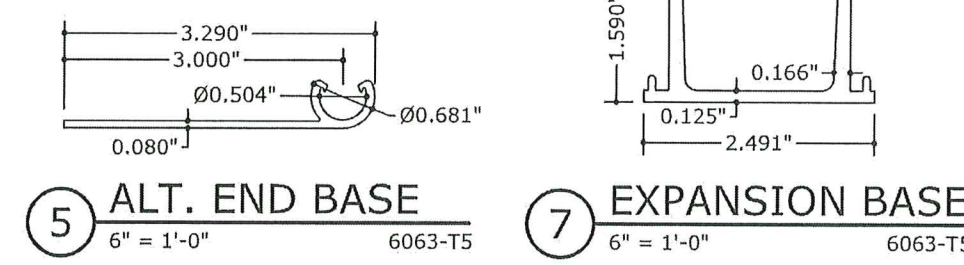
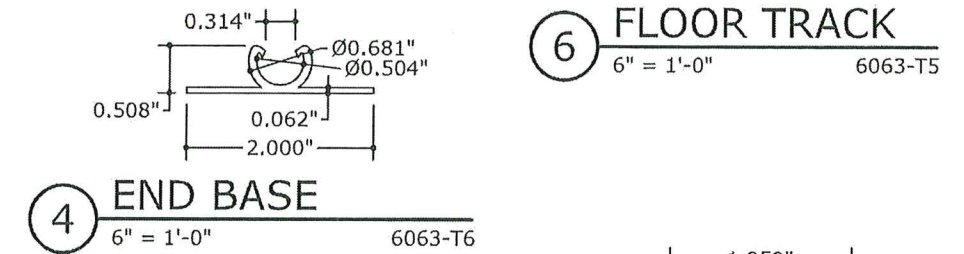
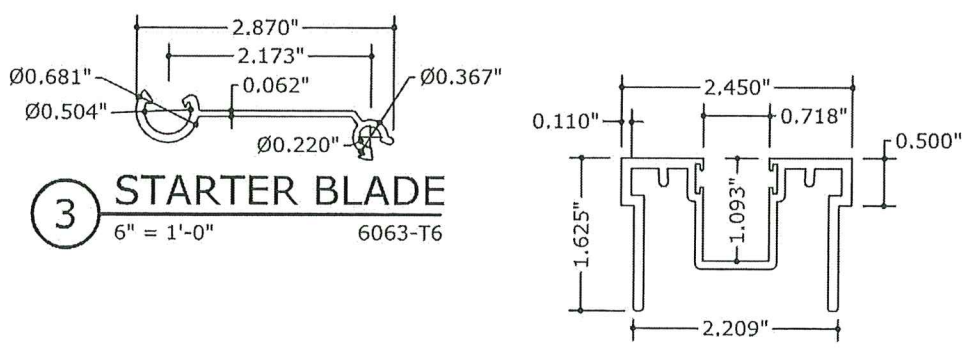
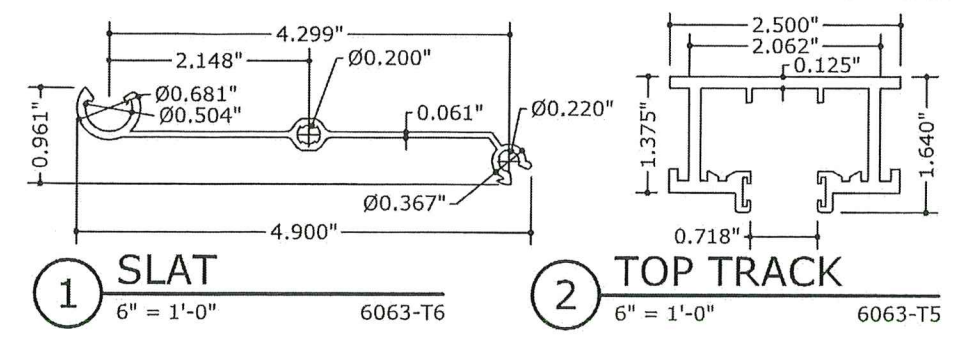
1 OF 5

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FRANK BENNARDO, P.E.  
PE# 0046549 CA# 9885  
SEPTEMBER 26, 2023  
FRANK L. BENNARDO  
LICENSE  
PE0046549  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER



1 TYPICAL VERTICAL SECTION  
2 N.T.S. VERT. SECTION

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No **24-0319.04**  
Expiration Date **09/14/2029**  
By *Hely A. Melor*  
Miami Dade Product Control

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No \_\_\_\_\_  
Expiration Date \_\_\_\_\_  
By *Hely A. Melor*  
Miami Dade Product Control

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3827 PROGRESS AVE, NAPLES, FL 34104  
(239) 403-2650  
CATEGORY 5 ACCORDION SHUTTER SYSTEM  
FLORIDA BUILDING CODE EIGHTH EDITION (2023)  
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

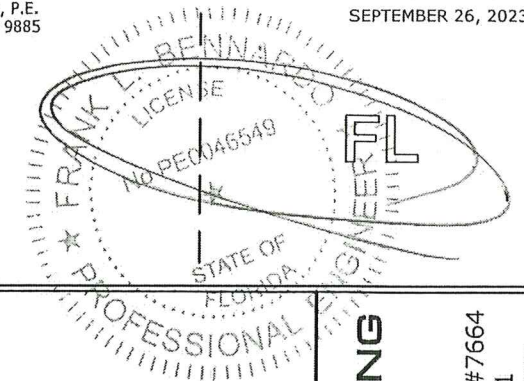
REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 20-1102.11	CCB	RWN	10/19/20
2023 FBC UPDATE	EPR	RWN	09/21/23

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FRANK BENNARDO, P.E.  
PE# 0046549 CA# 9885

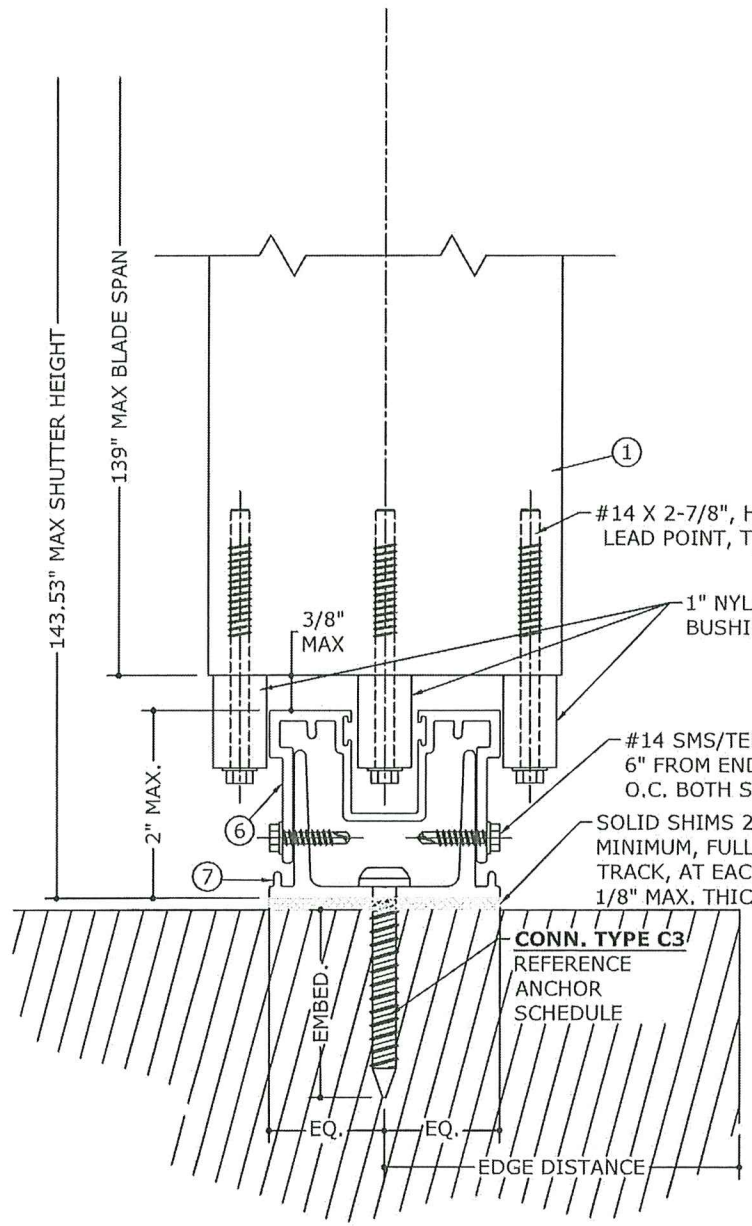
SEPTEMBER 26, 2023



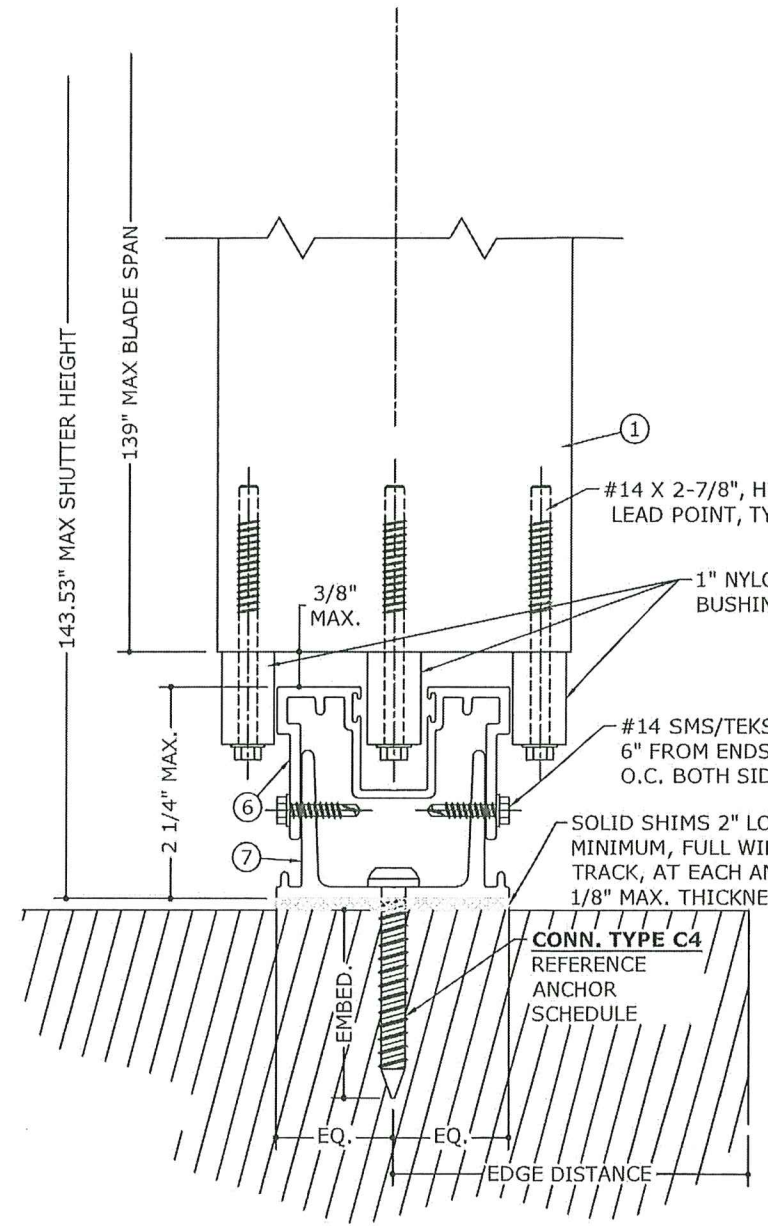
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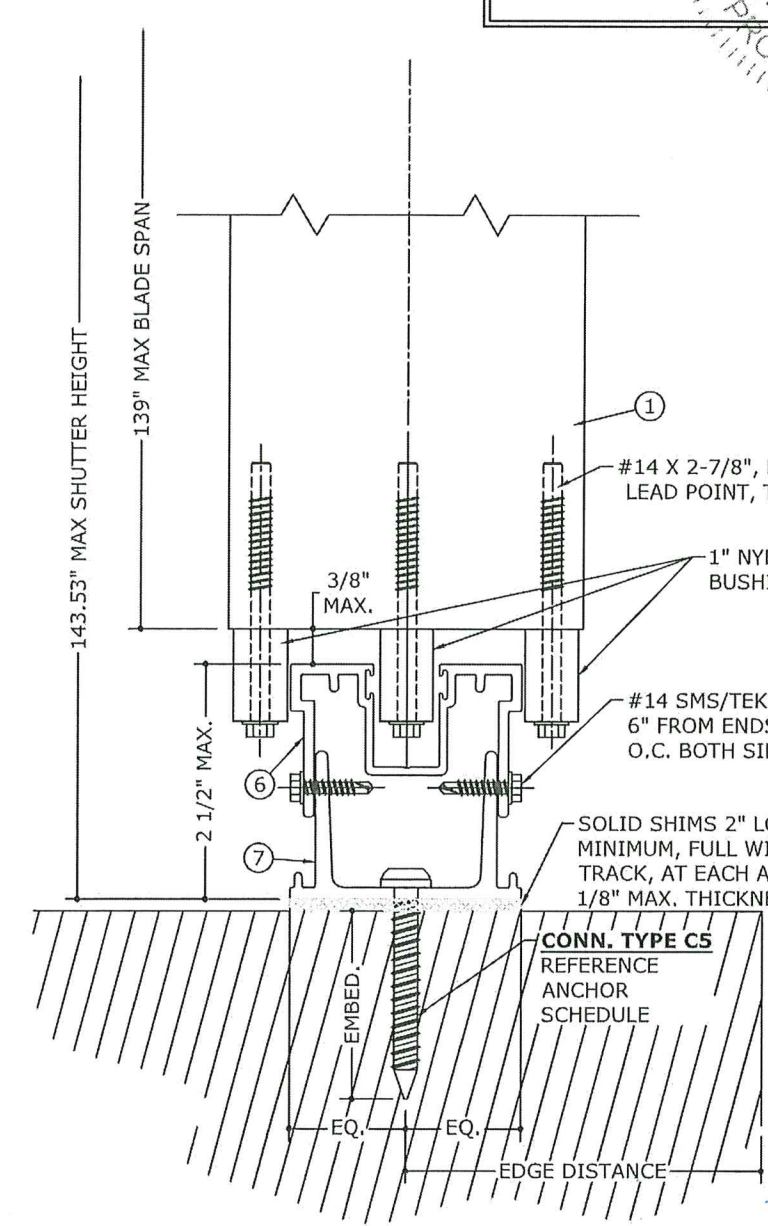
CATEGORY 5 ACCORDION SHUTTER SYSTEM  
FLORIDA BUILDING CODE EIGHTH EDITION (2023)  
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)



1 ALT. BOTTOM MOUNT  
3 N.T.S. VERT. SECTION



2 ALT. BOTTOM MOUNT  
3 N.T.S. VERT. SECTION



3 ALT. BOTTOM MOUNT  
3 N.T.S. VERT. SECTION

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No. 24-0319-04  
Expiration Date 04/19/2029  
By *Hely A. Miller*  
Miami Dade Product Control

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. \_\_\_\_\_  
Expiration Date \_\_\_\_\_  
By *Hely A. Miller*  
Miami Dade Product Control

REMARKS	DRWN	CHKD	DATE
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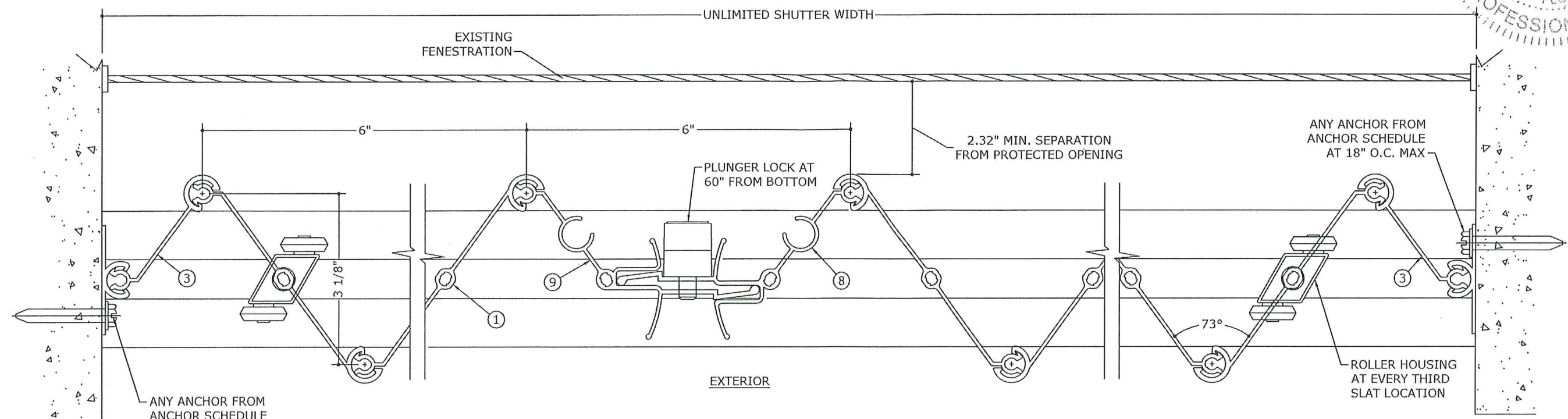
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3 OF 5

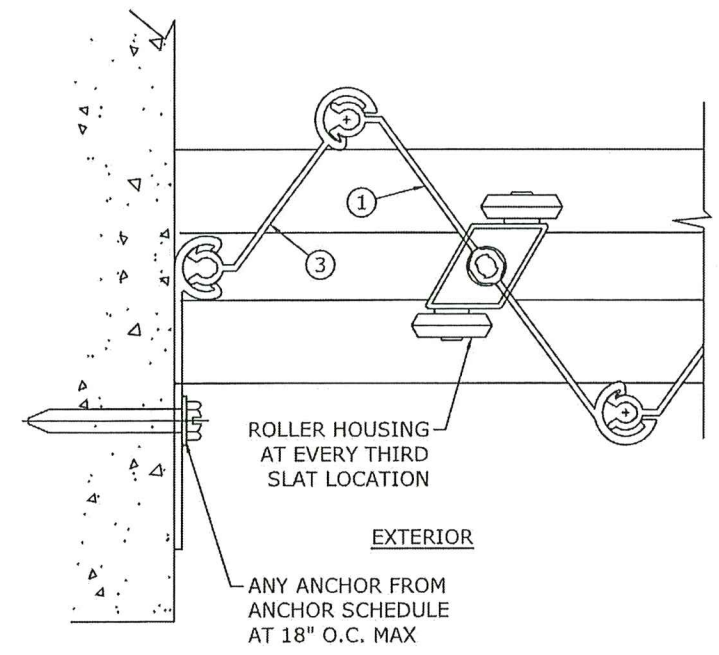
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PE# 0046549 CA# 9885

SEPTEMBER 26, 2023



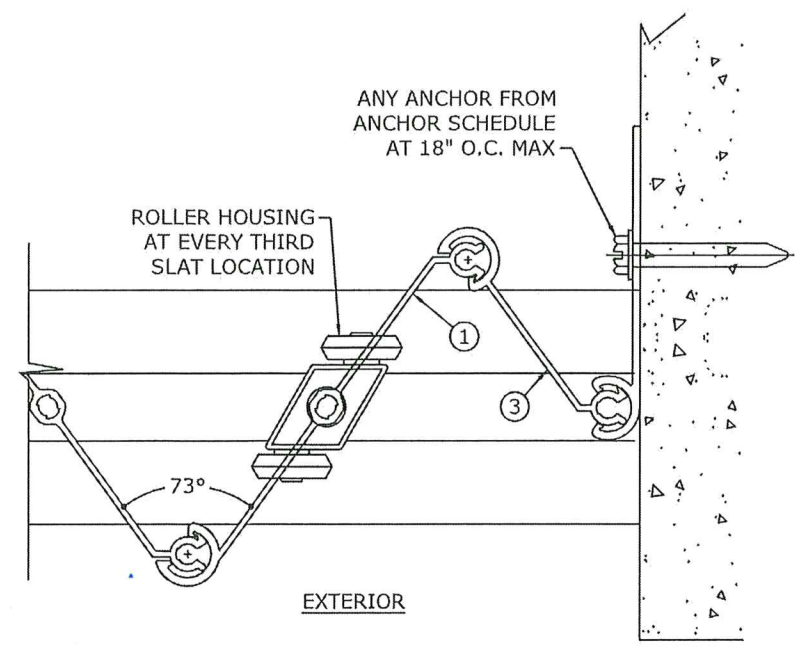
1 TYPICAL HORIZONTAL SECTION  
N.T.S. HORIZ. SECTION



2 ALT. END BASE ATTACHMENT  
N.T.S. HORIZ. SECTION

PRODUCT RENEWED  
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Building Code  
Acceptance No. 24-0319.04  
Expiration Date 04/14/2029  
By Kelly A. Miller  
Miami Dade Product Control

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. \_\_\_\_\_  
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3 ALT. END BASE ATTACHMENT  
N.T.S. HORIZ. SECTION

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HIGH VELOCITY HURRICANE  
PROTECTION SYSTEMS, INC.

3827 PROGRESS AVE, NAPLES, FL 34104  
(239) 403-2650

CATEGORY 5 ACCORDION SHUTTER SYSTEM  
FLORIDA BUILDING CODE EIGHTH EDITION (2023)  
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 20-1102.11	CCB	RWN	10/19/20
2023 FEB UPDATE	EPR	RWN	09/21/23

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**ANCHOR SCHEDULE:**

HOST STRUCT.	ANCHOR	LOAD (psf)	SEE ANCHOR TYPE FOR EDGE DISTANCES										
			Spans Up To 120"					Spans Up To 143.53"					
			CONN TYPE					CONN TYPE					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
CONCRETE	5/16" ITW TAPCON XL WITH 2-1/4" EMBED AND 1-9/16" EDGE DISTANCE (2899psi MIN CONC)	60	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		80	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		100	6.0"	6.0"	6.0"	6.0"	5.8"	5.7"	5.6"	5.3"	5.0"	4.8"	
		120	5.7"	5.5"	5.3"	5.0"	4.7"	4.7"	4.6"	4.4"	4.1"	3.9"	
	5/16" ITW TAPCON XL WITH 2-1/4" EMBED AND 2-3/16" EDGE DISTANCE (2899psi MIN CONC)	60	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		80	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		100	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		120	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	5.6"	5.3"	4.9"	
	5/16" ITW TAPCON XL WITH 2-1/4" EMBED AND 3-1/8" EDGE DISTANCE (2899psi MIN CONC)	60	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		80	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		100	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"
		120	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	5.6"	5.3"	5.0"	
	1/4-20 DEWALT CALK-IN WITH 7/8" MIN EMBED AND 2" EDGE DISTANCE (3000psi MIN CONC)	60	4.9"	4.9"	4.8"	4.7"	4.6"	4.1"	4.1"	4.0"	3.9"	3.7"	
		80	3.7"	3.6"	3.5"	3.4"	3.3"	3.1"	3.0"	2.9"	2.8"	2.7"	
		100	2.9"	2.9"	2.8"	2.7"	2.6"						
		120											
	1/4-20 DEWALT CALK-IN WITH 7/8" MIN EMBED AND 2-1/4" EDGE DISTANCE (3000psi MIN CONC)	60	5.9"	5.9"	5.8"	5.6"	5.4"	4.9"	4.9"	4.7"	4.6"	4.4"	
		80	4.4"	4.3"	4.2"	4.1"	3.9"	3.7"	3.6"	3.5"	3.3"	3.2"	
		100	3.5"	3.4"	3.3"	3.2"	3.0"	2.9"	2.8"	2.7"	2.6"	2.5"	
		120	2.9"	2.8"	2.7"	2.6"	2.5"						
	1/4-20 DEWALT CALK-IN WITH 7/8" MIN EMBED AND 2-1/2" EDGE DISTANCE (3000psi MIN CONC)	60	6.0"	6.0"	6.0"	6.0"	6.0"	5.6"	5.6"	5.4"	5.2"	5.0"	
		80	5.0"	5.0"	4.8"	4.6"	4.4"	4.2"	4.1"	3.9"	3.8"	3.6"	
		100	4.0"	3.9"	3.8"	3.6"	3.4"	3.3"	3.2"	3.1"	3.0"	2.8"	
		120	3.3"	3.2"	3.1"	3.0"	2.8"	2.8"	2.7"	2.6"			
1/4-20 DEWALT CALK-IN WITH 7/8" MIN EMBED AND 3" EDGE DISTANCE (3000psi MIN CONC)	60	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"		
	80	6.0"	6.0"	5.9"	5.7"	5.4"	5.2"	5.1"	4.9"	4.6"	4.4"		
	100	5.0"	4.9"	4.6"	4.4"	4.2"	4.1"	4.0"	3.8"	3.6"	3.5"		
	120	4.1"	4.0"	3.8"	3.6"	3.4"	3.4"	3.3"	3.2"	3.0"	2.8"		

HOST STRUCT.	ANCHOR	LOAD (psf)	5/8" MIN EDGE DISTANCE										
			Spans Up To 120"					Spans Up To 143.53"					
			CONN TYPE					CONN TYPE					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
ALUMINUM OR STEEL	#14 410 STAINLESS STEEL SMS OR SDS TO 1/8" MIN. 6063-T5 ALUMINUM OR A36 STEEL, FULL THREAD PENETRATION	60	6.0"	5.1"	4.9"	4.6"	4.3"	5.1"	4.2"	4.0"	3.7"	3.5"	
		80	4.6"	3.7"	3.5"	3.3"	3.0"	3.8"	3.0"	2.8"	2.6"	2.4"	
		100	3.6"	2.9"	2.7"	2.5"	2.3"	3.0"	2.4"	2.2"	2.0"	1.9"	
		120	3.0"	2.4"	2.2"	2.0"	1.9"	2.5"	2.0"	1.8"	1.7"	1.5"	
		140	2.5"	2.0"	1.9"	1.7"	1.6"	2.1"	1.7"	1.5"	1.4"	1.3"	

HOST STRUCT.	ANCHOR	LOAD (psf)	3/4" MIN EDGE DISTANCE										
			Spans Up To 120"					Spans Up To 143.53"					
			CONN TYPE					CONN TYPE					
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	
WOOD (G=0.55 MIN)	#14 410 STAINLESS STEEL SMS TO G=0.55 MIN WOOD W/ 1-1/2" MIN. THREAD PENETRATION	60	4.8"	4.8"	4.7"	4.6"	4.5"	4.0"	4.0"	3.9"	3.8"	3.7"	
		80	3.6"	3.5"	3.5"	3.4"	3.3"	3.0"	2.9"	2.9"	2.8"	2.7"	
		100	2.8"	2.8"	2.7"	2.7"	2.6"	2.4"	2.3"	2.3"	2.2"	2.1"	
		120	2.4"	2.3"	2.3"	2.2"	2.1"	2.0"	1.9"	1.9"	1.8"	1.8"	
		140	2.0"	2.0"	1.9"	1.9"	1.8"	1.7"	1.7"	1.6"	1.6"	1.5"	

**ANCHOR NOTES:**

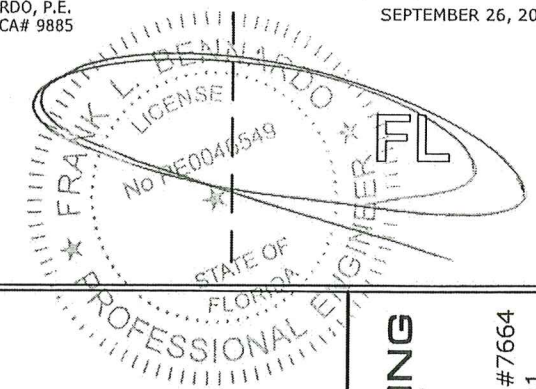
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- EDGE DISTANCE OF 5/8" IS ACCEPTABLE FOR ANCHORS TO STEEL OR ALUMINUM.
- WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
- WOOD HOST STRUCTURE SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED OTHERWISE SHALL APPLY.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
- WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.
- MACHINE SCREWS SHALL BE INSTALLED WITH FULL ENGAGEMENT OF THREADS INTO METAL HOST STRUCTURE AND MAY HAVE EITHER A FLAT HEAD, PAN HEAD, TRUSS HEAD, OR OTHER HEAD STYLES.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.

PRODUCT RENEWED as complying with the Florida Building Code Acceptance No. 27-0319.04 Expiration Date 04/14/2029  
By *H. G. A. M. M.* Miami Dade Product Control

PRODUCT REVISED as complying with the Florida Building Code Acceptance No. \_\_\_\_\_ Expiration Date \_\_\_\_\_  
By *H. G. A. M. M.* Miami Dade Product Control

FRANK BENNARDO, P.E.  
PE# 0046549 CA# 9885

SEPTEMBER 26, 2023



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3827 PROGRESS AVE, NAPLES, FL 34104  
(239) 403-2650

CATEGORY 5 ACCORDION SHUTTER SYSTEM  
FLORIDA BUILDING CODE EIGHTH EDITION (2023)  
MIAMI-DADE COUNTY NOTICE OF ACCEPTANCE (NOA)

REMARKS	DRWN	CHKD	DATE
PREV. SUB. NOA 20-1102.11	CCB	IRWN	10/19/20
2023 FBC UPDATE	EPR	IRWN	09/21/23

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