



MIAMI-DADE COUNTY
BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT (BNC)
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/building

NOTICE OF ACCEPTANCE (NOA)

Haakon Industries (Canada) LTD
11851 Dyke Road
Richmond, BC, Canada V7A-4X8

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: "Pentpak" Outdoor Style Air Handling Unit

APPROVAL DOCUMENT: Drawing No. 6950, titled "Outdoor Style Air Handling Unit, Pentpak", sheets 1 through 19 of 19, prepared by Haakon Industries, last revision #8 dated October 16, 2024, signed and sealed by Douglas J. Ruggiano, P.E., on October 21, 2024, bearing the Miami-Dade County Product Control Renewal stamp with the Notice of Acceptance number & 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, Cheney, WA or Kingston, ON or Asheville, NC and the 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 renews NOA #24-1023.06 and consists of this page 1, evidence submitted pages E-1, E-2 & E-3 as well as approval document mentioned above.

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



Helmy A. Makar
06/05/25

NOA No. 25-0519.02
Expiration Date: 08/27/2030
Approval Date: 06/05/2025
Page 1

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 14-1216.09

A. DRAWINGS

1. *Drawing No. 6950, titled "Outdoor Style Air Handling Unit, Pentpak", sheets 1 through 19 of 19, prepared by Haakon Industries, last revision #5 dated July 15, 2015, signed and sealed by Douglas J. Ruggiano, P.E., on July 16, 2015.*

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 203-94 4) ASTM E72-05 along with marked-up drawings and installation diagram of Steel Air Handler Model Pentpak, Outdoor Unit, prepared by Intertek Testing Services NA LTD, Test Report No. 101823161COQ-009, dated November 18, 2014, signed and sealed by Rick Curkeet, P.E.*
2. *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 Steel Air Handler Model Pentpak, Outdoor Unit, prepared by Intertek Testing Services NA LTD, Test Report No. 102093306COQ-005, dated June 09, 2015, signed and sealed by Rick Curkeet, P.E.*

C. CALCULATIONS

1. *Finite Element Analysis on Outdoor-Style air Handling Unit, dated September 26, 2014, last revision 3 dated September 26, 2014, signed and sealed by Douglas J. Ruggiano, P.E.*

D. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. *Tensile Test per ASTM E8 by Intertek Testing Services NA LTD, Test Report No. 101823161COQ-009, dated November 18, 2014, signed and sealed by Rick Curkeet, P.E.*

F. STATEMENTS

1. *Letter of conformance with FBC 2014 Edition, dated December 17, 2014, signed and sealed by Douglas J. Ruggiano, P.E.*
2. *Letter of no financial interest, dated December 10, 2014, signed and sealed by Douglas J. Ruggiano, P.E.*
3. *Distributor Agreement.*



Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
NOA No. 25-0519.02
Expiration Date: 08/27/2030
Approval Date: 06/05/2025

Haakon Industries (Canada) LTD

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 20-0811.05

A. DRAWINGS

1. *Drawing No. 6950, titled "Outdoor Style Air Handling Unit, Pentpak", sheets 1 through 19 of 19, prepared by Haakon Industries, last revision #6 dated March 15, 2018, signed and sealed by Douglas J. Ruggiano, P.E., on August 01, 2020.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

E. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. *None.*

F. STATEMENTS

1. *Letter of conformance with FBC 2017 Edition, dated August 01, 2020, signed and sealed by Douglas J. Ruggiano, P.E.*
2. *Distributor Agreement.*

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 21-1019.01

A. DRAWINGS

1. *Drawing No. 6950, titled "Outdoor Style Air Handling Unit, Pentpak", sheets 1 through 19 of 19, prepared by Haakon Industries, last revision #7 dated March 10, 2021, signed and sealed by Douglas J. Ruggiano, P.E., on March 15, 2021.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

F. QUALITY ASSURANCE

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

E. MATERIAL CERTIFICATIONS

1. *None.*

F. STATEMENTS

1. *Letter of conformance with FBC 2020 Edition, dated March 15, 2021, signed and sealed by Douglas J. Ruggiano, P.E.*
2. *Distributor Agreement.*


Helmy A. Makar, P.E., M.S.

Product Control Section Supervisor

NOA No. 25-0519.02

Expiration Date: 08/27/2030

Approval Date: 06/05/2025

Haakon Industries (Canada) LTD

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 24-1023.06

A. DRAWINGS

1. *Drawing No. 6950, titled "Outdoor Style Air Handling Unit, Pentpak", sheets 1 through 19 of 19, prepared by Haakon Industries, last revision #8 dated October 16, 2024, signed and sealed by Douglas J. Ruggiano, P.E., on October 21, 2024.*

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. *Letter of conformance with FBC 2023 Edition, dated 16, 2024, signed and sealed by Douglas J. Ruggiano, P.E., on October 21, 2024.*

5. 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. *Letter of conformance with FBC 2023 Edition, dated 16, 2024, signed and sealed by Douglas J. Ruggiano, P.E., on October 21, 2024.*


Helmy A. Makar, P.E., M.S.

Product Control Section Supervisor

NOA No. 25-0519.02

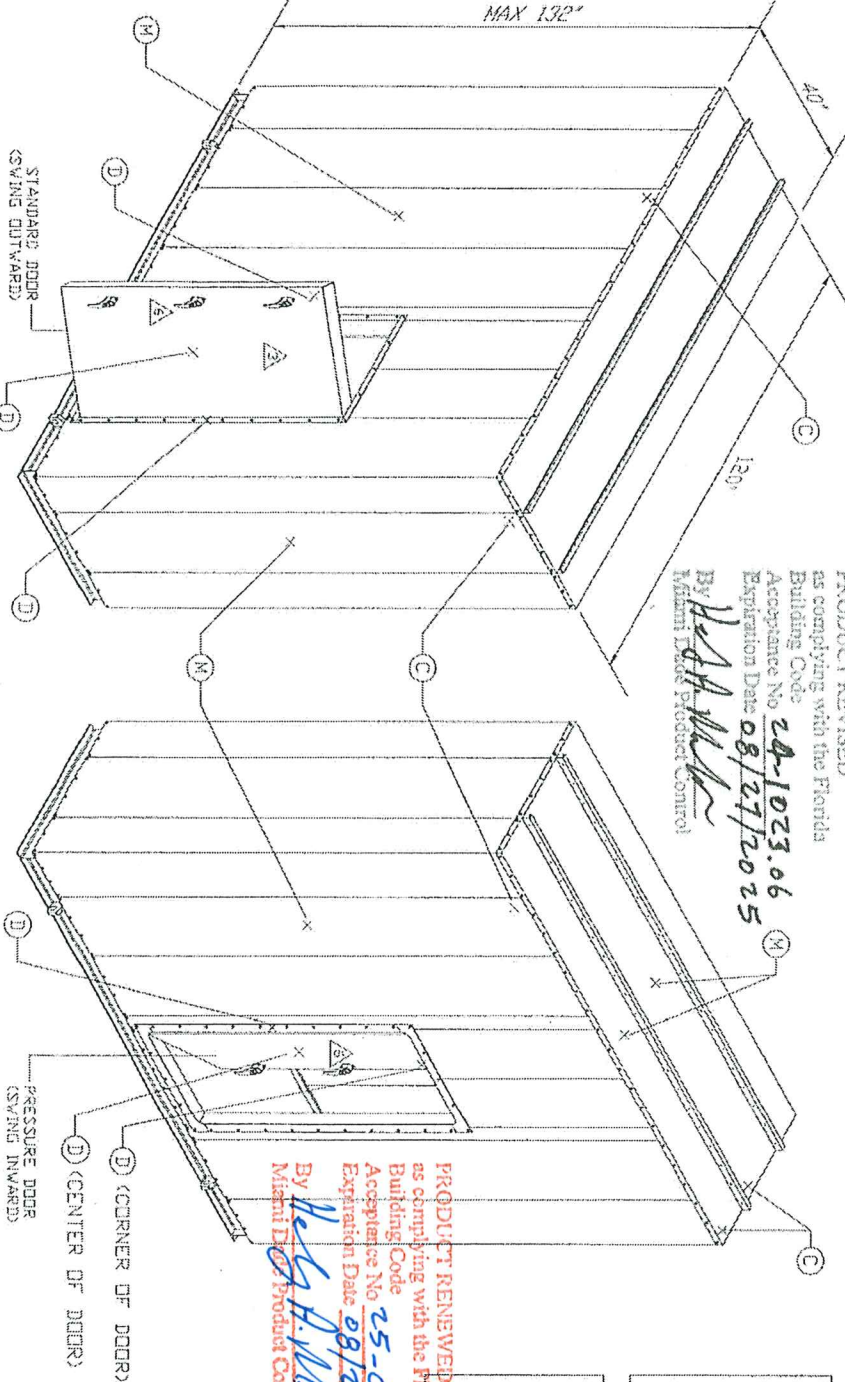
Expiration Date: 08/27/2030

Approval Date: 06/05/2025

OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

- THIS OUTDOOR STYLE AIR HANDLING UNIT IS DESIGNED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, 2023 EDITION, INCLUDING THE PROVISIONS FOR HIGH VELOCITY HURRICANE ZONE (HVHZ).
- DESIGN LOADS MUST BE CALCULATED BY A PROFESSIONAL ENGINEER OR ARCHITECT FOR EACH PROJECT. THE PROJECT PRESSURE CANNOT EXCEED THE DESIGN PRESSURE LISTED.
- ATTACHMENT TO THE ROOF AND THE ROOF CURB TO PREVENT SLIDING AND OVERTURNING OF THE AIR HANDLING UNIT IS NOT PART OF THE SCOPE OF THIS PRODUCT APPROVAL. THEY SHALL BE REVIEWED BY THE CORRESPONDING BUILDING DEPARTMENT.
- THE UNIT DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE CONDITIONS DETAILED HEREIN, SITE SPECIFIC DOCUMENTS PREPARED BY A LICENSED ENGINEER WILL BE REQUIRED.
- DISSIPILAR MATERIALS IN CONTACT WITH EACH OTHER SHALL BE PROTECTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 2023 EDITION.
- MECHANICAL EQUIPMENT INSIDE THE AIR HANDLING UNIT ARE NOT PART OF THIS NDA AND THEY SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 24-1023.06
Expiration Date 08/27/2025
By H.A.H. Miller
Miami Dade Product Control



MAXIMUM DESIGN PRESSURE
WALL: +110 PSF / -110 PSF
ROOF: +825 PSF / -825 PSF

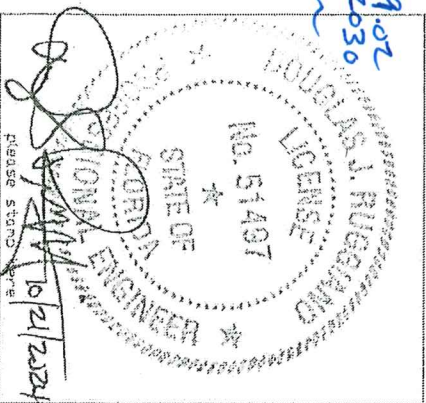
MAXIMUM NOMINAL DOOR SIZE
WIDTH: 30" / HEIGHT: 72"

DRAIN HAS BEEN ADDED TO
TAKE OUT ANY WATER
PENETRATION INTO THE UNIT

- X — IMPACT LOCATION
- C — CORNER IMPACT
- M — MIDDLE/CENTER IMPACT
- D — DOOR IMPACT

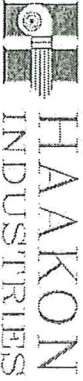
MAXIMUM PANEL FORCE SUMMARY
MAX. PANEL COMPRESSION FORCE: 57067 LBF
MAX. PANEL TENSION FORCE: 5117 LBF
MAX. PANEL RACKING FORCE: 10092 LBF

PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No. 25-0519.02
Expiration Date 08/27/2030
By H.A.H. Miller
Miami Dade Product Control



PROJECT OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

JOB NO.	DRAWN BY	DATE	DWG NO.	PAGE 1 OF 19	REVISION	5 (MAR 15, 2018)
TAG	DATE	MAR 10, 2021	TYPE	OUTDOOR	REVISION	7 (MAR 10, 2021)
					REVISION	8 (OCT 16, 2024)



11251 D-108 ROAD, RICHMOND, VA 23264 VISA #276

NOTES:

1. JOINTS OF BASE STRUCTURAL MEMBERS ARE CONTINUOUSLY WELDED TOGETHER, UNLESS IT IS SPECIFIED.
2. CROSS STRUCTURAL MEMBERS ARE TYPICALLY AT MAX. 18" C-C.
3. 12CA ALUMINUM CAP (FOR NON-FULL HEIGHT) OR 0.13" THK ALUMINUM STRIP (FOR FULL HEIGHT) ARE INSTALLED TO THE TOP OF INTERNAL BASE CROSS STEEL STRUCTURAL MEMBERS. TYP. SCREW @ MAX 12" C-C.
4. ALUMINUM BASE FLOOR IS WELDED TO ALUMINUM BASE CAP OR STRIP AS SHOWN. ALL BASE FLOOR SEAMS ARE CONTINUOUSLY WELDED TOGETHER TO PREVENT LEAKAGE.
5. 10CA ALUMINUM SHEET METAL BASE Z-BAR SKIRT IS SECURED TO ALUMINUM BASE FLOOR BY 0.25" THK X 1" LONG STITCH WELD @ MAX 24" C-C. Z-BAR SKIRT IS ALSO HILTI DOWN TO BASE PERIMETER STRUCTURE @ MAX 12" C-C. BASE Z-BAR SKIRT IS CONTINUOUSLY CAULKED ALONG BASE FLOOR SEAM.
6. LIFTING LUG IS CONTINUOUSLY WELDED TO BASE PERIMETER CHANNEL. TYP. WITH 0.25" THK WELD AND MIN. QTY OF 4 LUGS PER SECTION.
7. SEE DRAWING [APPENDIX A -- UNITBASE STRUCTURAL PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF TYPICAL UNITBASE COMPONENTS.

DETAIL (2) --- ALUMINUM JOINING STRIP FOR
FULL HEIGHT CROSS MEMBER

DETAIL (A) -- ALUMINUM JOINING CAP FOR
NON-FULL HEIGHT CROSS MEMBER

OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

REVISION 5 (JUL 15, 2015)

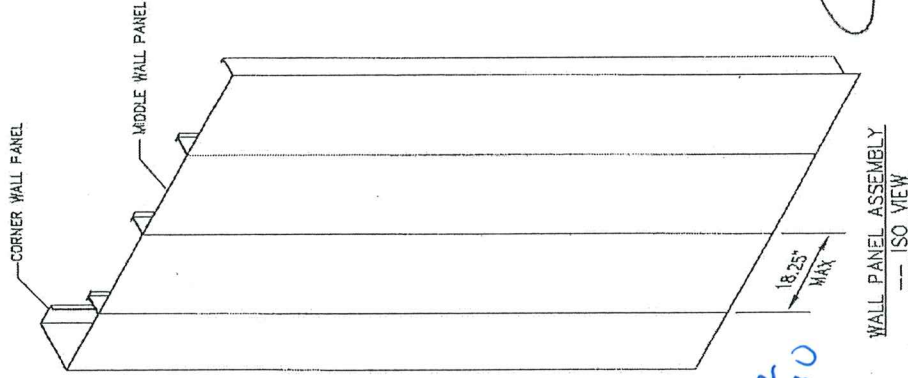
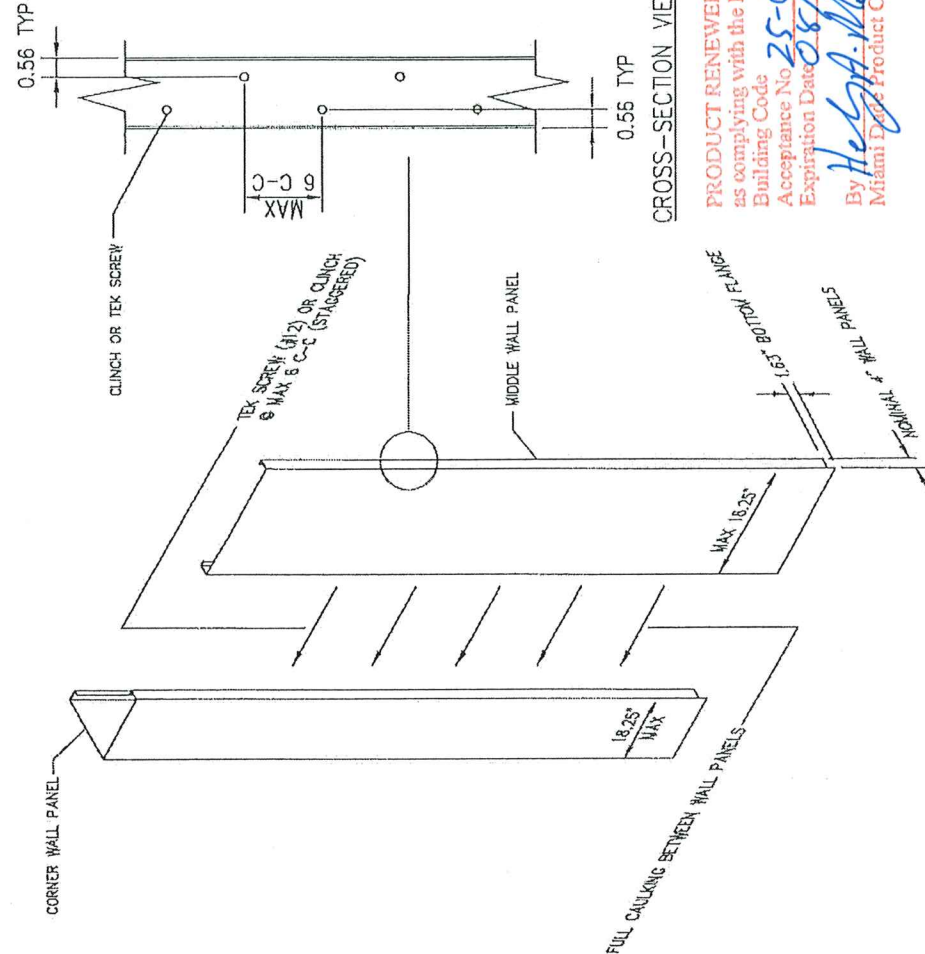
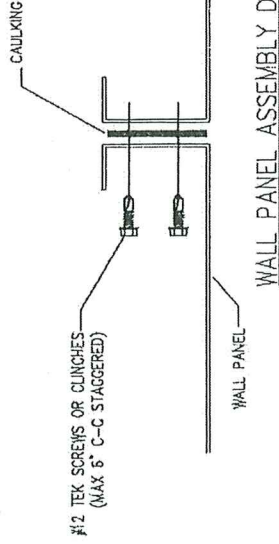
19



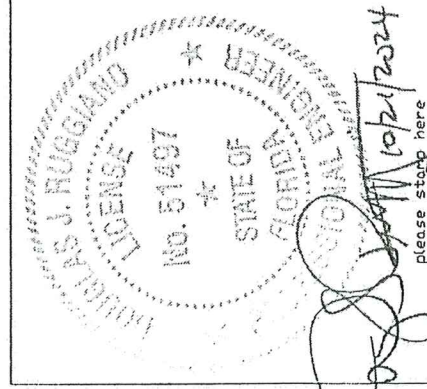
(2) WALL PANEL CONSTRUCTION DETAIL

NOTES:

1. WALL PANELS ARE NOMINAL 4" THK AND THEY ARE JOINED TOGETHER BY #12 TEK SCREWS OR CLINCHES @ MAX 6" C-C (STAGGERED).
2. FULL CAULKING BETWEEN PANELS IS DONE TO PREVENT AIR LEAKAGE.
3. WALL PANEL IS FABRICATED FROM 16GA GALVANEAL SHEET METAL, UNLESS OTHERWISE SPECIFIED.
4. MAXIMUM WALL PANEL WIDTH IS 18.25", UNLESS OTHERWISE SPECIFIED.
5. SEE DRAWING [APPENDIX B -- WALL_PANEL_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF TYPICAL WALL PANEL COMPONENTS.



PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 24-1023-06
Expiration Date 08/27/2025
By *H. J. P. Miller*
Miami Data Product Control



PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No. 25-0519-02
Expiration Date 08/27/2030
By *H. J. P. Miller*
Miami Data Product Control

TITLE				OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK				REVISION		5 (JUL 15, 2015)	
JOB NO.		DRAWN BY	DY	DWG NO.	6950	PAGE	3	OF	19		
TAG		DATE	FEB 05, 2015	TYPE	OUTDOOR	DWG UNITS	IN				



HAAKON
INDUSTRIES

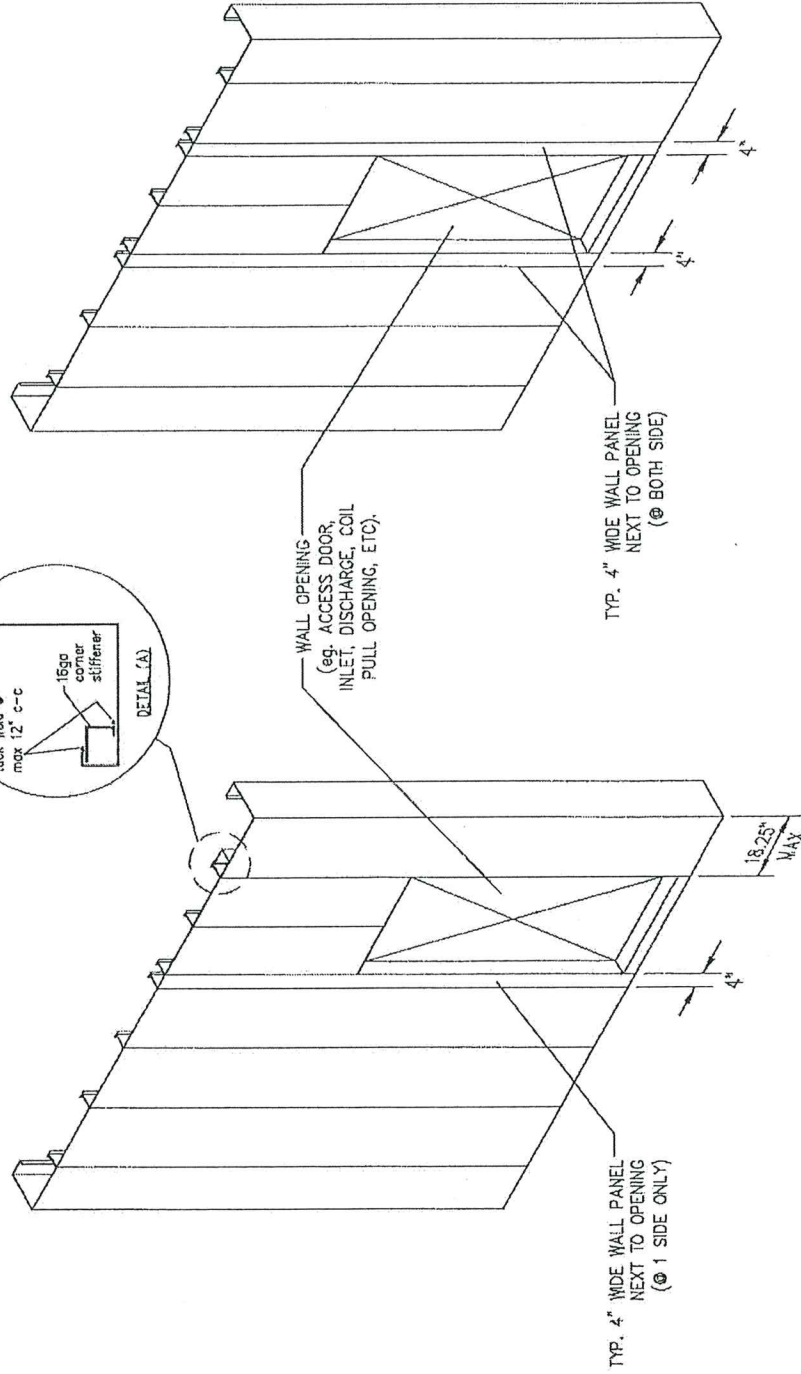
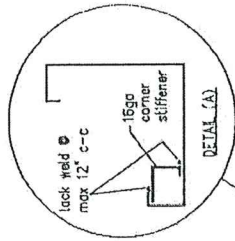
11851 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4S8

HAAKON INDUSTRIES
11851 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4X8

(3) WALL OPENING REINFORCEMENT DETAIL

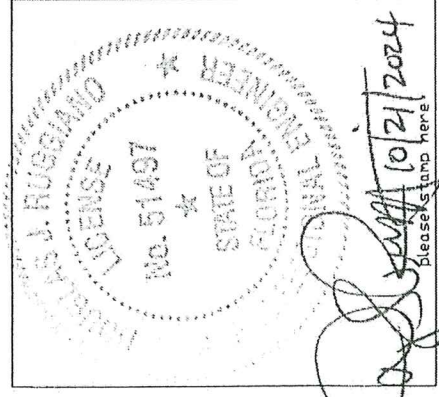
NOTES:

1. 4" WIDE WALL PANELS ARE TYPICALLY INSTALLED NEXT TO THE WALL OPENING FOR REINFORCEMENT.
2. IF THE WALL OPENING IS LOCATED NEXT TO THE CORNER PANEL, THEN ONLY 1 QTY OF 4" WALL PANEL IS INSTALLED BESIDE THE WALL OPENING AS SHOWN IN SCENARIO #1. OTHERWISE, 2 QTY OF 4" WIDE WALL PANELS ARE REQUIRED AND INSTALLED AT BOTH SIDES OF WALL OPENING AS DEMONSTRATED IN SCENARIO #2.
3. IN SCENARIO #1, A 16GA GALVANEAL SHEET METAL PIECE WITH NOMINAL SIZE 4"x4"x2", IS TACK WELDED TO THE CORNER PANEL AS SHOWN IN DETAIL (A) FOR REINFORCEMENT. TYP. TACK WELD @ MAX 12" C-C, ON BOTH SIDES.
4. SEE DRAWING [APPENDIX B -- WALL_PANEL_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF TYPICAL 4" WIDE WALL PANEL COMPONENT.



PRODUCT RENEWED
as complying with the Florida
Building Code
Acceptance No. 25-0519.02
Expiration Date 08/27/2030
By *Hyatt Miller*
Miami Design Product Control

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as complying with the Florida
Building Code
Acceptance No. 24-1023.06
Expiration Date 08/27/2025
By *Hyatt Miller*
Miami Design Product Control



SCENARIO #2 -- OPENING @ MIDDLE OF WALL SECTION

SCENARIO #1 -- OPENING NEXT TO CORNER PANEL

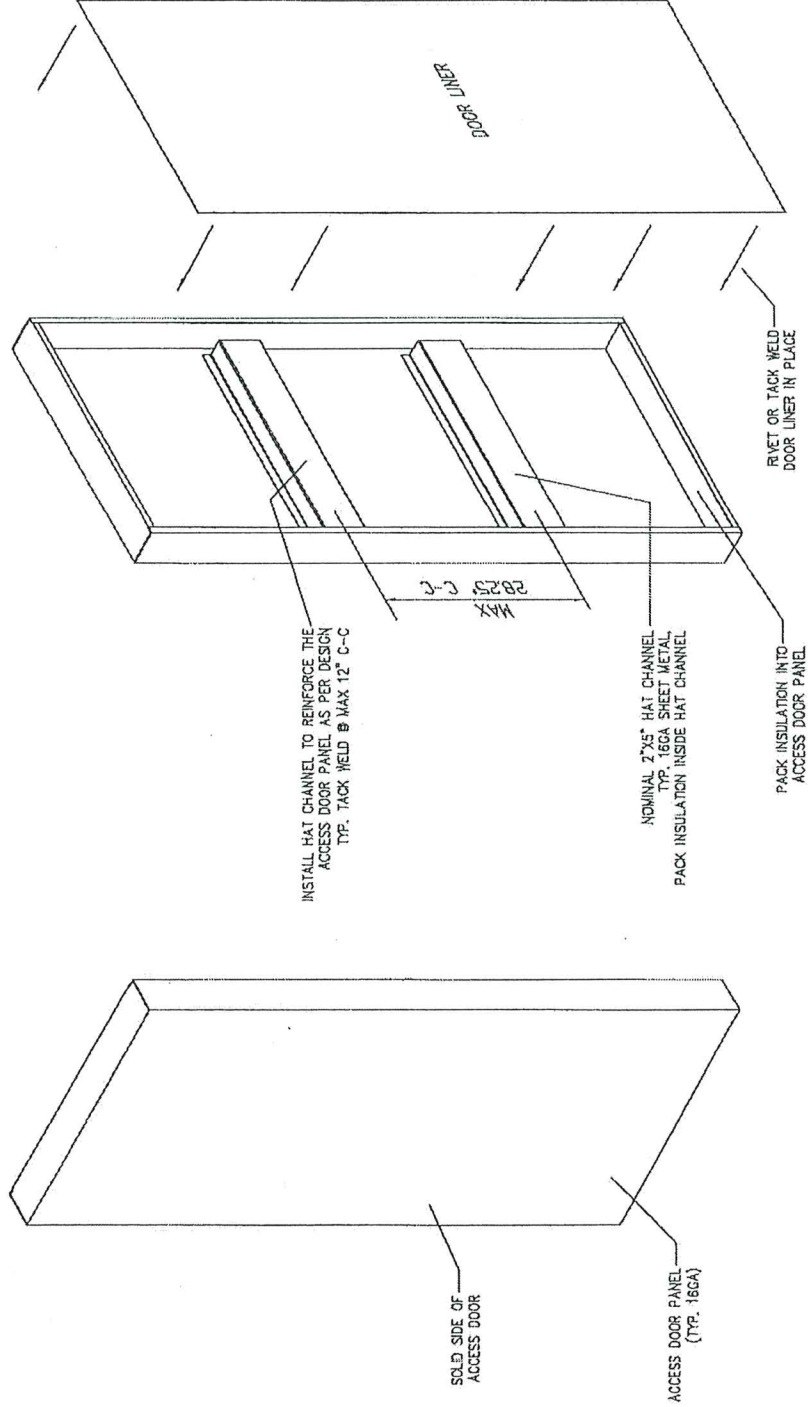
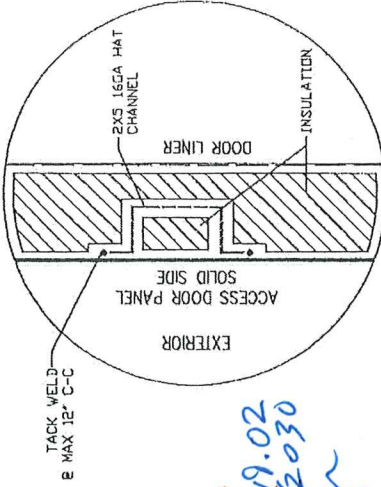
PROJECT		OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK		REVISION	5 (JUL 15, 2015)
JOB NO.	DRAWN BY	DY	DWG NO.	6950	PAGE 4 OF 19
TAG	DATE	FEB 05, 2015	TYPE	OUTDOOR	DWG UNITS IN
		HAAKON INDUSTRIES		11801 DYKE ROAD, RICHMOND, B.C. CANADA V7A 5K5	

(4A) ACCESS DOOR PANEL REINFORCEMENT DETAIL

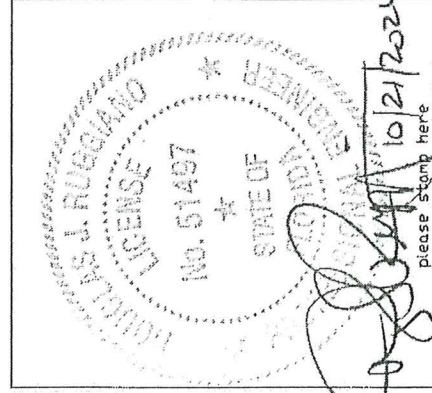
NOTES:

1. NOMINAL 2"x5" 16GA GALVANEAL SHEET METAL HAT CHANNELS ARE WELDED INTO ACCESS DOOR PANEL FOR REINFORCEMENT. TYP. TACK WELD @ MAX 12" C-C.
2. SEE DRAWING [APPENDIX C -- ACCESS_DOOR_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF ACCESS DOOR COMPONENTS.

PRODUCT RENEWED
as complying with the Florida
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Expiration Date 08/27/2030
By *Heidi A. Miller*
Miami Date Product Control



PRODUCT REVISED
as complying with the Florida
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Acceptance No 24-1023.06
Expiration Date 04/27/2025
By *Heidi A. Miller*
Miami Date Product Control



PROJECT OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

REVISION 5 (JUL 15, 2015)

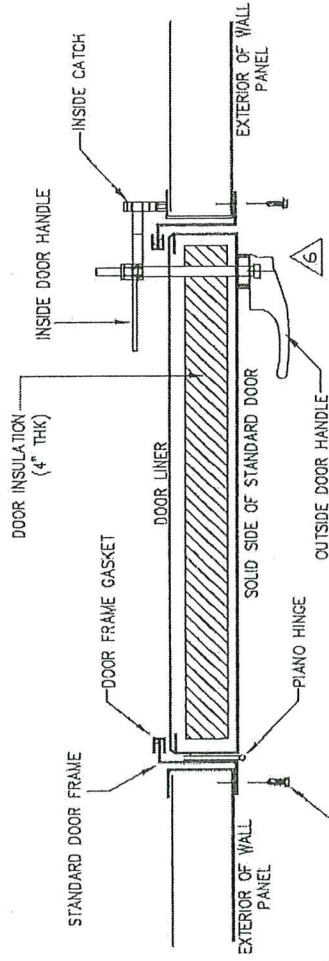
JOB NO.				TAG			
DRAWN BY		DY	FEB 05, 2015	DWG NO.	6950	PAGE 5 OF 19	
DATE				TYPE	OUTDOOR	DWG UNITS	IN

HAAKON INDUSTRIES
11851 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4X5

(4B) STANDARD DOOR CONSTRUCTION DETAIL

NOTES:

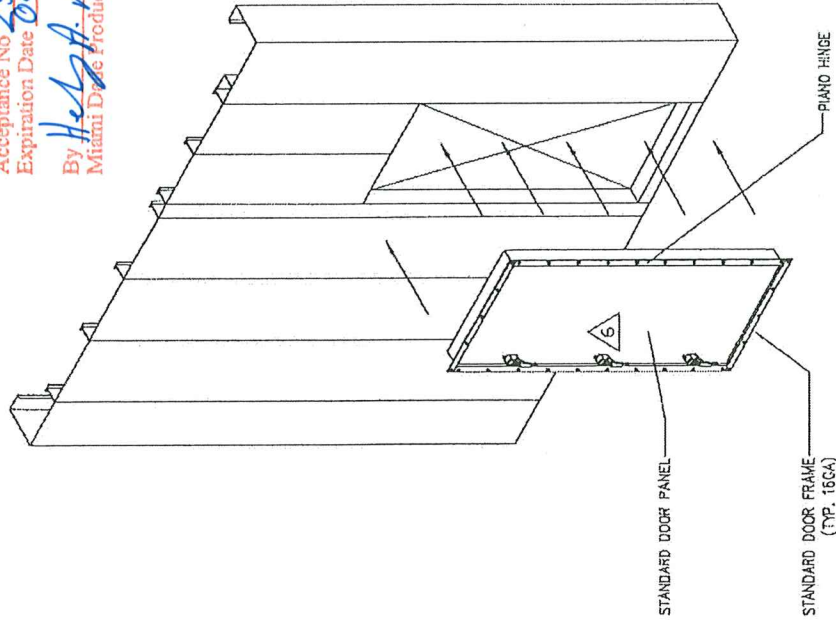
1. STANDARD DOOR (OUTWARD SWINGING) IS ATTACHED TO DOOR FRAME WITH PIANO HINGE.
2. STANDARD DOOR ASSEMBLY IS ATTACHED TO EXTERIOR OF AHU AS SHOWN. TYPICALLY @ MAX 12" C-C WITH #12 TEK SCREWS.
3. SEE DRAWING [APPENDIX C --- ACCESS_DOOR_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF ACCESS DOOR COMPONENTS.



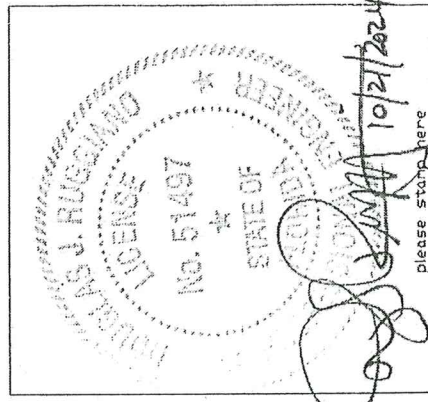
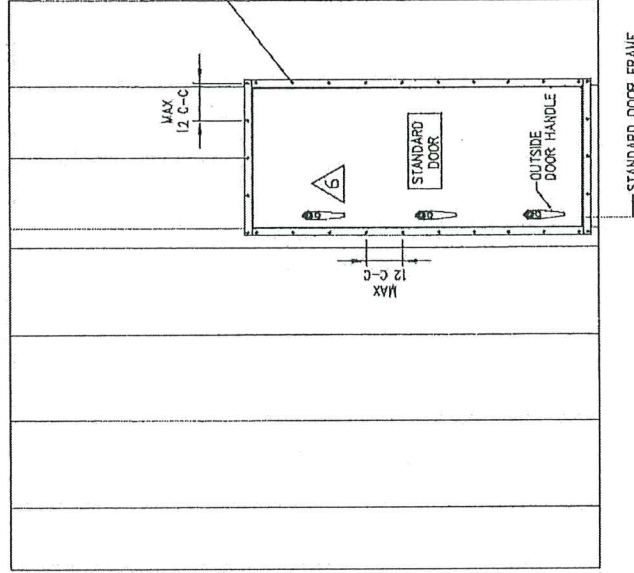
STANDARD DOOR INSTALLATION DETAIL

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 24-0023.06
Expiration Date 04/27/2025
By *Heidi A. Miller*
Miami Date Product Control

PRODUCT RENEWED
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Building Code
Acceptance No. 25-0519.00
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Miami Date Product Control



DOOR FRAME IS TEK SCREWED TO
EXTERIOR OF WALL @ MAX 12" C-C.



TITLE OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

REVISION 5 (JUL 15, 2015)
REVISION 6 (MAR 15, 2018)

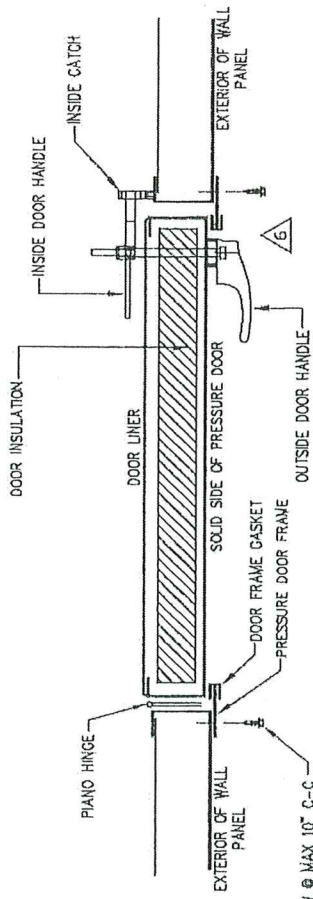
HAAKON INDUSTRIES
11951 DYKE ROAD, RICHMOND, B.C., CANADA V7A 4N5

JOB NO.	DRAWN BY	DWG NO.	PAGE	6 OF 19
TAG	DATE	TYPE	OUTDOOR	DWG UNITS
	MAR 15, 2018			IN

(4C) PRESSURE DOOR CONSTRUCTION DETAIL

NOTES:

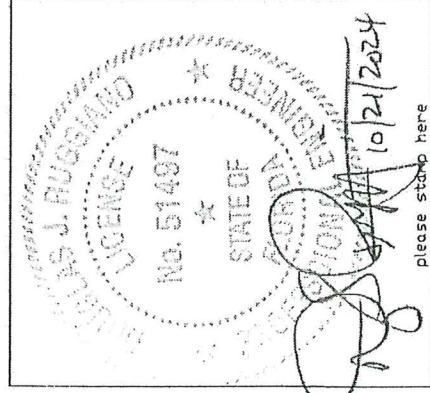
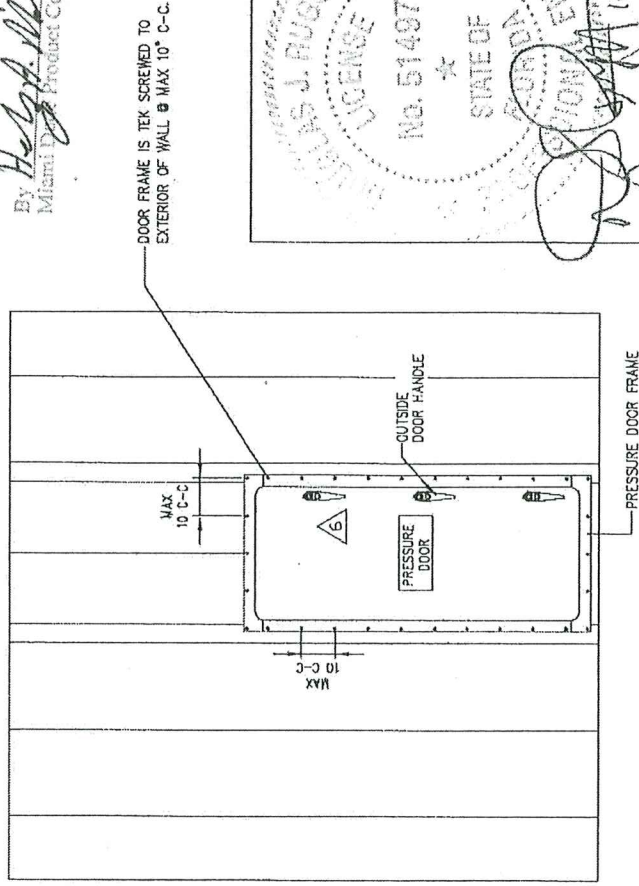
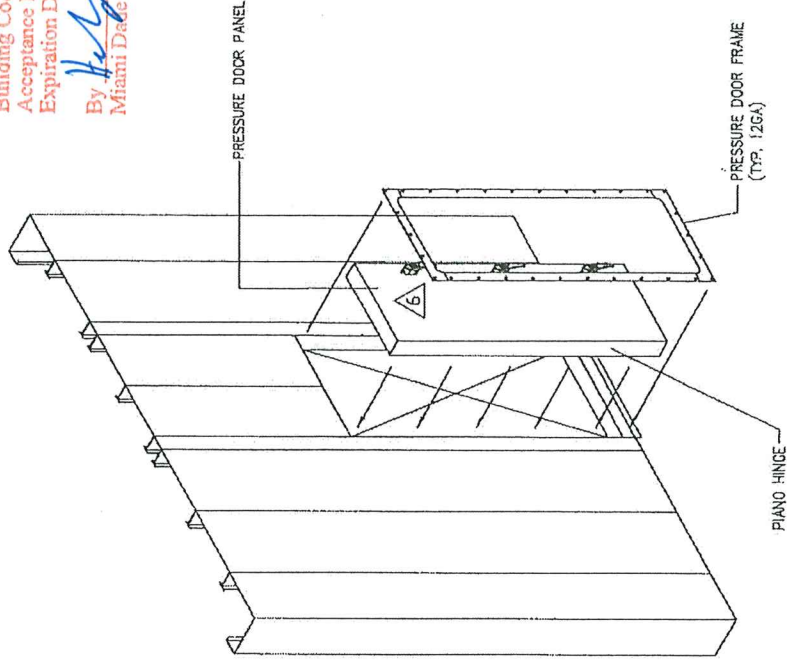
1. PRESSURE DOOR (INWARD SWINGING) IS ATTACHED TO DOOR FRAME WITH PIANO HINGE.
2. PRESSURE DOOR ASSEMBLY IS ATTACHED TO EXTERIOR OF AHU AS SHOWN. TYPICALLY @ MAX 10" C-C WITH #12 TEK SCREWS.
3. SEE DRAWING [APPENDIX C -- ACCESS DOOR STRUCTURAL PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF ACCESS DOOR COMPONENTS.



PRESSURE DOOR INSTALLATION DETAIL

PRODUCT RENEWED
 as complying with the Florida
 Building Code
 Acceptance No 25-0519.02
 Expiration Date 08/27/2030
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PRODUCT REVISED
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TITLE OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

REVISION 5 (JUL 15, 2015)
 REVISION 6 (MAR 15, 2018)

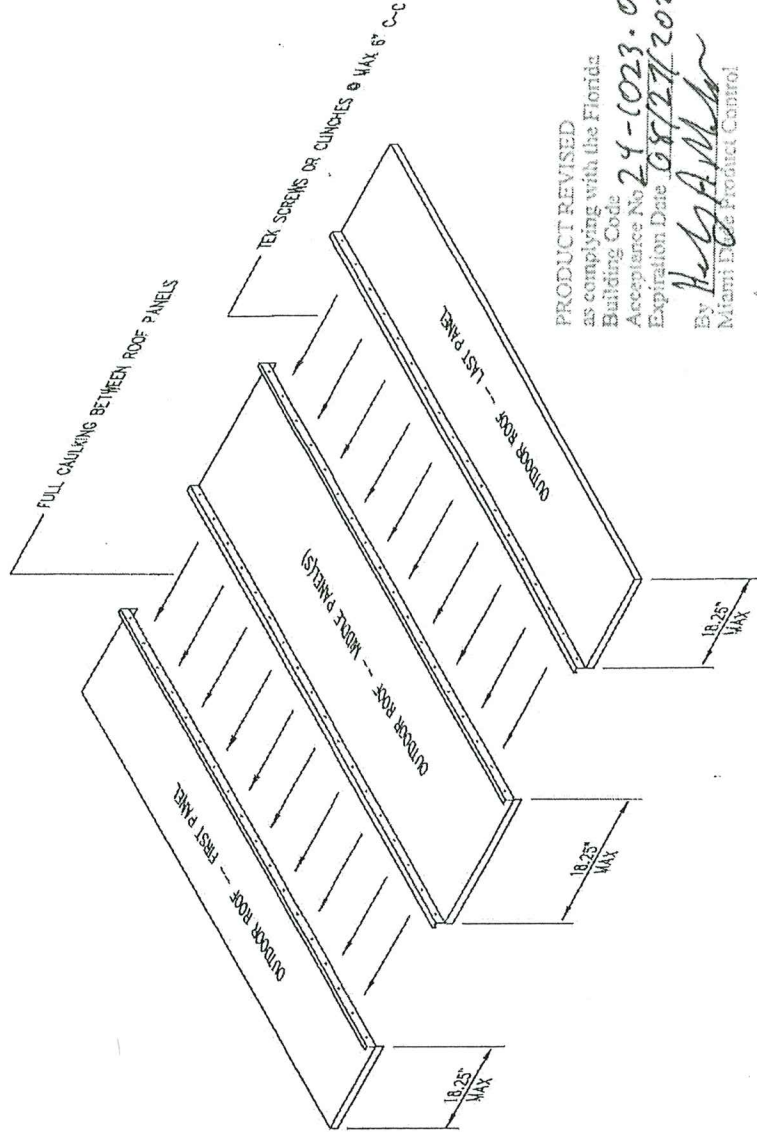
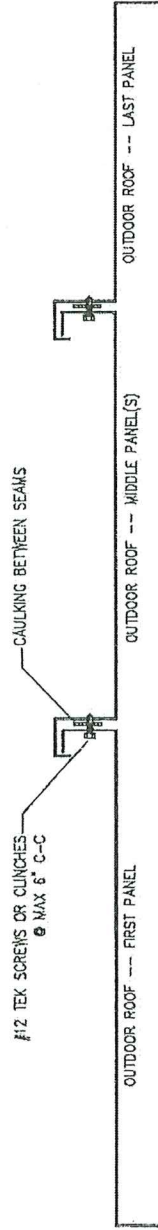
JOB NO.	DRAWN BY	DWG NO.	PAGE	7 OF 19
TAG	DATE	TYPE	DWG UNITS	IN
	MAR 15, 2018	OUTDOOR		

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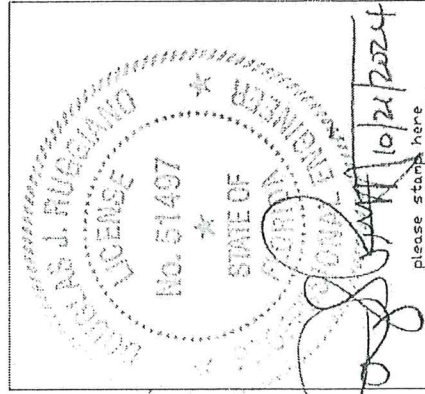
(5A) OUTDOOR ROOF CONSTRUCTION DETAIL

NOTES:

1. OUTDOOR ROOF PANELS ARE JOINED TOGETHER BY TEK SOREWS OR CLINCHES @ MAX 6" C-C.
2. FULL CAULKING BETWEEN ROOF PANELS IS DONE TO PREVENT AIR LEAKAGE.
3. MAXIMUM OUTDOOR ROOF PANEL WIDTH IS 18.25", UNLESS OTHERWISE SPECIFIED.
4. OUTDOOR ROOF PANEL IS FABRICATED FROM 16GA GALVANEAL SHEET METAL, UNLESS OTHERWISE SPECIFIED.
5. SEE DRAWING [APPENDIX D -- OUTDOOR_ROOF_PANEL_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF TYPICAL OUTDOOR ROOF COMPONENTS.



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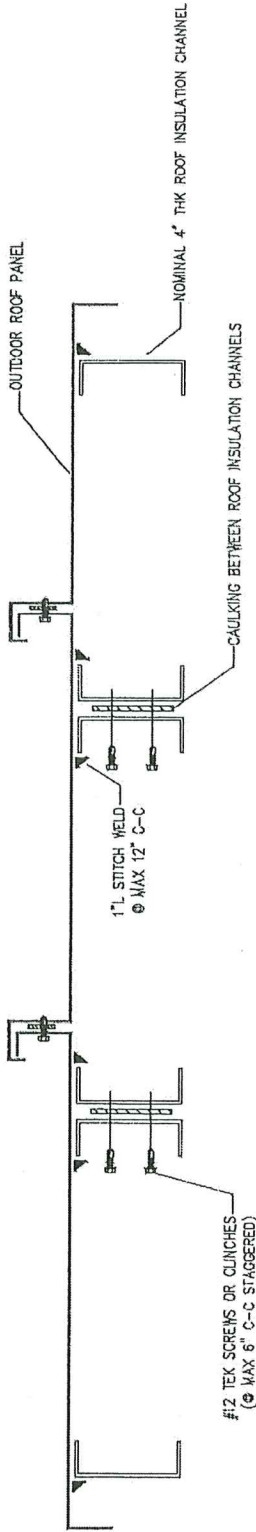
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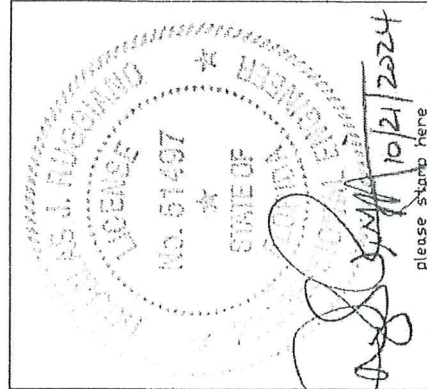
(5B) OUTDOOR ROOF INSULATION CHANNEL CONSTRUCTION DETAIL

NOTES.

1. ROOF INSULATION CHANNELS ARE JOINED TOGETHER BY #12 TEK SCREWS OR CLINCHES @ MAX 6" C-C.
2. ROOF INSULATION CHANNELS ARE TACK WELDED TO UNDERSIDE OF ROOF PANEL @ MAX 12" C-C.
3. MAXIMUM C-C DISTANCE BETWEEN ROOF INSULATION CHANNELS IS 18.25", UNLESS OTHERWISE SPECIFIED.
4. ROOF INSULATION CHANNEL IS FABRICATED FROM 16GA GALVANEAL SHEET METAL, UNLESS OTHERWISE SPECIFIED.
5. SEE DRAWING [APPENDIX D -- OUTDOOR_ROOF_PANEL_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF TYPICAL ROOF INSULATION CHANNELS.



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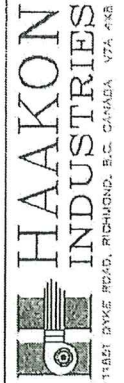


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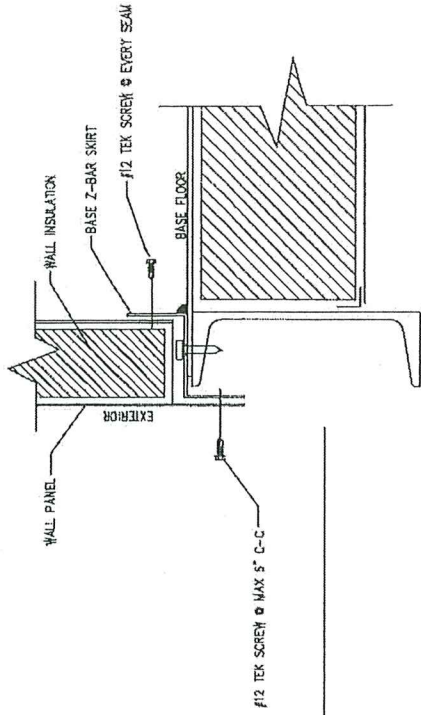
JOB NO. DRAWN BY DY DATE FEB 05, 2015 DWG NO. 5950 TYPE OUTDOOR PAGE 9 OF 19 DWG UNITS IN



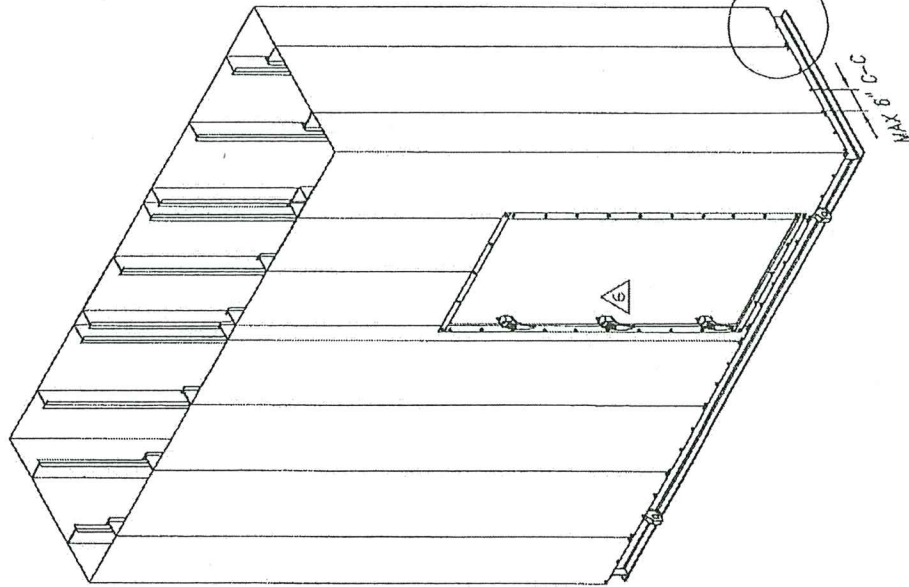
(6) WALL PANEL TO UNITBASE CONSTRUCTION DETAIL

NOTES:

1. BOTTOM FLANGE OF WALL PANEL IS ATTACHED TO BASE Z-BAR SKIRT WITH #12 TEK SCREWS @ MAX 6" C-C.
2. UPWARD FLANGE OF BASE Z-BAR SKIRT IS ALSO SECURED TO WALL PANEL SEAM @ UNIT INTERIOR. TYP. #12 TEK SCREWS @ EVERY WALL SEAM.



WALL PANEL TO UNITBASE INSTALLATION DETAIL

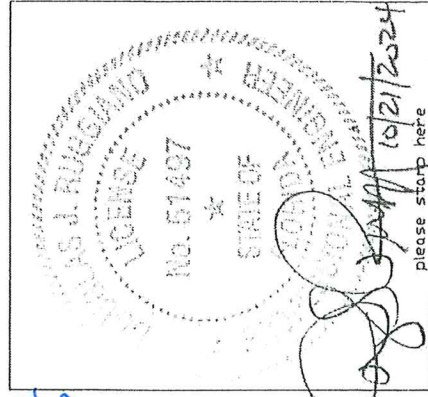


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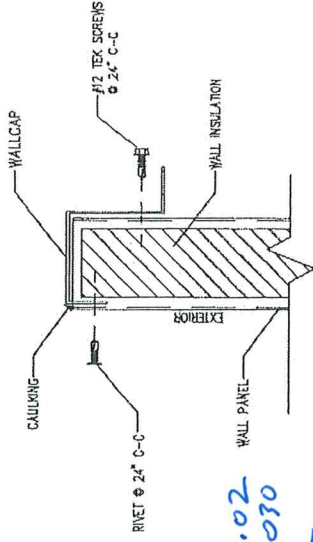
OUTDOOR

(7) WALLCAP INSTALLATION DETAIL

NOTES:

1. WALLCAPS ARE INSTALLED ON TOP OF WALLS AS SHOWN. WALLCAPS ARE USED TO SUPPORT ROOF. TYP. @ ALL 4 SIDES.
2. SEE DRAWING [APPENDIX E --- WALLCAP_STRUCTURAL_PROPERTIES] FOR MECHANICAL PROPERTIES AND DIMENSIONS OF WALLCAP.

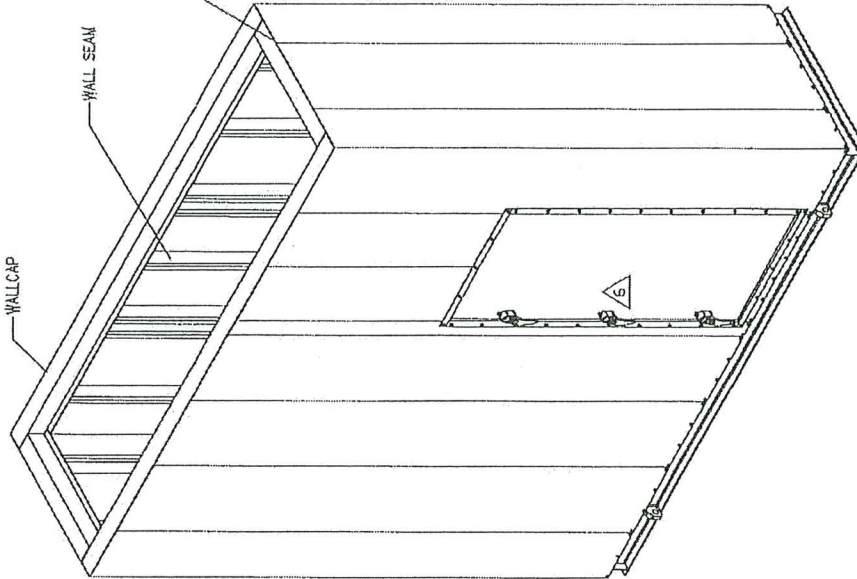
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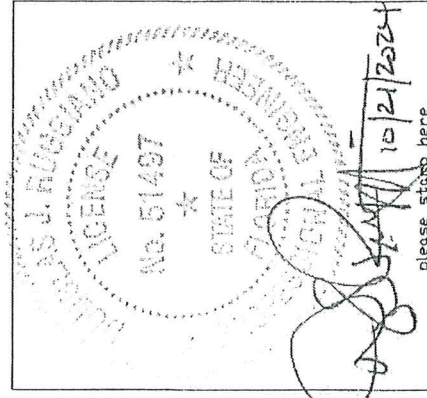
WALLCAP INSTALLATION DETAIL

TOP OF WALL SEAMS ARE SLIT FOR
WALLCAP INSTALLATION.

WALLCAPS ON ALL SIDES



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TAG

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DATE

DWG NO. 6945
MAR 15, 2018

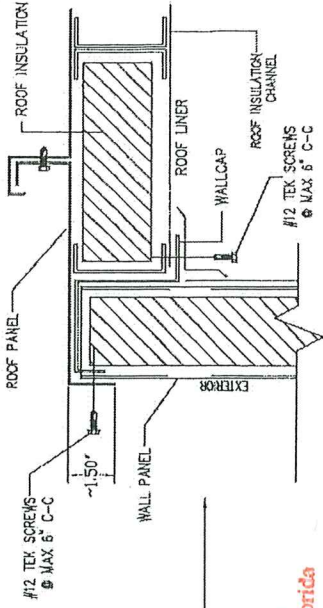
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DWG UNITS IN

HAAKON INDUSTRIES
11551 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4X5

(8) OUTDOOR ROOF INSTALLATION DETAIL

NOTES:

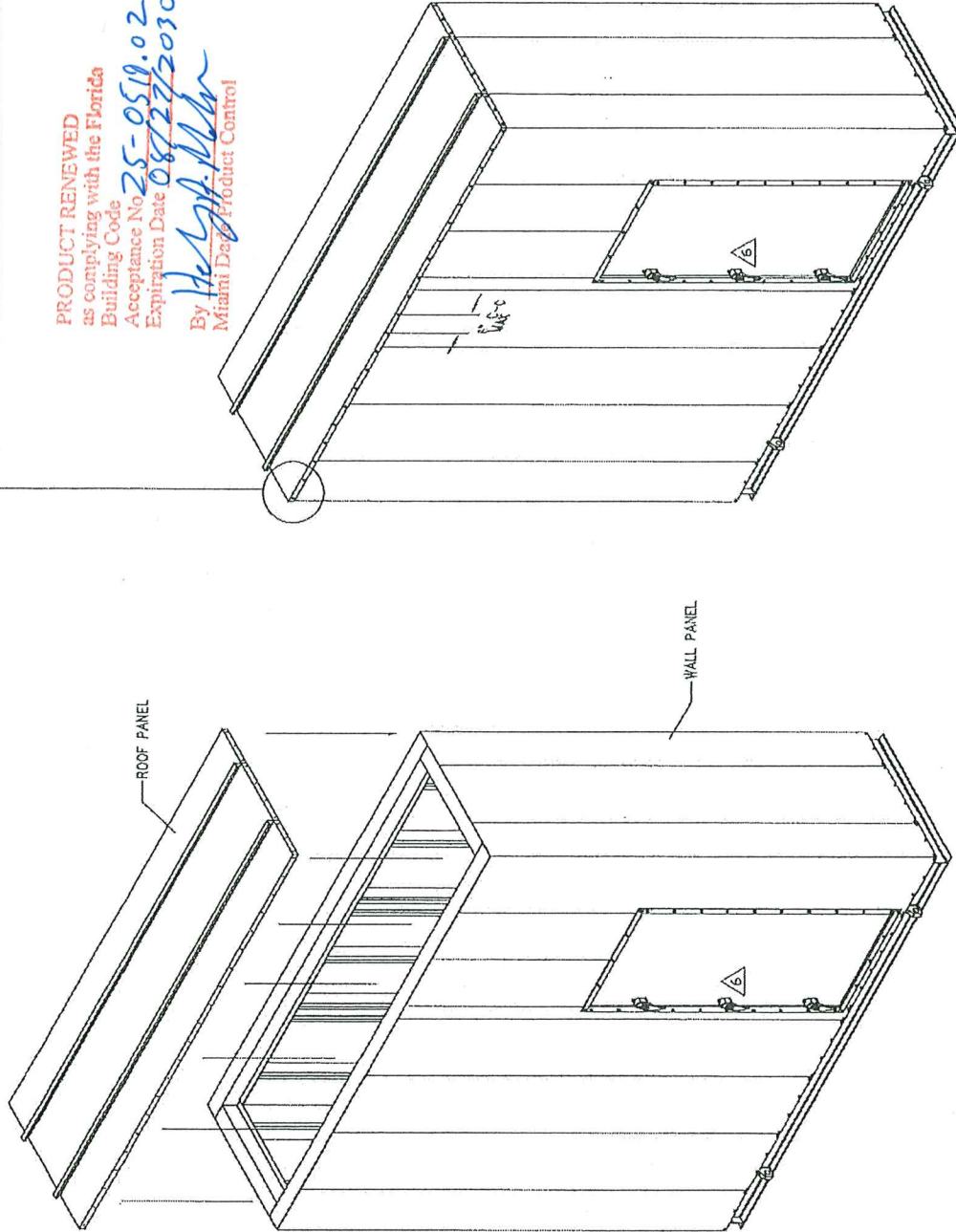
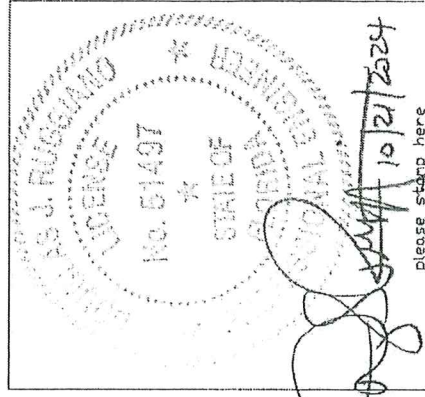
1. RETURN FLANGE OF OUTDOOR ROOF PANEL IS ATTACHED TO VERTICAL WALL PANELS WITH #12 TEK SCREWS @ MAX 6" C-C.
2. BOTTOM FLANGE OF WALLCAP IS ALSO SECURED TO ROOF INSULATION CHANNELS. TYP. #12 TEK SCREWS @ MAX 6" C-C.



ROOF INSTALLATION DETAIL

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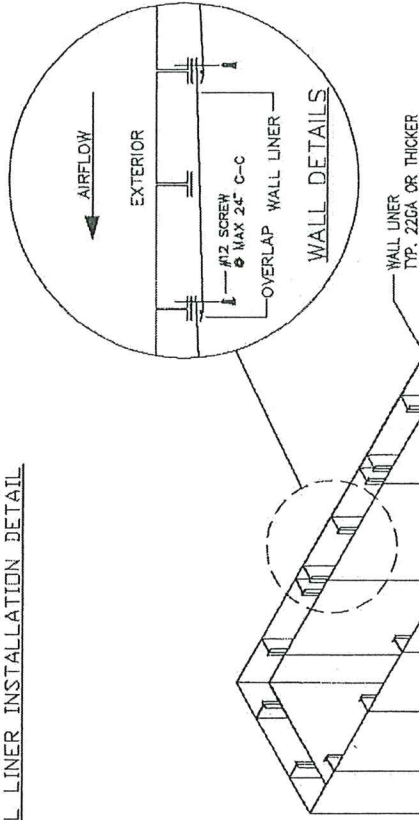
HAAKON INDUSTRIES
11851 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4Z6

(9) WALL/ROOF LINER INSTALLATION DETAIL

NOTES:

1. WALL LINER AND ROOF LINER ARE INSTALLED AS SHOWN IN DETAIL (A) AND (B), RESPECTIVELY, TYP. #12 TEK SCREW @ MAX 24" C-C.

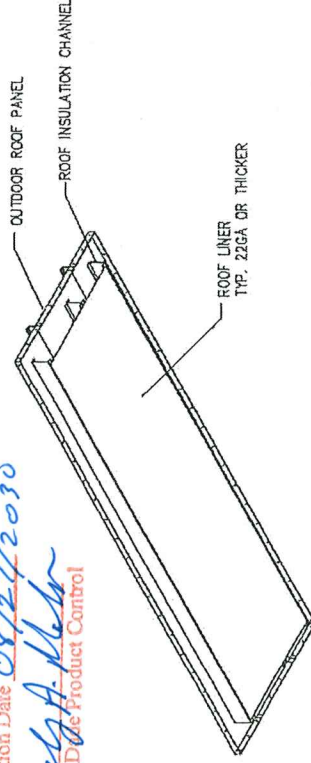
(A) WALL LINER INSTALLATION DETAIL



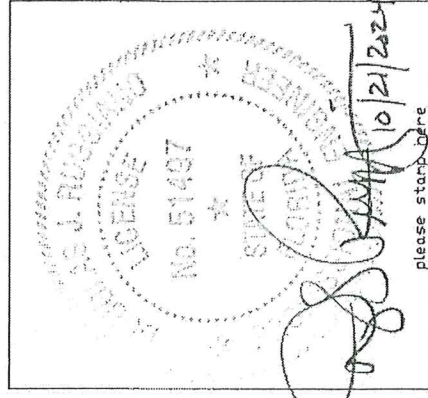
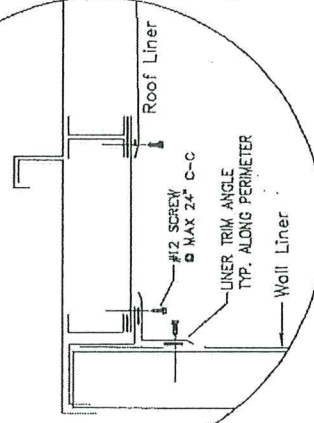
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(B) ROOF LINER INSTALLATION DETAIL

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ROOF DETAILS



PROJECT

OUTDOOR STYLE AIR HANDLING UNIT, PENTPAK

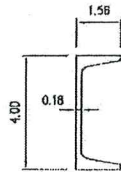
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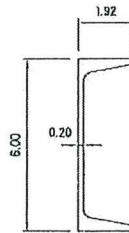
APP. A--Mechanical Properties of Typical Unitbase Components

(A) CROSS-SECTION OF C4X5.4 CHANNEL



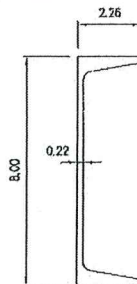
Material: ASTM A36 Mild Steel
Weight Per Foot: 5.4 lbs/ft
Cross-Section Area: 1.59 in²
Yield Tensile Stress: 36 kpsi
Ultimate Tensile Stress: 58 kpsi
Modulus of Elasticity (E): 29×10^6 psi
Modulus of Rigidity (G): 11.2×10^6 psi

(B) CROSS-SECTION OF C6X9.2 CHANNEL



Material: ASTM A36 Mild Steel
Weight Per Foot: 8.2 lbs/ft
Cross-Section Area: 2.40 in²
Yield Tensile Stress: 36 kpsi
Ultimate Tensile Stress: 58 kpsi
Modulus of Elasticity (E): 29×10^6 psi
Modulus of Rigidity (G): 11.2×10^6 psi

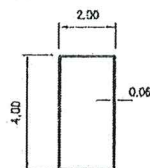
(C) CROSS-SECTION OF C8X11.5 CHANNEL



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Material: ASTM A36 Mild Steel
Weight Per Foot: 11.5 lbs/ft
Cross-Section Area: 3.38 in²
Yield Tensile Stress: 36 kpsi
Ultimate Tensile Stress: 58 kpsi
Modulus of Elasticity (E): 29×10^6 psi
Modulus of Rigidity (G): 11.2×10^6 psi

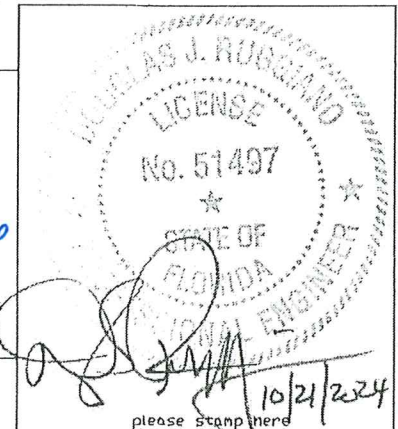
(D) CROSS-SECTION OF 4x2x16ga TUBE



Material: ASTM A36 Hot Rolled Tubing
Weight Per Foot: 2.5 lbs/ft
Cross-Section Area: 0.734 in²
Yield Tensile Stress: 36 kpsi
Ultimate Tensile Stress: 58 kpsi
Modulus of Elasticity (E): 29×10^6 psi
Modulus of Rigidity (G): 11.2×10^6 psi

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NOTE:
1. ALL DIMENSIONS ARE IN INCHES.



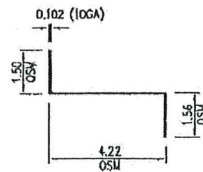
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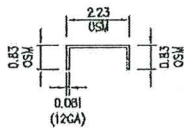
APP. A--Mechanical Properties of Typical Unitbase Components

E CROSS-SECTION LAYOUT OF "ALUMINUM" BASE Z-BAR SKIRT

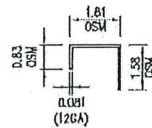


Material: AL 5052-H32 Aluminum Sheet Metal
 s-Section Area: 0.516 in² (a) / 0.720 in² (b)
 Yield Tensile Stress: 28 kpsi (typ)
 Ultimate Tensile Stress: 33 kpsi (typ)
 Modulus of Elasticity (E): 10.2 x 10e6 psi
 Modulus of Rigidity (G): 3.76 x 10e6 psi

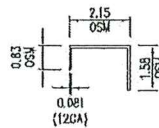
F CROSS-SECTION LAYOUT OF "ALUMINUM" BASE JOINING CAP



(a) ALUMINUM BASE JOINING CAP FOR
TYP. 4H (4X2)



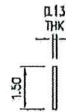
(b) ALUMINUM BASE JOINING CAP FOR
TYP. 4C



(c) ALUMINUM BASE JOINING CAP FOR
TYP. 6C

Material: AL 5052-H32 Aluminum Sheet Metal
 s-Section Area: 0.302 in² (a) / 0.328 in² (b) /
 0.3560 in² (c)
 Yield Tensile Stress: 28 kpsi (typ)
 Ultimate Tensile Stress: 33 kpsi (typ)
 Modulus of Elasticity (E): 10.2 x 10e6 psi
 Modulus of Rigidity (G): 3.76 x 10e6 psi

G CROSS-SECTION LAYOUT OF "ALUMINUM" BASE JOINING STRIP



ALUMINUM BASE JOINING STRIP FOR
ALL FULL-HEIGHT BASE CROSS MEMBER

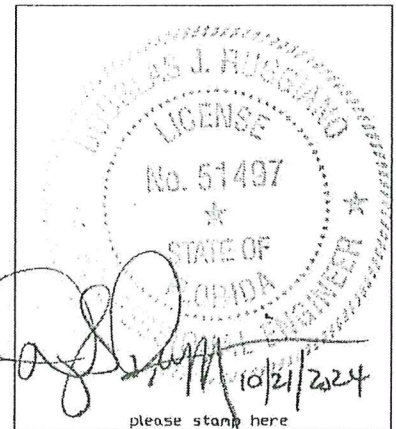
Material: AL 3003-H22 Aluminum Plate
 s-Section Area: 0.188 in²
 Yield Tensile Stress: 13 kpsi
 Ultimate Tensile Stress: 19 kpsi
 Modulus of Elasticity (E): 10 x 10e6 psi
 Modulus of Rigidity (G): 3.63 x 10e6 psi

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NOTE:
 1. ALL DIMENSIONS ARE IN INCHES.



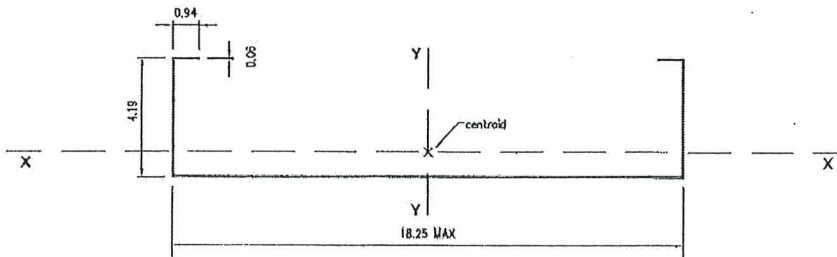
TITLE OUTDOOR STYLE AIR HANDLING UNIT, PENTAK

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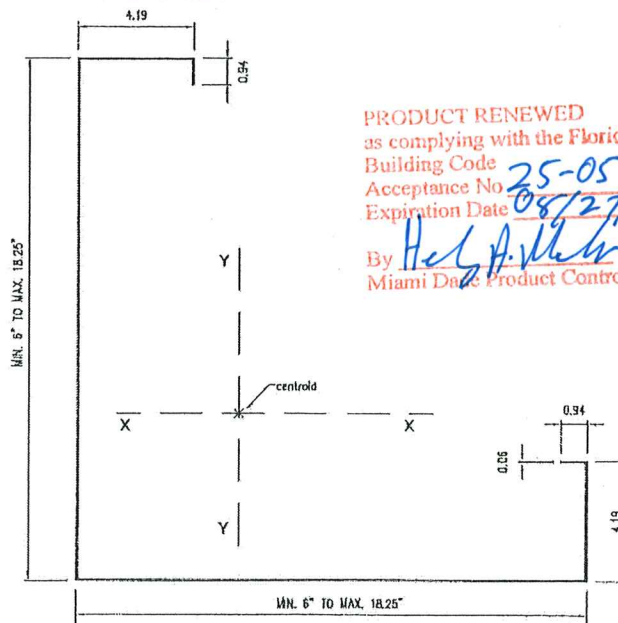
APP. B--Mechanical Properties of Typical Wall Panels

(A) BREAK PROFILE OF NOMINAL 4" THK WALL PANEL



Material: 16ga Galvanealed Sheet Metal Steel

(B) BREAK PROFILE OF NOMINAL 4" CORNER PANEL

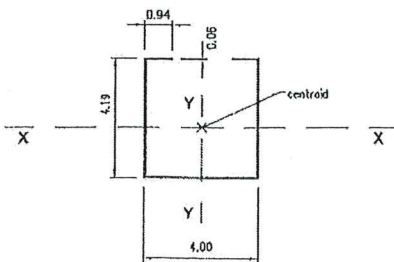


Material: 16ga Galvanealed Sheet Metal Steel

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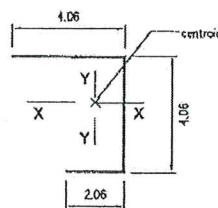
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(C) BREAK PROFILE OF 4" WIDE WALL PANEL NEXT TO WALL OPENING



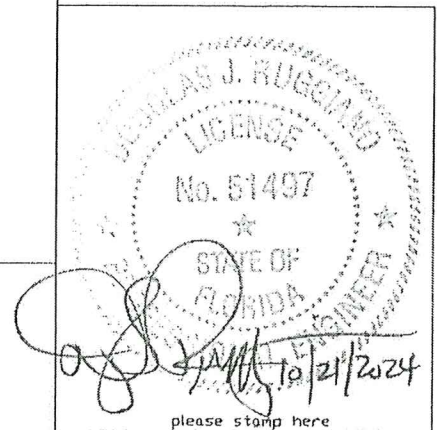
Material: 16ga Galvanealed Sheet Metal Steel

(D) BREAK PROFILE OF CORNER STIFFENER



Material: 16ga Galvanealed Sheet Metal Steel

NOTE:
1. ALL DIMENSIONS ARE IN INCHES.



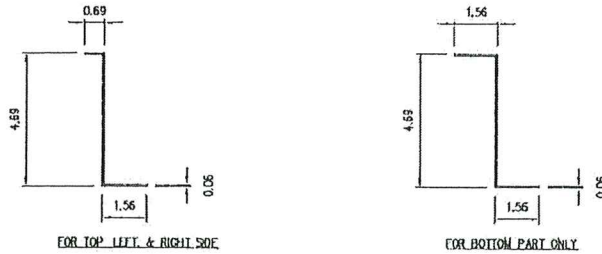
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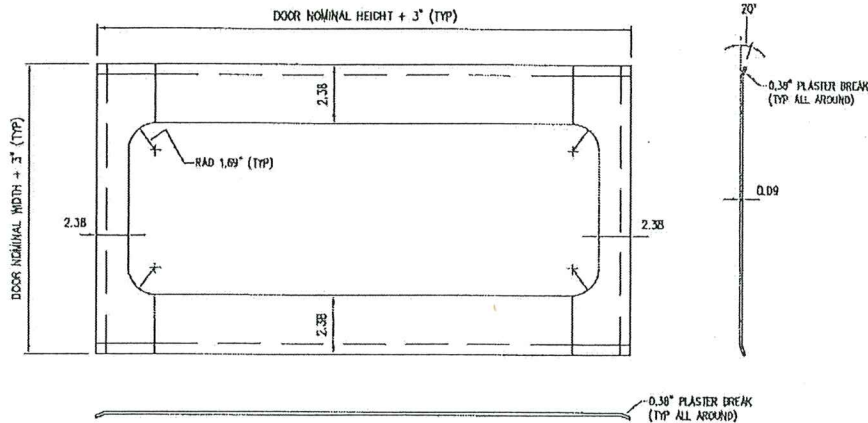
APP. C--Mechanical Properties of Typical Door Components

(A) BREAK PROFILE OF DOOR FRAME FOR STANDARD DOOR



Material: 16ga Galvanealed Sheet Metal Steel

(B) BREAK PROFILE OF DOOR FRAME FOR PRESSURE DOOR

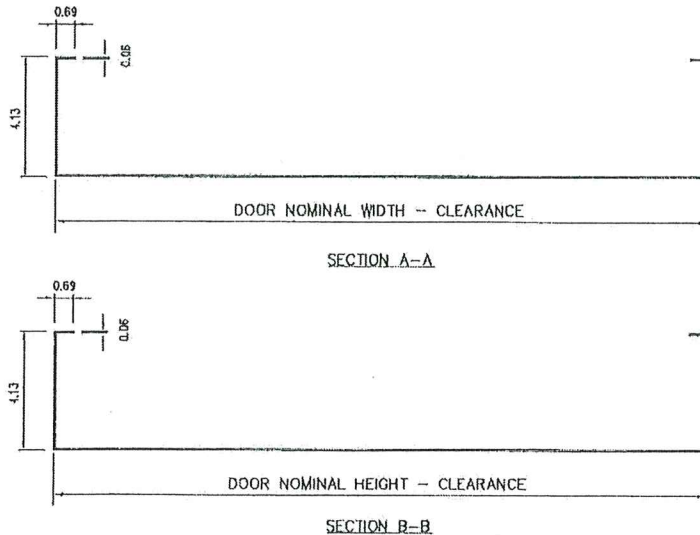


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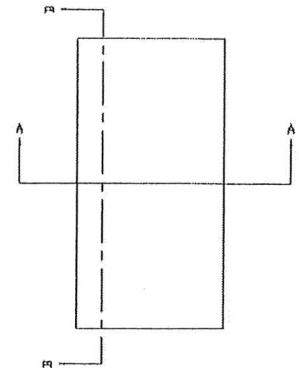
Material: 12ga Galvanealed Sheet Metal Steel

(C) BREAK PROFILE OF ACCESS DOOR

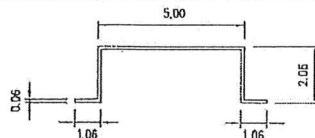
Material: 16ga Galvanealed Sheet Metal Steel



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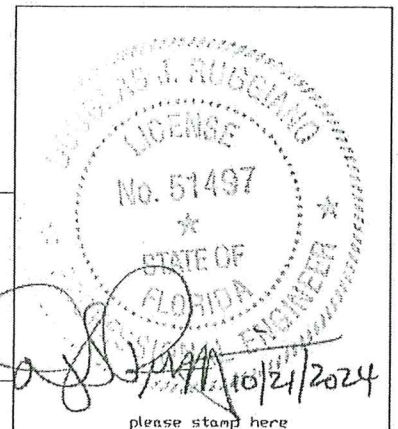


(D) BREAK PROFILE OF NOMINAL 2"x5" HAT CHANNEL FOR ACCESS DOOR DOOR PANEL REINFORCEMENT



Material: 16ga Galvanealed Sheet Metal Steel

NOTE:
1. ALL DIMENSIONS ARE IN INCHES.



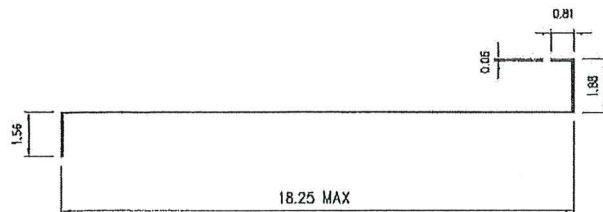
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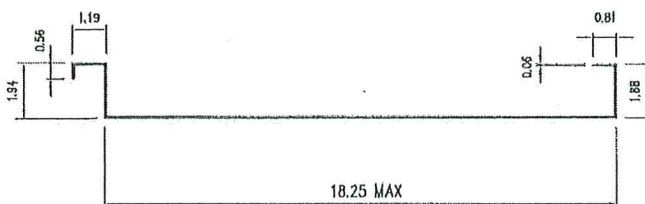
APP. D--Mechanical Properties of Typical Outdoor Roof Components

(A) BREAK PROFILE OF TYPICAL OUTDOOR ROOF PANEL -- FIRST PANEL



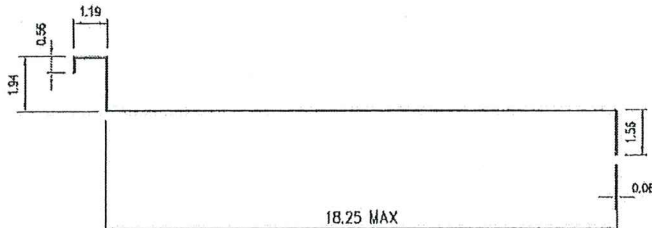
Material: 16ga Galvanealed Sheet Metal Steel

(B) BREAK PROFILE OF TYPICAL OUTDOOR ROOF PANEL -- MIDDLE PANEL(S)



Material: 16ga Galvanealed Sheet Metal Steel

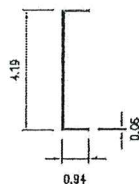
(C) BREAK PROFILE OF TYPICAL OUTDOOR ROOF PANEL -- LAST PANEL



Material: 16ga Galvanealed Sheet Metal Steel

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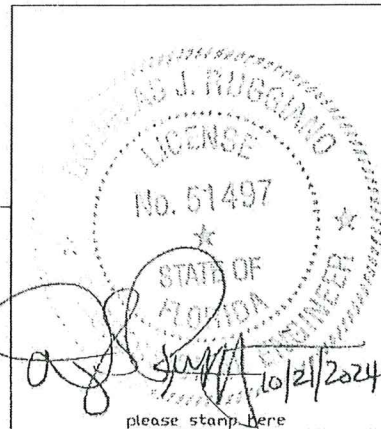
(D) BREAK PROFILE OF TYPICAL ROOF INSULATION CHANNEL



Material: 16ga Galvanealed Sheet Metal Steel

NOTE:
1. ALL DIMENSIONS ARE IN INCHES.

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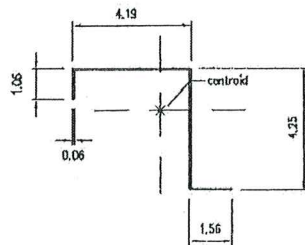
TITLE OUTDOOR STYLE AIR HANDLING UNIT, PENTAK

HAAKON INDUSTRIES
11851 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4X6

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APP. E--Mechanical Properties of Wallcap

(A) BREAK PROFILE OF WALLCAP

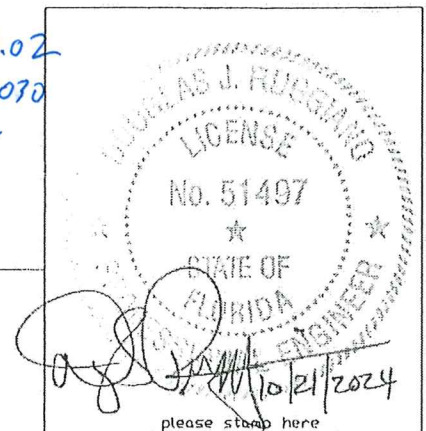


Material: 16ga Galvanealed Sheet Metal Steel

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Expiration Date 08/27/2025
By *H. A. Miller*
Miami Dade Product Control

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as complying with the Florida
Building Code
Acceptance No. 25-05A.02
Expiration Date 08/27/2030
By *H. A. Miller*
Miami Dade Product Control

NOTE:
1. ALL DIMENSIONS ARE IN INCHES.



TITLE OUTDOOR STYLE AIR HANDLING UNIT, PENTAK

HAAKON INDUSTRIES
11051 DYKE ROAD, RICHMOND, B.C. CANADA V7A 4A8

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