plastpro

5200 W. CENTURY BLVD.
LOS ANGELES, CA 90045

Smooth / Wood Grain / White Wood Grain
Rustic / Mahogany
Series N Fiberglass Door
INSWING / OUTSWING
"NON-IMPACT"

GENERAL NOTES

1. This product has been evaluated and is in compliance with the 7th Edition (2020) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in the "HVHZ" this product is required to be protected with an impact resistant covering that complies with Section 1626 of the FBC.
4. When used in areas outside of the "HVHZ" requiring wind borne debris protection, this product is required to be protected with an impact resistant covering that complies with FBC Sections 1609.1.2 & R301.2.1.2.
5. For 2x stud construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
6. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.
7. Outswing configurations meet water infiltration requirements for "HVHZ".
8. Inswing configurations do not meet the water infiltration requirements for the "HVHZ". Inswing units shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less than 45 degrees.

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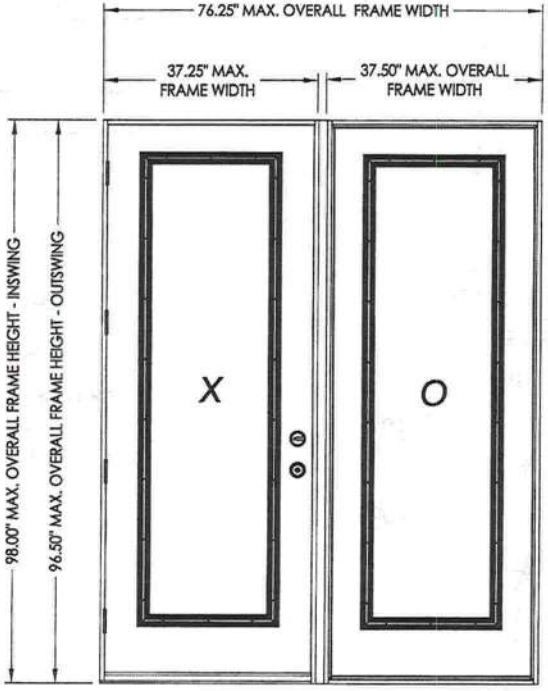


OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	NEGATIVE
76.25" X 98.0"	21.0" X 79.0"	G1	+47.0	-47.0

F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

July 27, 2020

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

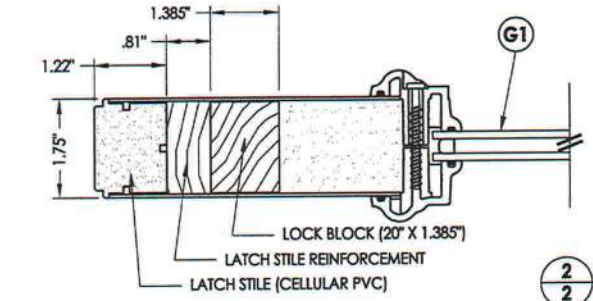
PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 1 OF 11

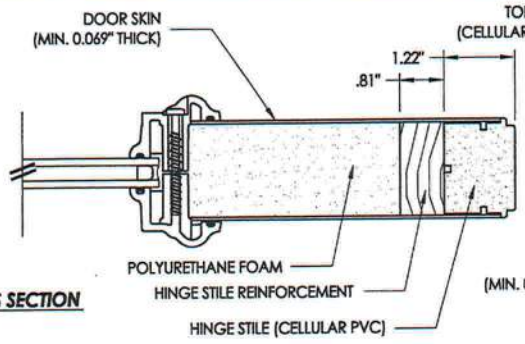
R:\Clients\Plastpro, Inc PERMANENT\A - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.12.dwg, FL-15220.12

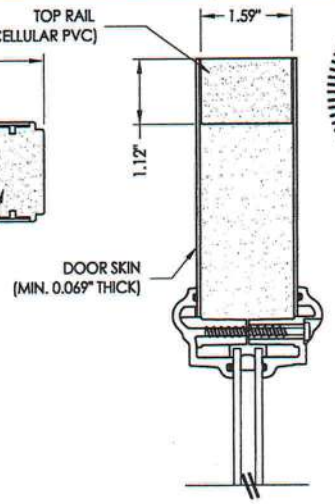


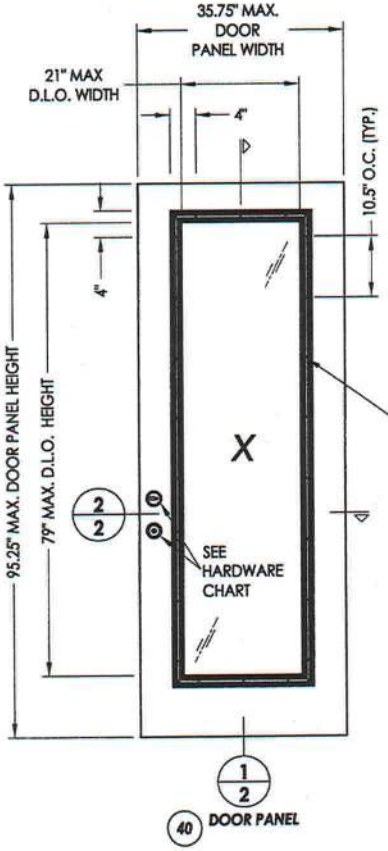
INTERIOR

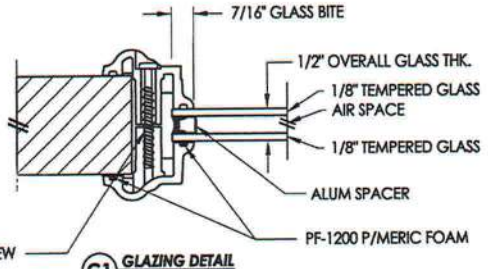
EXTERIOR

2/2 HORIZONTAL CROSS SECTION



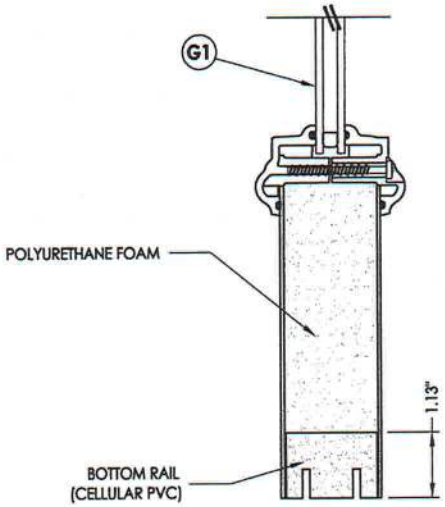






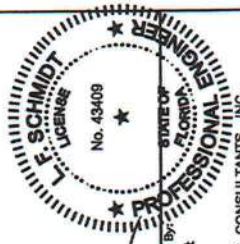
G1 GLAZING DETAIL
ODL LITE FRAME

EXTERIOR INTERIOR



1/2 VERTICAL CROSS SECTION

HARDWARE CHART	
MANUFACTURER	MODEL
KWIKSET	LOCK: SIGNATURE SERIES DEADBOLT: SIGNATURE SERIES (780)
YALE	LOCK: YH COLLECTION DEADBOLT: YH COLLECTION (80 SERIES)



July 27, 2020

Documents Prepared By:
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BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

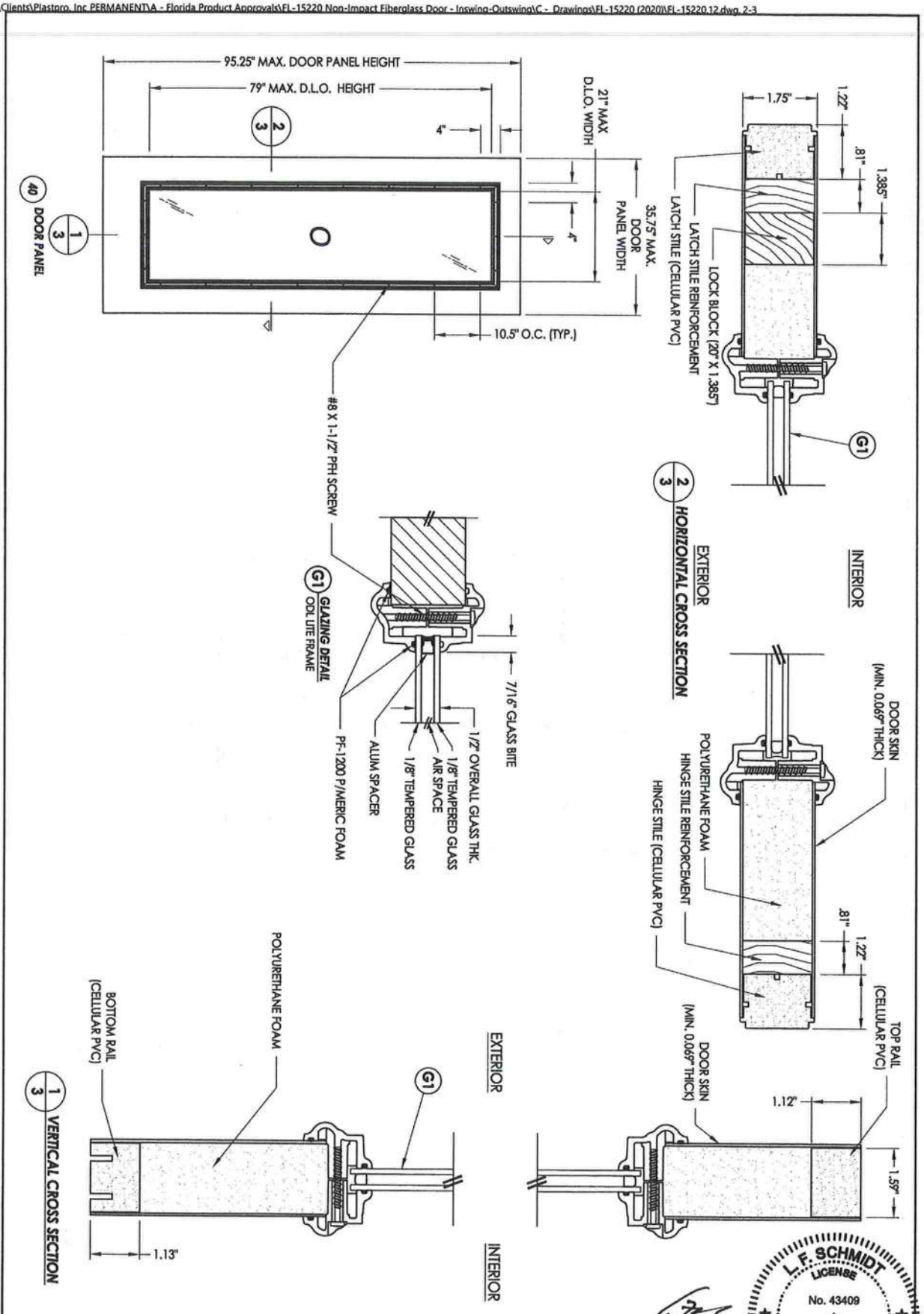
PART OR ASSEMBLY: DOOR PANEL DETAILS AND GLAZING DETAIL

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED. (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 2 OF 11

R:\Clients\Plastpro, Inc PERMANENT\A - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.12.dwg, 2-2

R:\Clients\Plastpro, Inc PERMANENT\A - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.12.dwg, 2-3



July 27, 2020

L. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
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1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 3 OF 11

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: SIDELITE PANEL DETAILS AND GLAZING DETAIL

Documents Prepared By:
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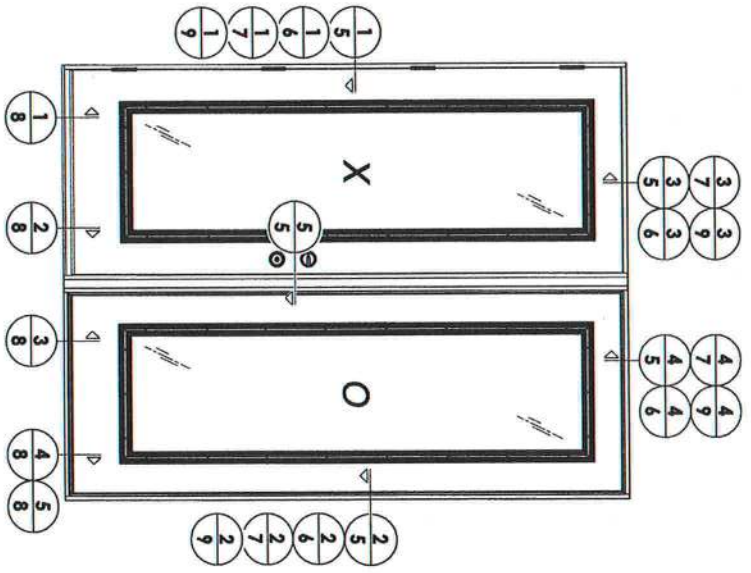
FBPE Registry No. 9813



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PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: ELEVATION

Documents Prepared By:
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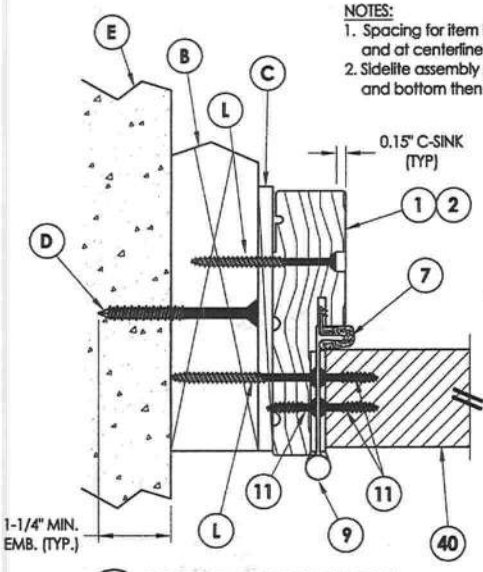
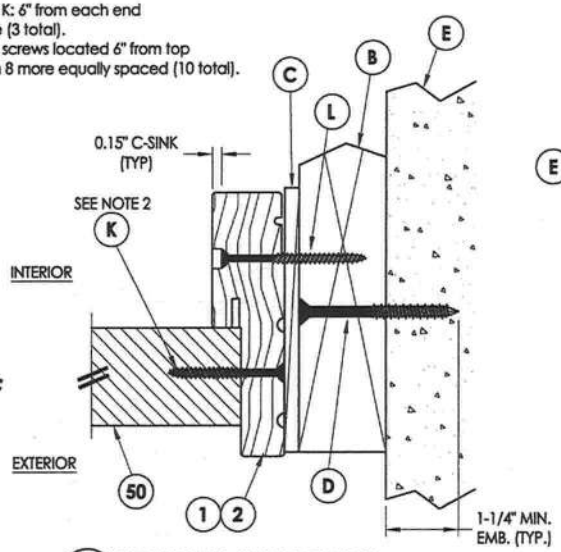
FBPE Registry No. 9813

SHEET 4 OF 11 | DRAWING NO.: FL-15220.12 | CHK. BY: LFS | DWG. BY: JK | SCALE: N.T.S. | DATE: 02/20/12

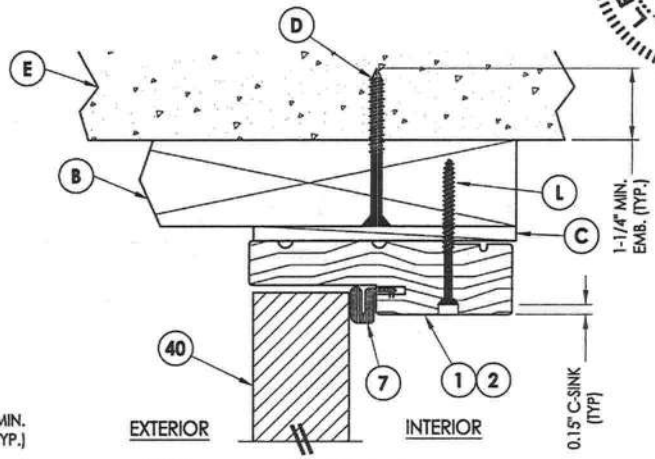
NOTES:
1. Spacing for item K: 6" from each end and at centerline (3 total).
2. Sidelite assembly screws located 6" from top and bottom then 8 more equally spaced (10 total).



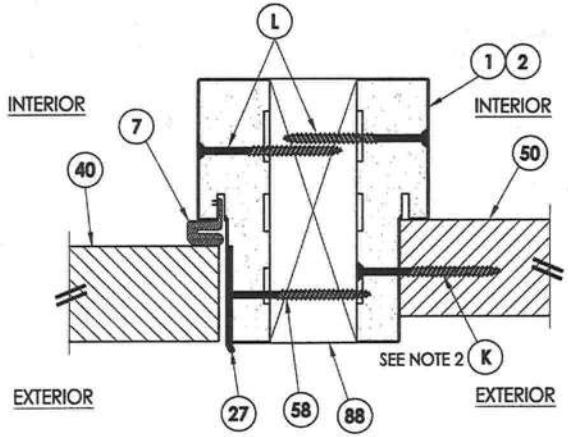
1/5 **HORIZONTAL CROSS SECTION**
Outswing shown (Inswing similar)



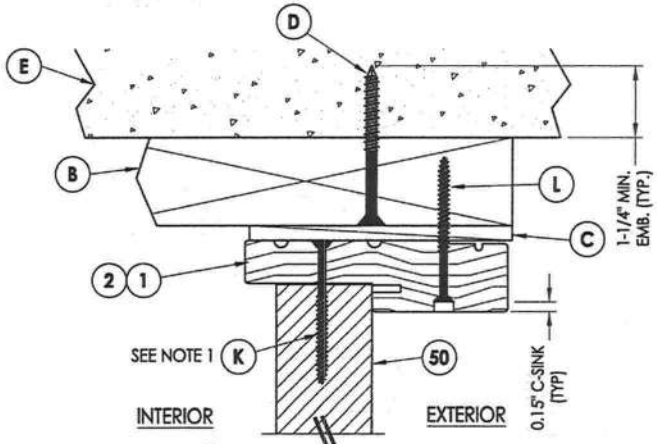
2/5 **HORIZONTAL CROSS SECTION**
Outswing shown (Inswing similar)



3/5 **VERTICAL CROSS SECTION**
Outswing shown (Inswing similar)



5/5 **HORIZONTAL CROSS SECTION**
Outswing shown (Inswing similar)



4/5 **VERTICAL CROSS SECTION**
Outswing shown (Inswing similar)

L.F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

July 27, 2020

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FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: HORIZONTAL & VERTICAL CROSS SECTIONS (2X BUCK)

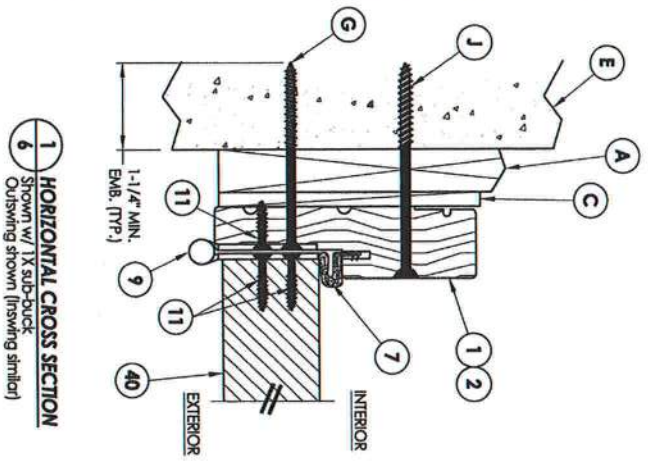
NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 5 OF 11

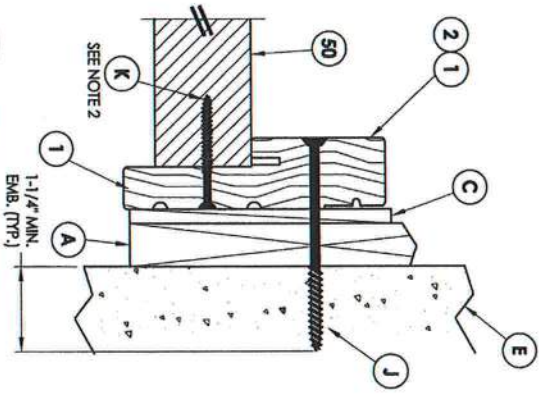
R:\Clients\Plastpro, Inc PERMANENT\A - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.12.dwg, 2-6

NOTES:
1. Spacing for item K: 6" from each end and at centerline (3 total).
2. Sidelite assembly screws located 6" from top and bottom then 8 more equally spaced (10 total).

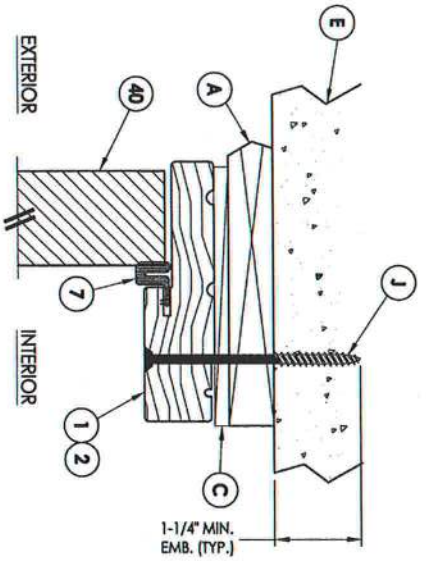
1/6 **HORIZONTAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



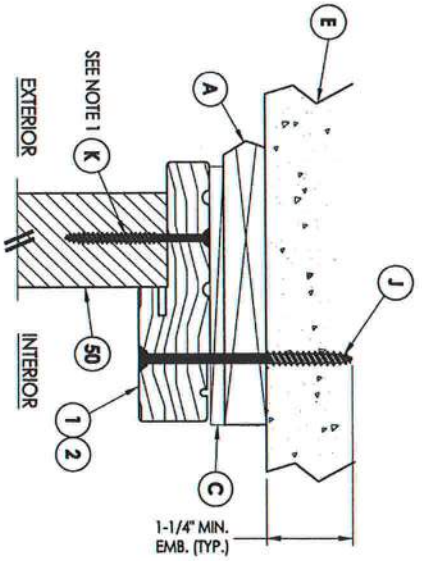
2/6 **HORIZONTAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



3/6 **VERTICAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



4/6 **VERTICAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



July 27, 2020

L. E. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

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3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
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1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: HORIZONTAL & VERTICAL CROSS SECTIONS (1X BUCK)

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
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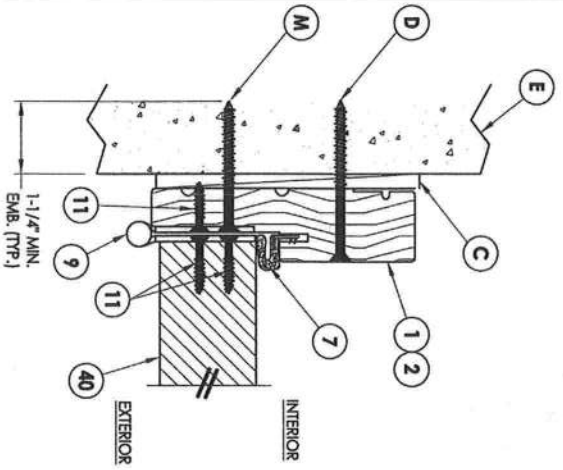
FBPE Registry No. 9813

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 6 OF 11

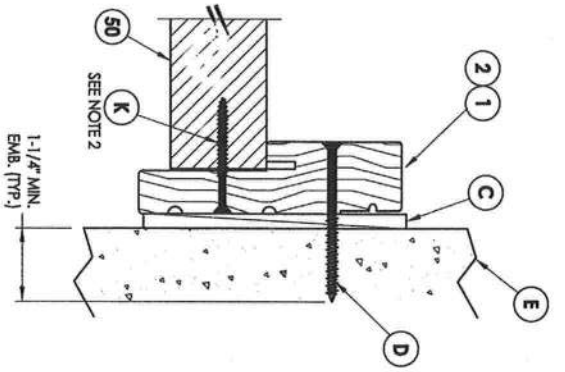
R:\Clients\Plastpro, Inc PERMANENT\A - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.12.dwg, 2-7

NOTES:
1. Spacing for item K: 6" from each end and at centerline (3 total).
2. Sidelite assembly screws located 6" from top and bottom then 8 more equally spaced (10 total).

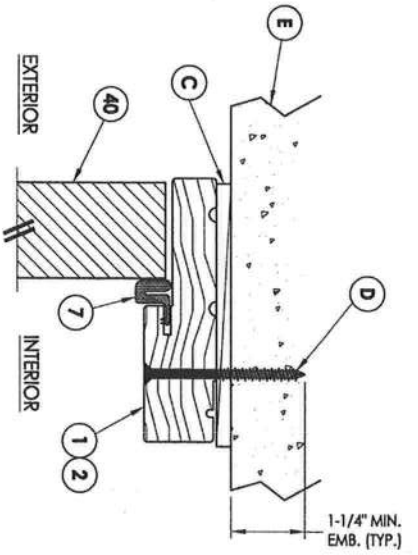
1/7 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



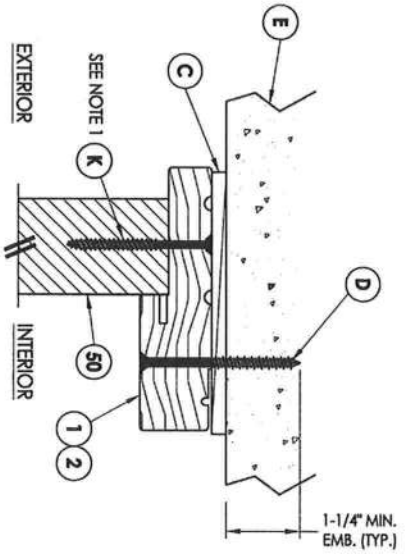
2/7 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



3/7 **VERTICAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



4/7 **VERTICAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



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L. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

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DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 7 OF 11

PRODUCT:
PLASTPRO INC.
FIBERGLASS DOOR

PART OR ASSEMBLY:
HORIZONTAL & VERTICAL CROSS SECTIONS (DIRECT TO MASONRY)

Documents Prepared By:
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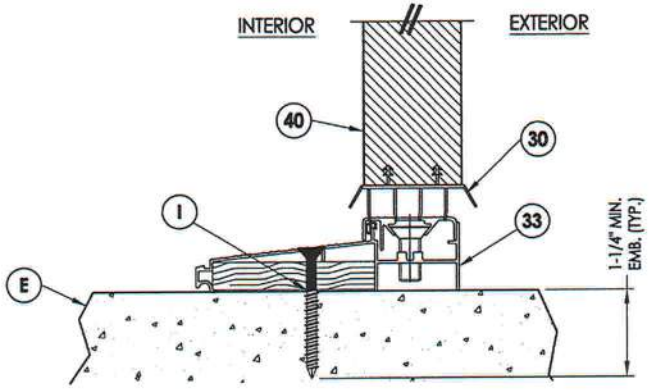
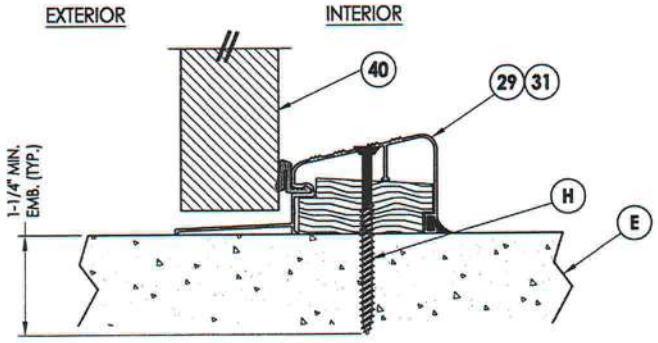
P.E. No. 43409

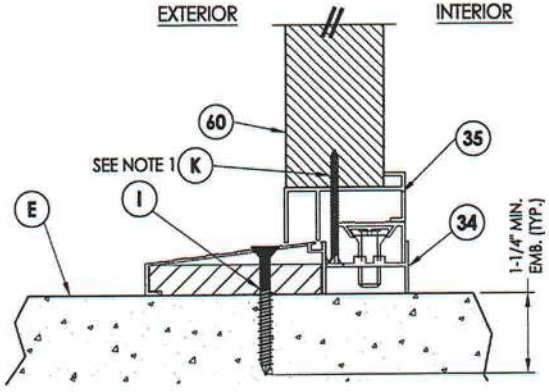
RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813



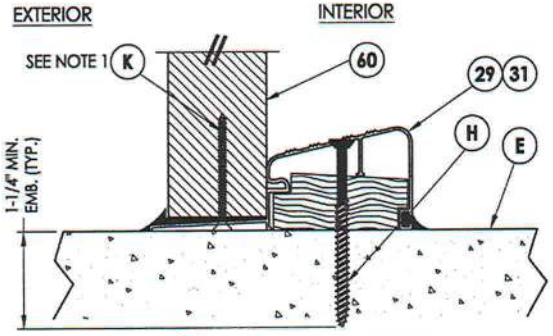
1/8 **VERTICAL CROSS SECTION**
Outswing configuration



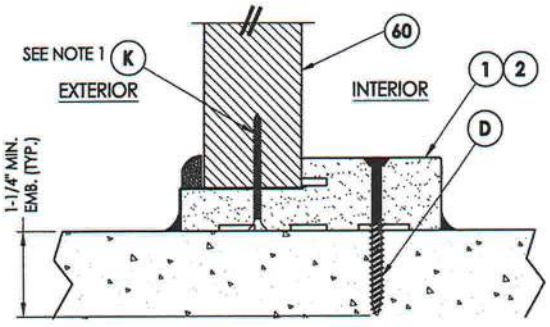
2/8 **VERTICAL CROSS SECTION**
ADA Threshold



3/8 **VERTICAL CROSS SECTION**
Inswing configuration



4/8 **VERTICAL CROSS SECTION**
Outswing configuration



5/8 **VERTICAL CROSS SECTION**
Inswing configuration

NOTE:
1. Spacing for item K: 6" from each end and at centerline (3 total).

Documents Prepared By:
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P.E. No. 43409

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P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

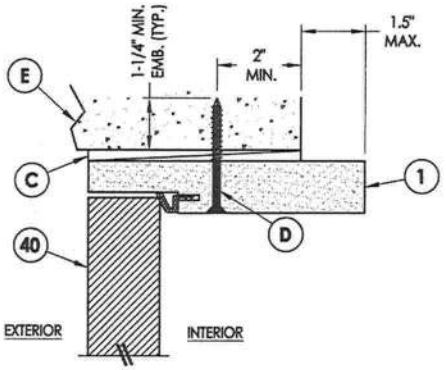
PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS (THRESHOLDS)

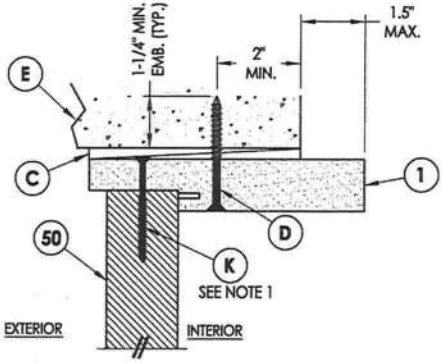
NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED. (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 8 OF 11

R:\Clients\Plastpro, Inc PERMANENTVA - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.12.dwg, 2-8

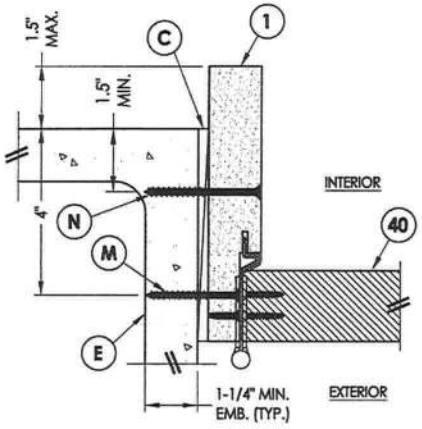


3/9 VERTICAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

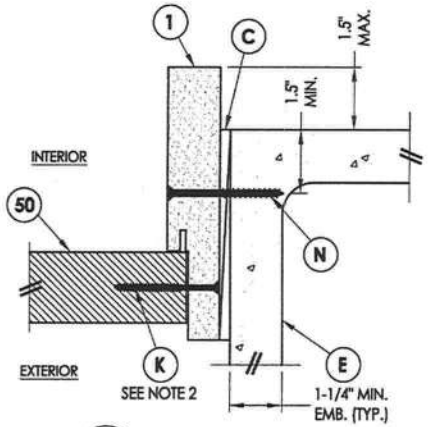


4/9 VERTICAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

NOTES:
1. Spacing for item K: 6" from each end and at centerline (3 total).
2. Sidelite assembly screws located 6" from top and bottom then 8 more equally spaced (10 total).



1/9 HORIZONTAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb



2/9 HORIZONTAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

L.F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
July 27, 2020
Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409
R|W BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR
PART OR ASSEMBLY: HORIZONTAL & VERTICAL SECTIONS (DIRECT TO MASONRY)

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 9 OF 11

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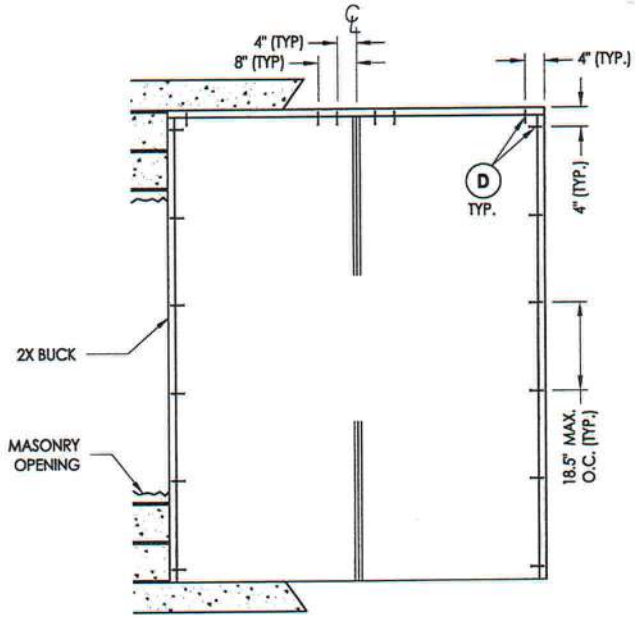
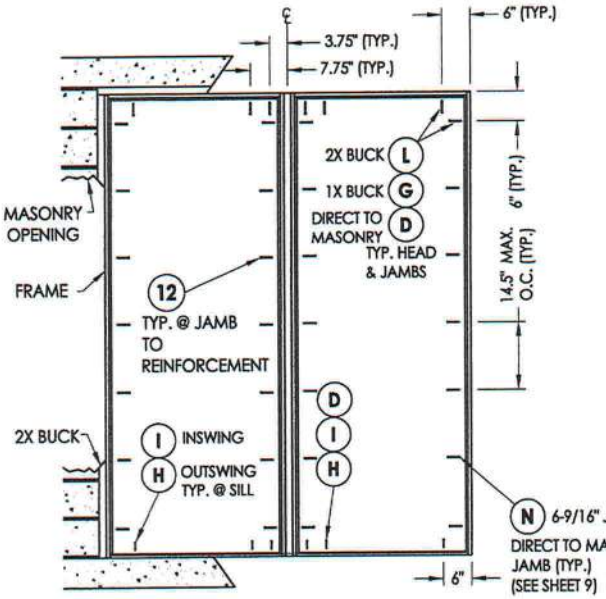
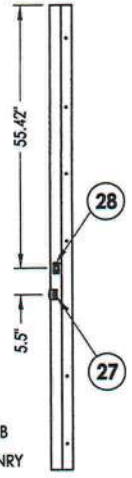


BUCK ANCHORING

HINGE JAMB



FRAME ANCHORING
Masonry 2X buck construction

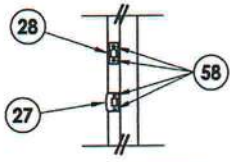


STRIKE JAMB

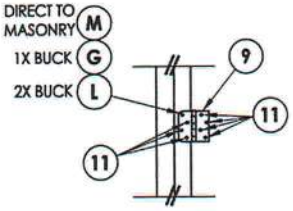
CONCRETE ANCHOR NOTES:
1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"
ITW TAPCON®	3/16"	1-1/4"	3"	1-1/2"

WOOD SCREW INSTALLATION NOTES:
1. Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



LATCH & DEADBOLT DETAIL



HINGE DETAIL

July 27, 2020

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FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: BUCK AND FRAME ANCHORING

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED. (2020) FBC	LFS
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DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 10 OF 11

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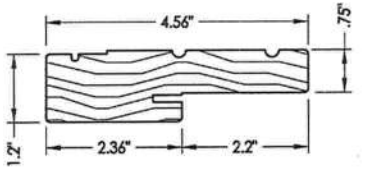
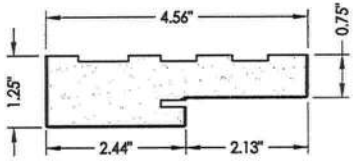
BILL OF MATERIALS

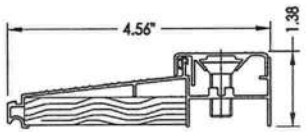
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
G	3/16" x 3-1/4" PFH ITW CONCRETE SCREW	STEEL
H	1/4" X 3-1/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
I	1/4" X 1-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
J	1/4" X 3-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
K	#7 X 2" PFH DRYWALL SCREW	STEEL
L	#10 X 2-1/2" PFH WOOD SCREW (1.15" MIN. EMBEDMENT)	STEEL
M	3/16" X 2-1/4" ITW CONCRETE SCREW	STEEL
N	3/16" X 2-3/4" ITW CONCRETE SCREW	STEEL
1	POLY FIBER JAMB	COMP. / VINYL
2	FINGER JOINTED PINE FRAME	WOOD
7	WEATHERSTRIP	FOAM
8	DOOR BOTTOM SWEEP	VINYL
9	4" X 4" BUTT HINGE	STEEL
11	#9 X 3/4" PFH WOOD SCREW	STEEL
27	LATCH STRIKE PLATE	STEEL
28	DEADBOLT STRIKE PLATE	STEEL
29	OUTSWING THRESHOLD BY DLP	ALUM/WOOD
30	INSWING VINYL DOOR BOTTOM SWEEP	VINYL
31	OUTSWING THRESHOLD BY DLP	ALUM/WOOD
33	INSWING ADJUSTABLE ALUMINUM THRESHOLD BY DLP	ALUM/WOOD
34	INSWING SIDELITE ALUMINUM THRESHOLD BY DLP	ALUM/WOOD
35	SIDELITE SPACER	PVC
40	DOOR PANEL - SEE DOOR PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
58	#8 X 2" PFH WOOD SCREW	STEEL
60	SIDELITE PANEL - SEE SIDELITE PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
88	2X REINFORCEMENT (CLEAR PINE) SG >= 0.49	WOOD



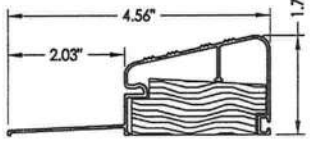
1 **HEAD & SIDE**
Jamb



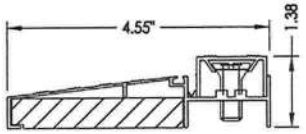
2 **HEAD & SIDE**
Poly fiber jamb



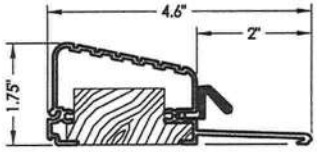
33 **ADJUSTABLE INSWING THRESHOLD**



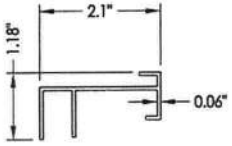
29 **OUTSWING THRESHOLD BY DLP**



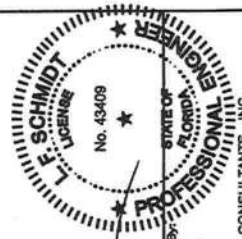
34 **SIDELITE INSWING THRESHOLD**



31 **OUTSWING THRESHOLD**
Columbia High Dam (581)



35 **SIDELITE SPACER**



July 27, 2020

Documents Prepared By:
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P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: BILL OF MATERIALS & COMPONENTS

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/12
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.12
SHEET 11 OF 11

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plastpro

5200 W. CENTURY BLVD.
LOS ANGELES, CA 90045

Smooth / Wood Grain / White Wood Grain
Rustic / Mahogany
Series N Fiberglass Door
INSWING / OUTSWING
"NON-IMPACT"

GENERAL NOTES

1. This product has been evaluated and is in compliance with the 7th Edition (2020) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in the "HVHZ" this product is required to be protected with an impact resistant covering that complies with Section 1626 of the FBC.
4. When used in areas outside of the "HVHZ" requiring wind borne debris protection, this product is required to be protected with an impact resistant covering that complies with FBC Sections 1609.1.2 & R301.2.1.2.
5. For 2x stud construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
6. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.
7. Outswing configurations meet water infiltration requirements for "HVHZ".
8. Inswing configurations do not meet the water infiltration requirements for the "HVHZ". Inswing units shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less than 45 degrees.

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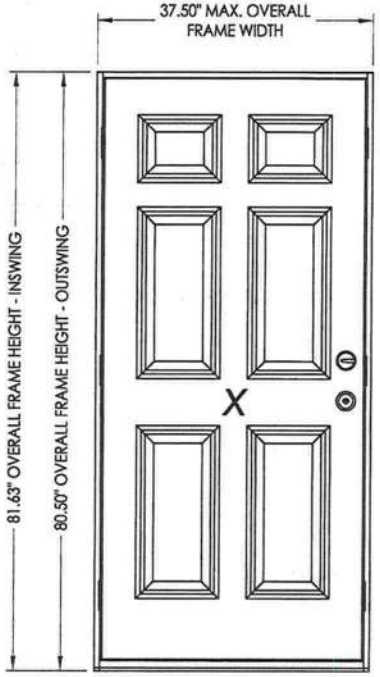

SWING	MAX. FRAME DIMENSION	DESIGN PRESSURE (PSF)	
		POSITIVE	NEGATIVE
INSWING	37.50" x 81.63"	+50.0	-50.0
OUTSWING	37.50" x 80.50"	+50.0	-50.0

L. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
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P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
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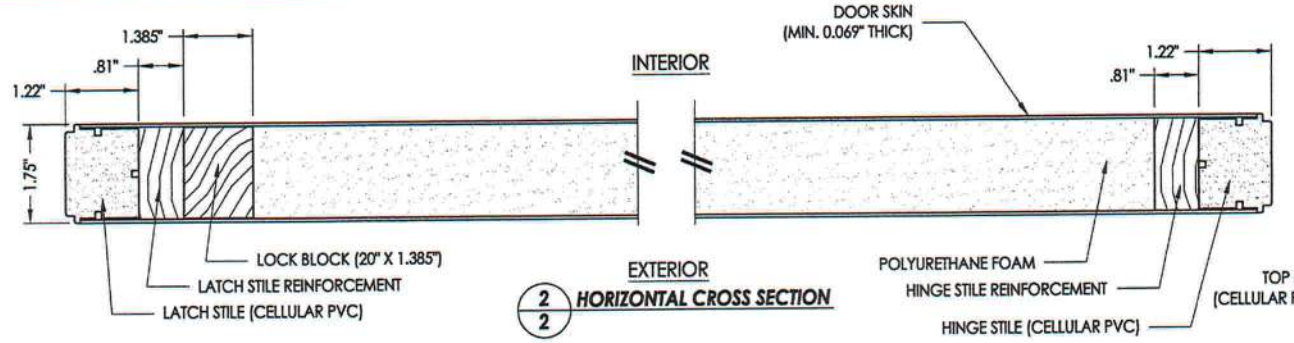
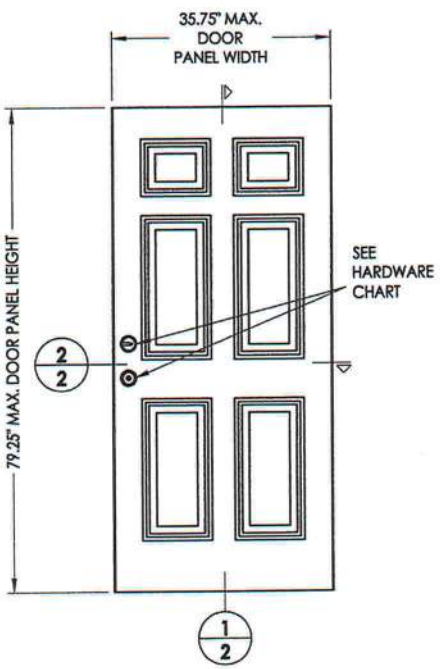
DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 1 OF 9

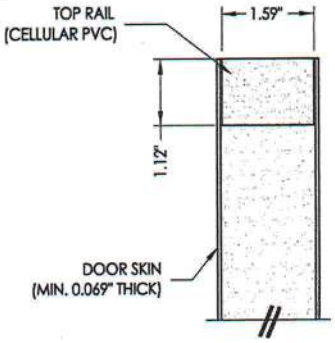
R:\Clients\Plastpro, Inc PERMANENTA - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.6.dwg, FL-15220.6

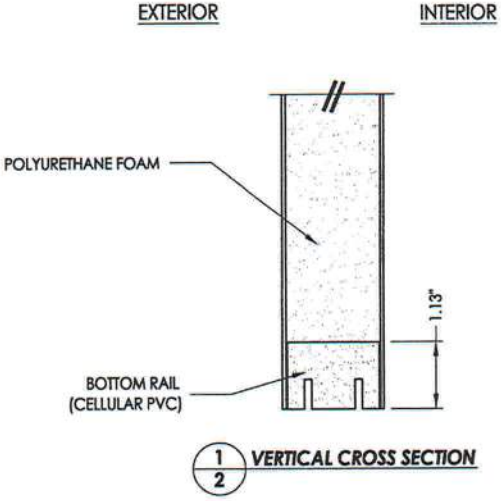


2/2 **HORIZONTAL CROSS SECTION**



40 **DOOR PANEL**





1/2 **VERTICAL CROSS SECTION**

HARDWARE CHART	
MANUFACTURER	MODEL
KWIKSET	LOCK: SIGNATURE SERIES DEADBOLT: SIGNATURE SERIES (780)
YALE	LOCK: YH COLLECTION DEADBOLT: YH COLLECTION (80 SERIES)

July 27, 2020

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FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: DOOR PANEL DETAILS

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
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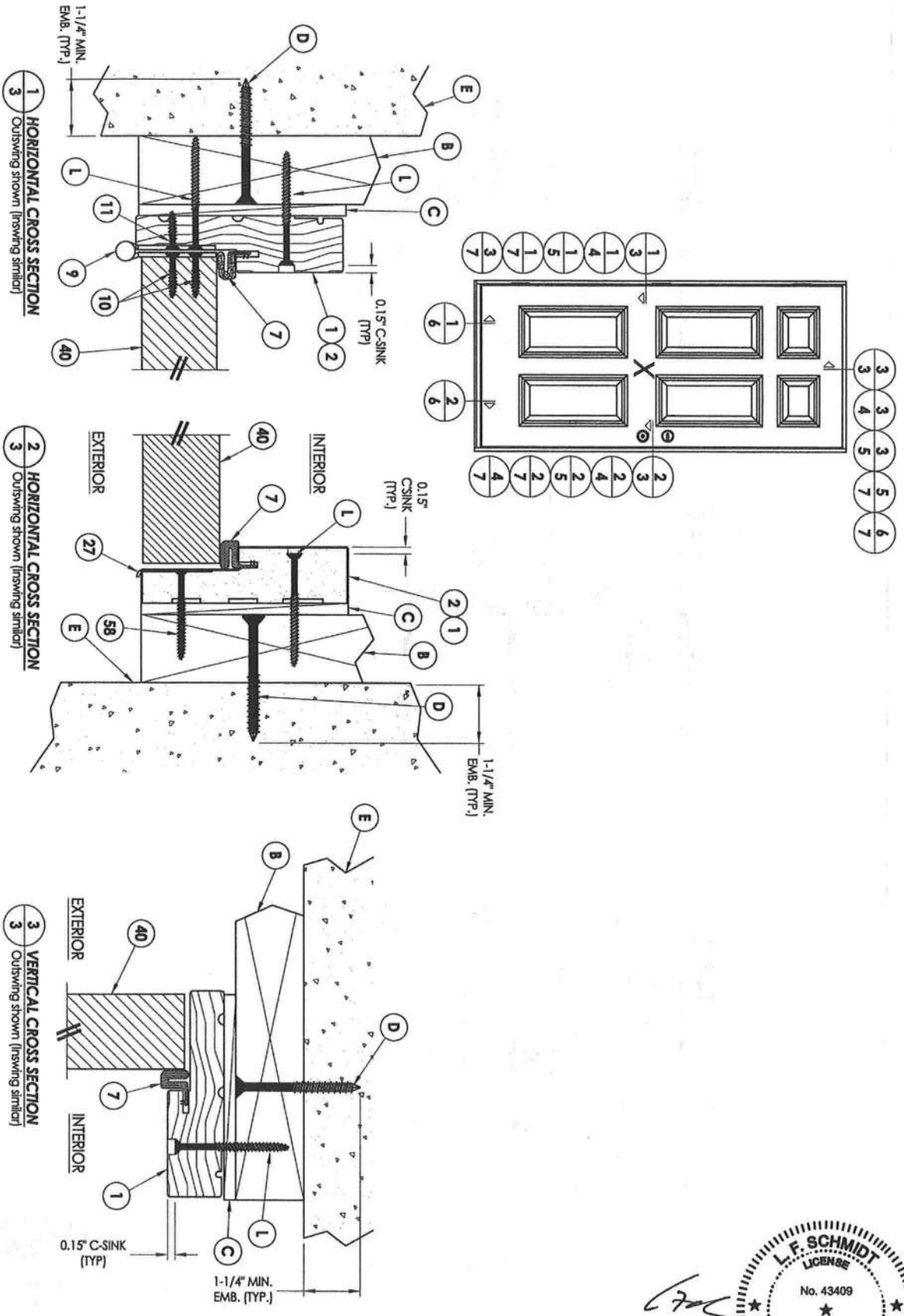
DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 2 OF 9

R:\Clients\Plastpro, Inc PERMANENTVA - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.6.dwg, 1-2

R:\Clients\Plastpro, Inc PERMANENT\A - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.6.dwg, 1-3



1/3 HORIZONTAL CROSS SECTION
Outswing shown (Inswing similar)

2/3 HORIZONTAL CROSS SECTION
Outswing shown (Inswing similar)

3/3 VERTICAL CROSS SECTION
Outswing shown (Inswing similar)

July 27, 2020

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DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 3 OF 9

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: HORIZONTAL & VERTICAL CROSS SECTIONS (2X BUCK)

Documents Prepared By:
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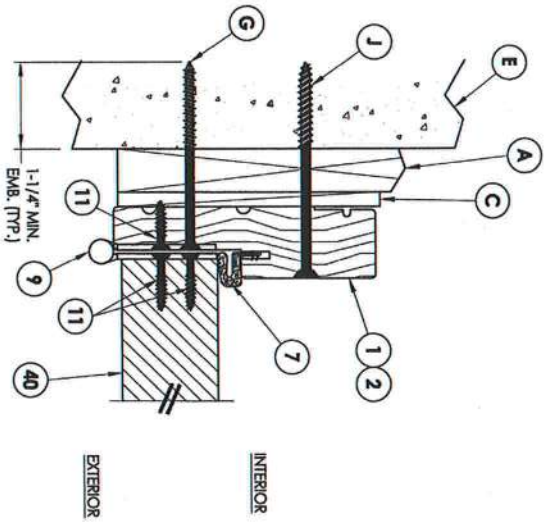
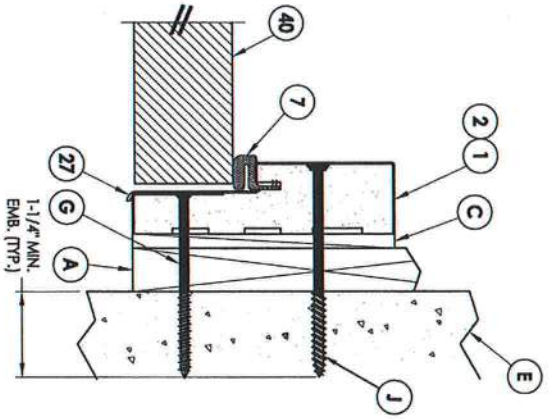
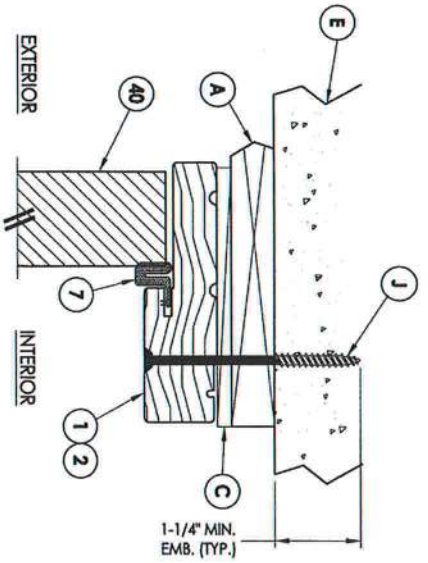
1/4 **HORIZONTAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



2/4 **HORIZONTAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



3/4 **VERTICAL CROSS SECTION**
Shown w/ 1X sub-buck
Outswing shown (Inswing similar)



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PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: HORIZONTAL & VERTICAL CROSS SECTIONS (1X BUCK)

Documents Prepared By:
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DATE: 02/20/16
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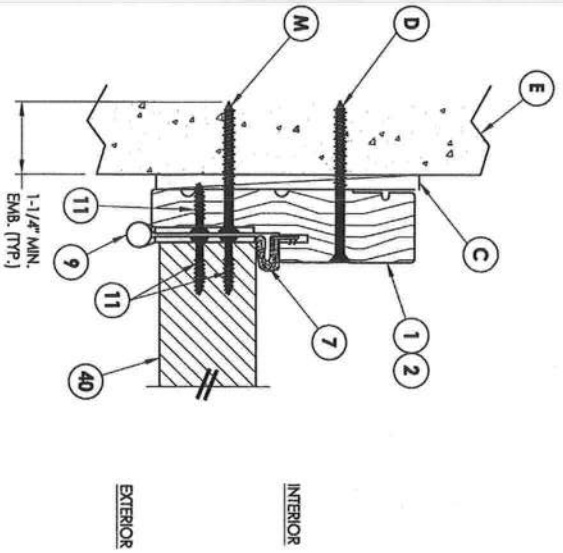
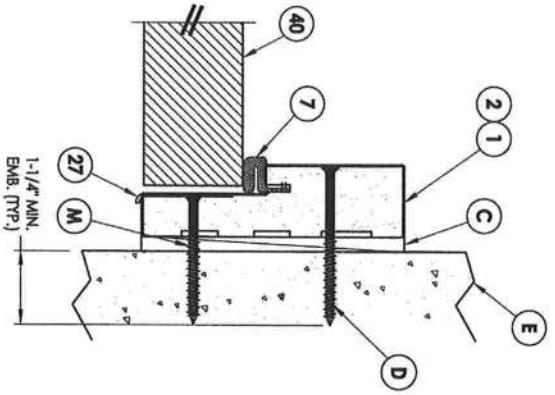
DRAWING NO.: FL-15220.6
SHEET 4 OF 9

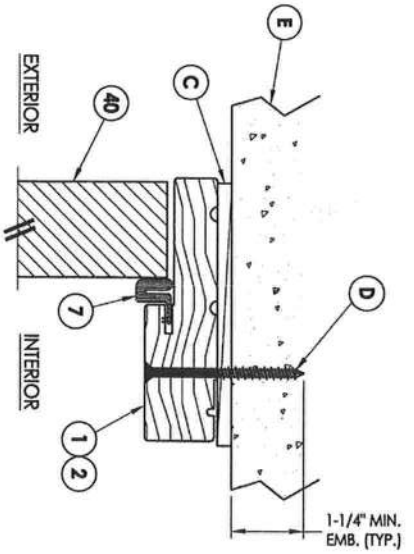
1/5 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



2/5 **HORIZONTAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



3/5 **VERTICAL CROSS SECTION**
Shown Direct to Masonry
Outswing shown (Inswing similar)



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SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 5 OF 9

PRODUCT:
PLASTPRO INC.
FIBERGLASS DOOR

PART OR ASSEMBLY:
HORIZONTAL & VERTICAL CROSS SECTIONS (DIRECT TO MASONRY)

Documents Prepared By:
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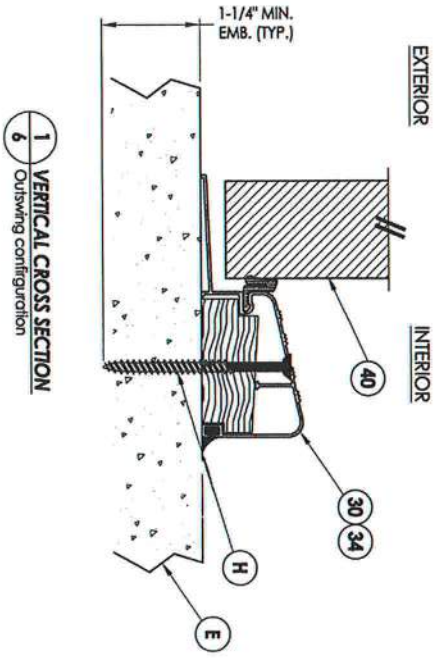
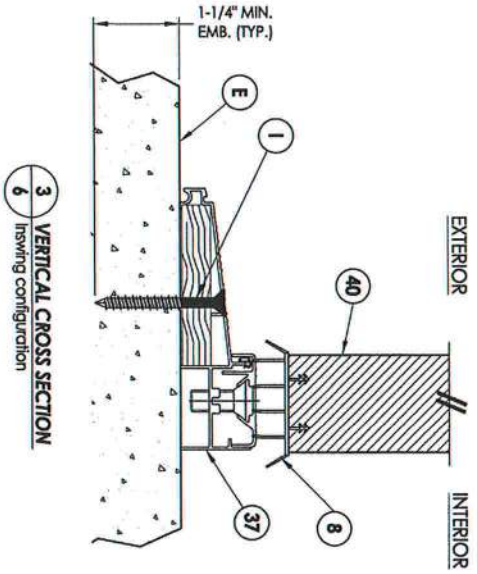
RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813



1/6 VERTICAL CROSS SECTION
Outswing configuration



3/6 VERTICAL CROSS SECTION
Inswing configuration

July 27, 2020

L.F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

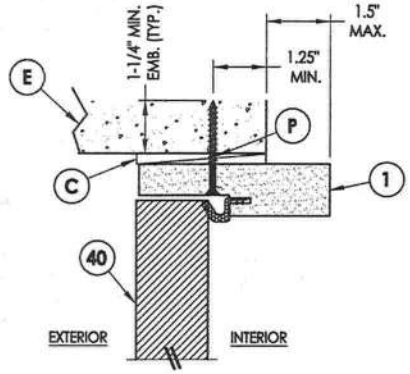
DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 6 OF 9

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

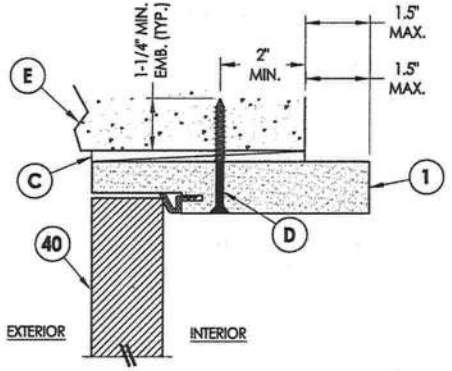
PART OR ASSEMBLY: VERTICAL CROSS SECTIONS (THRESHOLDS)

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

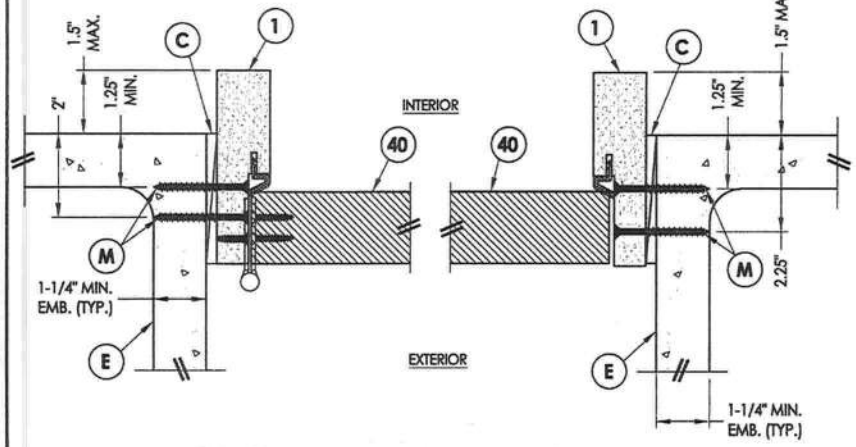
RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813



5/7 VERTICAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 4-9/16" jamb

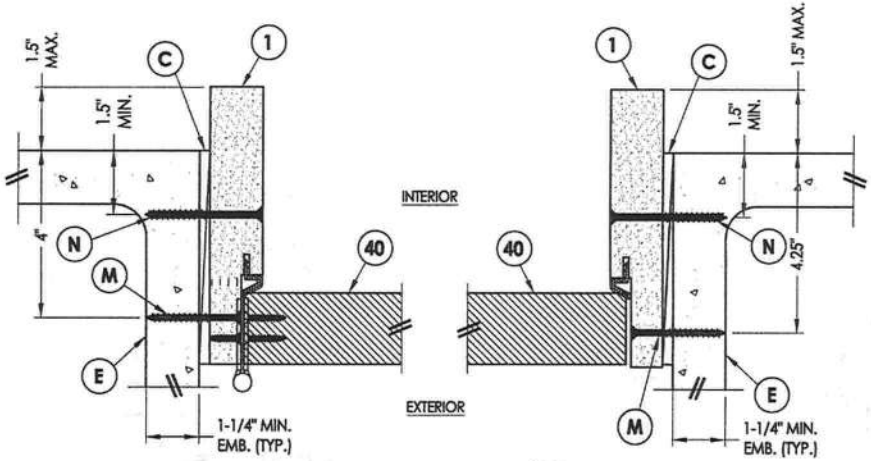


6/7 VERTICAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb



1/7 HORIZONTAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 4-9/16" jamb

2/7 HORIZONTAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 4-9/16" jamb



3/7 HORIZONTAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

4/7 HORIZONTAL CROSS SECTION
Shown Direct to Masonry
Outswing only w/ 6-9/16" jamb

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

July 27, 2020

Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409

R|W BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

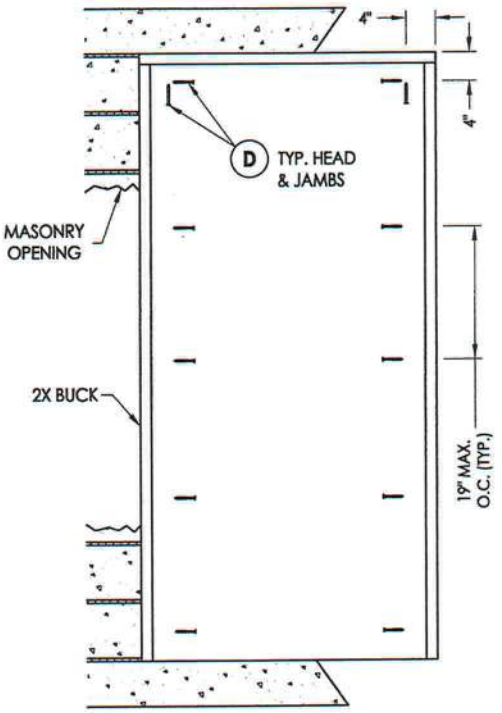
PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: HORIZONTAL & VERTICAL SECTIONS (DIRECT TO MASONRY)

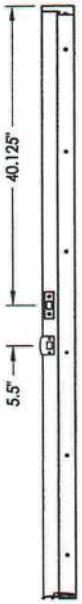
NO.	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 7 OF 9

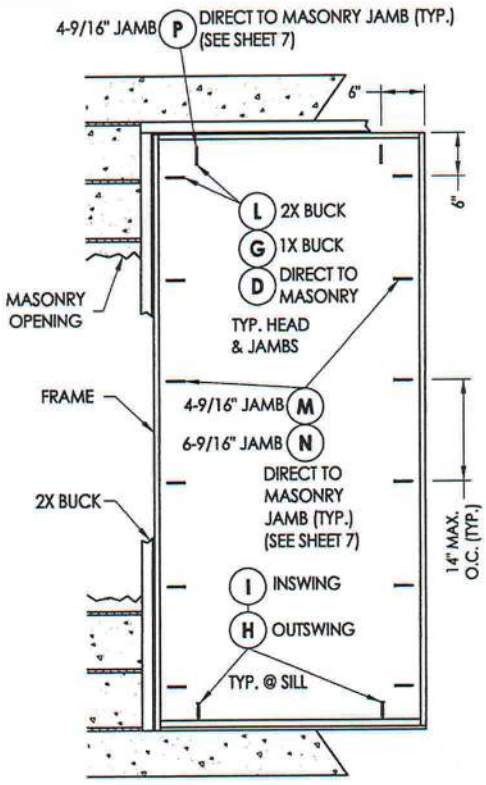
R:\Clients\Plastpro, Inc PERMANENTVA - Florida Product Approvals\FL-15220 Non-Impact Fiberglass Door - Inswing-Outswing\C - Drawings\FL-15220 (2020)\FL-15220.6.dwg, 1-7



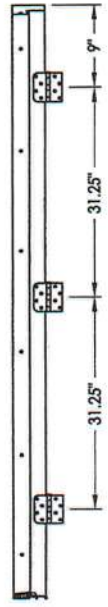
BUCK ANCHORING



STRIKE JAMB



FRAME ANCHORING
Masonry 2X buck construction



HINGE JAMB

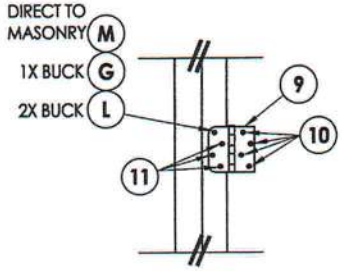
CONCRETE ANCHOR NOTES:

1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
3. Concrete anchor table:

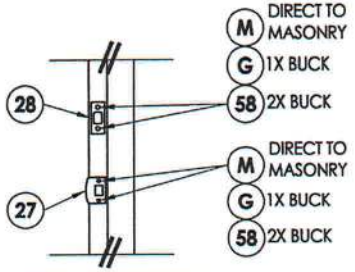
ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"
ITW TAPCON®	3/16"	1-1/4"	3"	1-1/2"

WOOD SCREW INSTALLATION NOTES:

1. Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



HINGE DETAIL



LATCH & DEADBOLT DETAIL

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409
July 27, 2020
LF SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

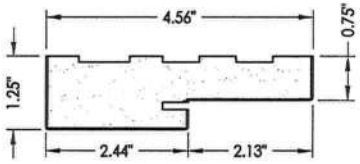
PART OR ASSEMBLY: BUCK AND FRAME ANCHORING

NO	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED. (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

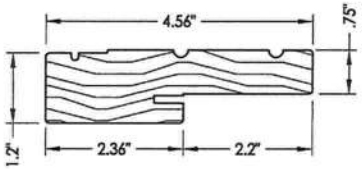
DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 8 OF 9

BILL OF MATERIALS

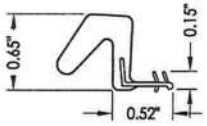
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
G	3/16" x 3-1/4" PFH ITW CONCRETE SCREW	STEEL
H	1/4" X 3-1/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
I	1/4" X 1-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
J	1/4" X 3-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
K	1/4" X 2-1/4" ITW CONCRETE SCREW	STEEL
L	#10 X 2-1/2" PFH WOOD SCREW (1.15" MIN. EMBEDMENT)	STEEL
M	3/16" X 2-1/4" ITW CONCRETE SCREW	STEEL
N	3/16" X 2-3/4" ITW CONCRETE SCREW	STEEL
P	1/4" X 2-1/4" PFH ELCO CONCRETE SCREW	STEEL
1	POLY FIBER JAMB	COMP. / VINYL
2	FINGER JOINTED PINE FRAME	WOOD
7	WEATHERSTRIP	FOAM
8	DOOR BOTTOM SWEEP	VINYL
9	4" X 4" BUTT HINGE	STEEL
11	#9 X 3/4" PFH WOOD SCREW	STEEL
27	LATCH STRIKE PLATE	STEEL
28	DEADBOLT STRIKE PLATE	STEEL
30	OUTSWING THRESHOLD	ALUM/WOOD
34	OUTSWING THRESHOLD	ALUM/WOOD
37	INSWING THRESHOLD	ALUM/WOOD
40	DOOR PANEL - SEE DOOR PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
58	#8 X 2" PFH WOOD SCREW	STEEL



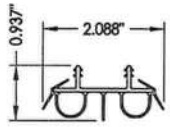
1 POLY FIBER JAMB
Plastpro



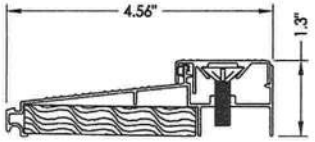
2 WOOD JAMB



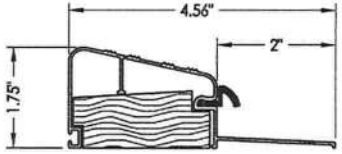
7 WEATHERSTRIP
Endura Force 5



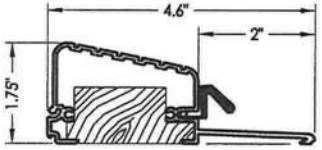
8 DOOR BOTTOM SWEEP



37 INSWING THRESHOLD
DLP (ISCS)



30 OUTSWING THRESHOLD
DLP (QOSR)



34 OUTSWING THRESHOLD
Columbia High Dam (581)

T. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

July 27, 2020

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

R|W BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: PLASTPRO INC. FIBERGLASS DOOR

PART OR ASSEMBLY: BILL OF MATERIALS

NO	DATE	REVISIONS	BY
3	7/27/20	UPDATE TO 7TH ED (2020) FBC	LFS
2	08/02/17	UPDATE TO 6TH ED. (2017) FBC	JK
1	04/22/15	UPDATE TO 5TH ED. (2014) FBC	JK

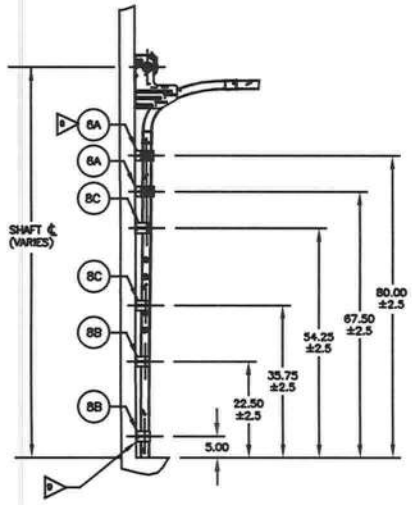
DATE: 02/20/16
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-15220.6
SHEET 9 OF 9

NOTES

1. DESIGNED AND TESTED IN ACCORDANCE WITH THE WIND LOAD PROVISIONS OF THE FLORIDA BUILDING CODE, INTERNATIONAL BUILDING CODE, AND INTERNATIONAL RESIDENTIAL CODE. NOT TESTED FOR IMPACT RESISTANCE. PROFESSIONAL ENGINEER'S SEAL PROVIDED ONLY FOR VERIFICATION OF WIND LOAD CONSTRUCTION DETAILS.
2. FOUR SECTION, 7' TALL DOOR SHOWN, TALLER DOORS WILL HAVE ADDITIONAL SECTIONS.
3. SECTION HEIGHTS OF 20.81, 19.00, AND 16.75 ARE AVAILABLE, AND MAY BE USED IN COMBINATION TO ACHIEVE VARIOUS DOOR HEIGHTS. MAXIMUM DOOR HEIGHT IS 16'. FOR ADDITIONAL SECTIONS, THE STRUTTING SHALL BE CONSISTANT WITH THE TOP INTERMEDIATE SECTION.
4. EMBOSSMENT PATTERNS OF 14.50 X 20.375, 18.5 X 43.375, 12.5 X 20.375, AND 12.5 X 43.375 MAY BE USED. DOOR WITHOUT EMBOSSMENTS ALSO AVAILABLE. EXTERIOR PAN THICKNESS IS 25 GA (.018"). FOR THE 470, EMBOSSMENT TO BE HORIZONTAL PINSTRIPES.
5. TORSION SPRINGS SHOWN. EXTENSION SPRINGS COUNTERBALANCE ALSO AVAILABLE.
6. USE THIS BRACKET, REF. P/N 405964-0002 ON 8' HIGH DOORS ONLY.
7. WINDOWS OR VENTS MAY ONLY BE PUT IN 21" SECTIONS. WINDOW SIZE MAY BE STANDARD EMBOSSMENT SIZE WITH THICKNESS OF 1/2" INSULATED, 1/8", 1/4".
8. ATTACH STRUTS WITH TWO SCREWS AT THE END STILES AND IN PAIRS ALONG THE STRUT AT 12" CENTERS. STRUT LOCATION MAY VARY +/-2 IN. AT THE FOLLOWING LOCATIONS:
   TOP SECTION: DIRECTLY ABOVE TOP FIXTURES
   INTERMEDIATE SECTION: BELOW END HINGE
   BOTTOM SECTION: BELOW END HINGE AND ABOVE BOTTOM FIXTURE
9. USE 5/16 X 1-5/8" LAG SCREW TO ATTACH JAMB BRACKET TO JAMB. JAMB DETAIL TO BE IN ACCORDANCE WITH DRAWING 409783. JAMB BRACKETS MAY NOT BE INSTALLED DIRECTLY ON TOP OF DRYWALL.
10. ROLLER ASSY P/N 319138 AND 108135 (STEEL) MAY BE SUBSTITUTED FOR ROLLER ASSY P/N 608682 (NYLON).
11. LOW HEADROOM TRACK MAY BE SUBSTITUTED FOR STANDARD TRACK.
12. LOCK OR DRAWBAR OPERATOR REQUIRED TO HOLD THE DOOR CLOSED DURING HIGH WIND EVENT.
13. EXTERIOR JAMB WEATHERSTRIP TO BE ATTACHED WITH EITHER 2" #8 SCREWS OR 2-1/2" 8D BRIGHT COMMON NAILS AT 12" O.C., STARTING 2" FROM THE GROUND.
14. DOORS OVER 8' TALL WILL BE SUPPLIED WITH COMMERCIAL TRACK AND HARDWARE. COMMERCIAL TRACK JAMB FASTENING WILL BE 12" MAX CENTERS.

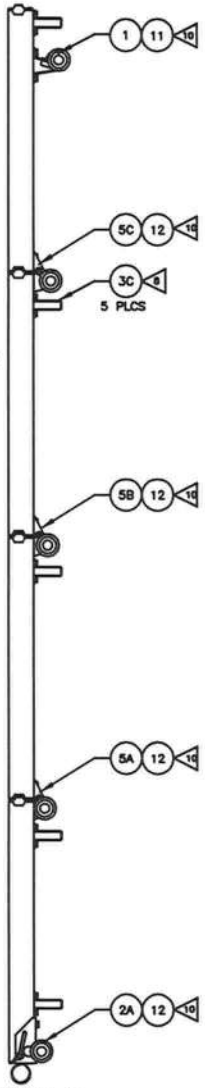
APPROVED PRESSURE RATING CHART		
WIDTH	18'	16'
POS. DESIGN PRESSURE	21.8	24.5
NEG. DESIGN PRESSURE	-28.5	-32
MAX. JAMB LOAD LBS/FT	257	257

REVISIONS			
LETTER	DESCRIPTION	DATE	APPROVAL
B	ADD 470, ER 31421	8/24/18	GAC
C	UPDATED NOTE 6 AND PE INFO	10/10/17	EBC
D	ADD GINGLE #'S, POR32177	10/28/19	TLC

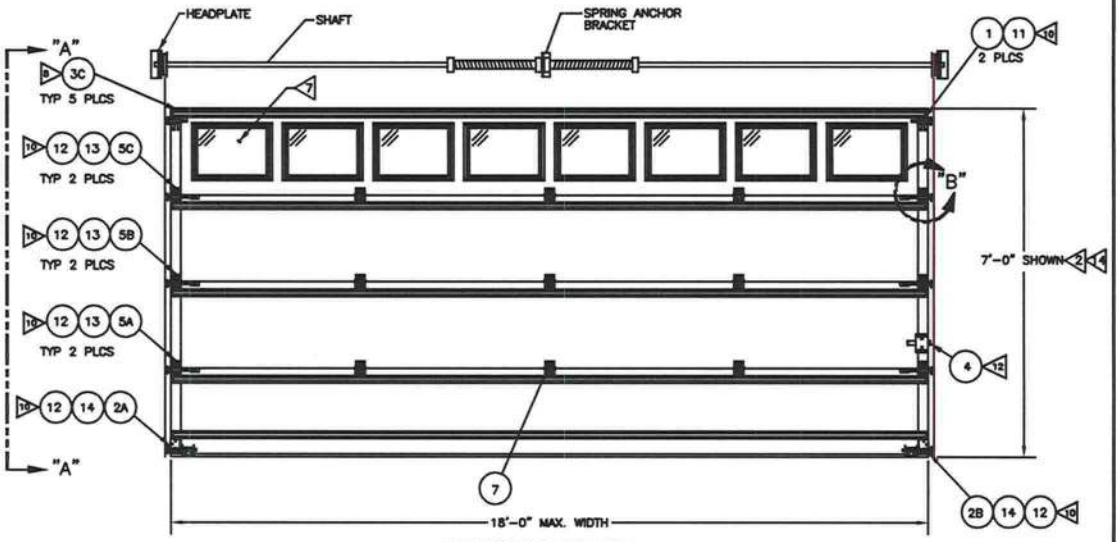


STANDARD TRACK DETAIL 11

SCALE: 1/16" = 1"

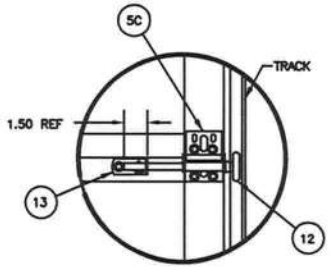


VIEW A-A
(TRACK ASSY REMOVED FOR CLARITY)



INTERIOR ELEVATION

SCALE: 1/16"=1"



DETAIL "B"

SCALE: 1/4

FL # 11494

JOHN E. SCATES, PE
2560 KING ARTHUR #124-54
LEWISVILLE, TX 75056
FL PE 51737 TX PE 56306/F2203

JOHN E. SCATES LICENSE No. 51737 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by John E. Scates, P.E.
Date: 2020.09.03 15:14:05 -05'00'

PROFESSIONAL ENGINEER'S SEAL PROVIDED ONLY FOR VERIFICATION OF WINDLOAD CONSTRUCTION DETAILS.

DOOR WIDTH	HINGES/ SECTION	END STILE	ROLLER SHAFT BRACKET	STRUTS/SECT.	ROLLER/ NYLON	VERTICAL TRACK
18'	3	SINGLE	YES	HS-3	2" X 7/16"	2"X .068" THK

UNLESS OTHERWISE SPECIFIED

MATERIAL: N/A

APPLIED FINISH: NONE

UNIT OF MEASURE: EACH

DRAWN BY: J. BARTON 9/23/08

CHECKED BY: C FINERAN 10/15/08

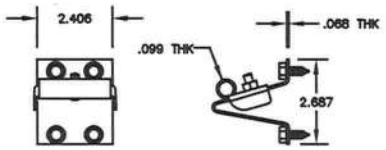
APPROVED BY: M SAWICKI 10/15/08

DESIGN TITLE: WINDLOAD, 390, 470, 1600 +21.8/-28.5 PSF (DESIGN), 18'-0" MAX

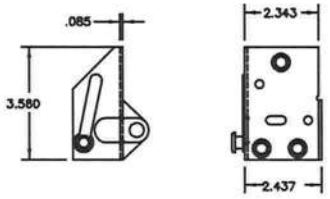
DRAWING NUMBER: D-410735

SCALE: 3/8 SHEET 1 OF 2

NOTES

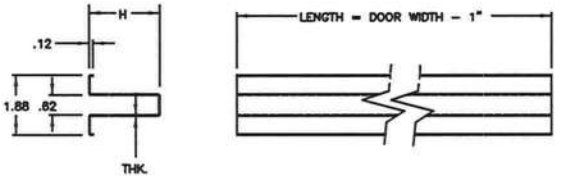


1 409808-0001, TOP FIXTURE
ATTACH TO DOOR WITH 4 SCREWS
P/N 605911-0001



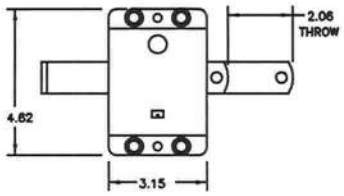
2 405771-XXXX BOT. FIXTURE
ATTACH TO DOOR WITH 3 SCREWS
P/N 605911-0001

SUB	PART NUMBER	HAND	VIEW
A	405771-0001	LH	SHOWN
B	405771-0002	RH	OPP.

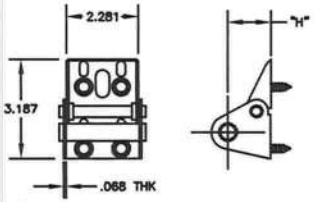


3 400650-XXX1, ROLLED HS STRUT

ROLLED HS STRUT CHART				
SUB	PART NUMBER	THK.	DIM H	STRUT
A	400650-0001	.030	2.25	HS-1
B	400650-0002	.052	2.25	HS-2
C	400650-0003	.055	3.50	HS-3
D	400650-0004	.020	2.25	HS-0

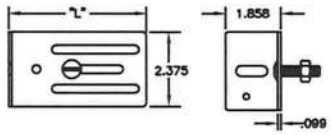


4 409334-0001 SLIDE LOCK ASSY
ATTACH TO DOOR WITH 4 SCREWS
P/N 605911-0001



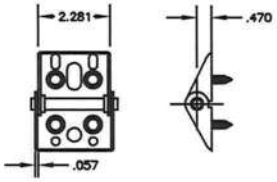
5 407605-000X END HINGE
ATTACH TO DOOR WITH 4 SCREWS
P/N 605911-0001

SUB	PART NUMBER	"H"
A	407605-0002	.85
B	407605-0003	1.10
C	407605-0004	1.35
D	407605-0005	1.60

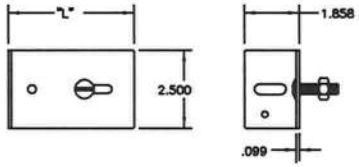


6 405964-000X BRACKET, JAMB JOINT 9
ATTACH TO TRACK WITH 1/4" TRACK
BOLT AND NUT

SUB	PART. NUMBER	"L"
A	405964-0002	4.37
B	405964-0003	5.12
C	405964-0004	3.75



7 407603-0001 CENTER HINGE
ATTACH TO DOOR WITH 4 SCREWS
P/N 605911-0001



8 405964 & 046450, BRACKET, JAMB 9
ATTACH TO TRACK WITH 1/4" TRACK
BOLT AND NUT

SUB	PART. NUMBER	"L"
A	405964-0000	2.75
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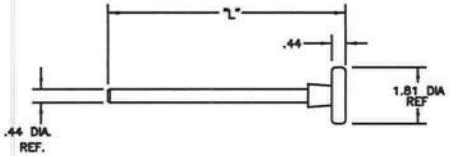
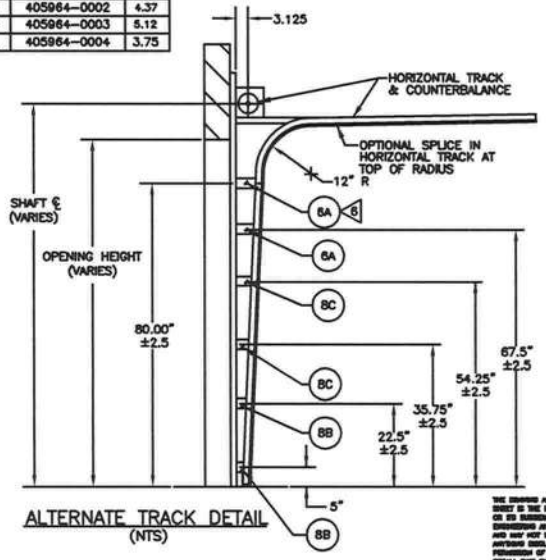
C	046450-0003	4.00

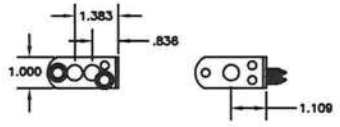


9 108135, ROLLER ASSY, TR3 6
10 319138, ROLLER ASSY, TR3 6
11 608682-0001, ROLLER ASSY, TR3
12 608682-0002, ROLLER ASSY, TR3

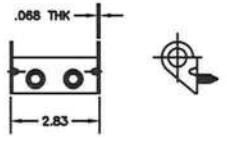
PART NUMBER	"L"
108135	5.13
319138	7.00
608682-0001	4.70
608682-0002	7.56



ALTERNATE TRACK DETAIL
(NTS)



13 405742-0001, BRACKET, ROLLER SHAFT
ATTACH TO DOOR WITH 2 SCREWS
P/N 605911-0001
0.085" THK



14 407532-1001, HINGE LEAF, BOTTOM
ATTACH TO DOOR WITH 2 SCREWS
P/N 605911-0001

FL # 11494

JOHN E. SCATES, PE
2560 KING ARTHUR #124-54
LEWISVILLE, TX 75056
FL PE 51737 TX PE 56308/F2203

JOHN E. SCATES LICENSE No. 51737 STATE OF FLORIDA PROFESSIONAL ENGINEER

UNLESS OTHERWISE SPECIFIED

MATERIAL: N/A	APPLIED FINISH: NONE	UNIT OF MEASURE: EACH
DRAWN BY: J. BARTON	DATE: 9/23/08	
CHECKED BY: C FINERAN	DATE: 10/15/08	
APPROVED BY: M SIMICH	DATE: 10/15/08	

DRAWING TITLE: WINDLOAD, 390, 470, 1600 +21.8/-28.5 PSF (DESIGN), 18'-0" MAX
DRAWING NUMBER: D-410735
SCALE: 1/2 SHEET 2 OF 2

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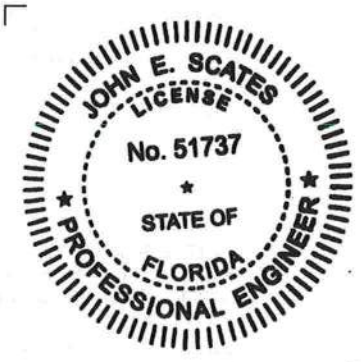
OVERHEAD DOOR®

Jamb Connection Supplement

Fastener allowable loads comply with:
ACI 318-14 (and prior versions)
AWC NDS-2018 (and prior versions)



Digitally signed by John E. Scates, P.E.
Date: 2020.09.03 14:30:04 -05'00'

This document provides a series of connection schedules and basic detailing concepts for the connection of garage door jambs to building frames with the use of various fasteners. DASMA Technical Data Sheet TDS-161 may be used as an alternate to this document.

P/N 411526

Rev. P01

SCHEDULE 1
5/16" DIAMETER LAG SCREWS

LOAD PER JAMB (LB/FT)[NOTE 3]	MAXIMUM SPACING OF LAG SCREWS PER JAMB (IN) MAIN SUPPORT MEMBER SPECIES		
	SYP SPECIFIC GRAVITY - 0.55	DOUGLAS FIR SPECIFIC GRAVITY - 0.46	SPF SPECIFIC GRAVITY - 0.42
100	24	24	24
120	24	24	24
140	24	24	24
160	24	24	24
180	24	24	24
200	24	24	24
220	24	24	22
240	24	24	20
260	24	22	19
280	24	20	17
300	24	19	16
320	22	18	15
340	21	16	14
360	20	16	13
380	19	15	13
400	18	14	12
420	17	13	11
440	16	13	11
460	15	12	10
480	15	12	10
500	14	11	10
520	14	11	9
540	13	10	9
560	13	10	8
580	12	9	8
600	12	9	8
620	11	9	8
640	11	9	7
660	11	8	7
680	10	8	7
700	10	8	7
720	10	8	6
740	9	7	6
760	9	7	6
780	9	7	6
800	9	7	6

1. BASED ON 5/16" DIAMETER LAG SCREWS WITH 1-1/2" O.D. WASHERS WITH A 1-9/32" THREAD PENETRATION INTO SEASONED DRY WOOD SUPPORTING STRUCTURE.
2. PROVIDE QUANTITY OF LAG SCREWS AS REQUIRED TO MAINTAIN MAXIMUM SPACING AS SHOWN IN TABLE WITH A MINIMUM OF THREE (3) LAG SCREWS PER JAMB. LAG SCREWS AT TOP AND BOTTOM OF JAMB SHALL BE PLACED A MAXIMUM OF 6" FROM THE END OF THE JAMB.
3. LOAD PER JAMB CALCULATED BY TAKING DESIGN LOAD (PSF) TIMES DOOR WIDTH (FT) DIVIDED BY 2.

EXAMPLE:
DESIGN LOAD = 30psf
DOOR WIDTH = 16ft
LOAD PER JAMB = 30psf x 16ft/2 = 240lb/ft

4. CHART IS BASED ON 6'-6" MINIMUM AND 24'-0" MAXIMUM DOOR HEIGHT.
5. ADDED DOOR JAMB TO BE 2x4 OR LARGER GRADE 2 SYP (SPECIFIC GRAVITY >=0.55) LUMBER OR BETTER MOUNTED TO SUPPORT STRUCTURE. IF MOUNTING OVER DRYWALL, INCREASE FASTENER LENGTH TO ACHIEVE MINIMUM REQUIRED PENETRATION.
6. DESIGN OF THE SUPPORT STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE BUILDING DESIGNER AND SHALL BE DESIGNED FOR THE JAMB LOAD LISTED IN ABOVE TABLE AS CALCULATED PER NOTE 3.
7. MINIMUM EDGE DISTANCE SHALL BE 1/2", MINIMUM FASTENER SPACING SHALL BE 1-1/2", AND ALL HOLES SHALL BE PRE-DRILLED TO PREVENT SPLITTING.
8. LAG SCREWS SHALL CONFORM TO ANSI / ASME STANDARD B18.2.1.

Approved

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P/N 411526

SCHEDULE 2
16d COMMON WIRE NAILS AND 16d THREADED HARDENED-STEEL NAILS

LOAD PER JAMB (LB/FT)[NOTE 3]	MAXIMUM NAIL SPACING PER JAMB (IN) MAIN SUPPORT MEMBER SPECIES		
	SYP SPECIFIC GRAVITY - 0.55	DOUGLAS FIR SPECIFIC GRAVITY - 0.46	SPF SPECIFIC GRAVITY - 0.42
100	24	24	19
120	24	20	16
140	21	17	14
160	18	15	12
180	16	13	10
200	15	12	9
220	13	11	8
240	12	10	8
260	11	9	7
280	10	8	7
300	10	8	6
320	9	7	6
340	8	7	n/a
360	8	6	n/a
380	7	6	n/a
400	7	6	n/a
420	7	n/a	n/a
440	6	n/a	n/a
460	6	n/a	n/a
480	6	n/a	n/a
500	6	n/a	n/a
520	n/a	n/a	n/a
540	n/a	n/a	n/a
560	n/a	n/a	n/a
580	n/a	n/a	n/a
600	n/a	n/a	n/a
620	n/a	n/a	n/a
640	n/a	n/a	n/a
660	n/a	n/a	n/a
680	n/a	n/a	n/a
700	n/a	n/a	n/a
720	n/a	n/a	n/a
740	n/a	n/a	n/a
760	n/a	n/a	n/a
780	n/a	n/a	n/a
800	n/a	n/a	n/a

1. BASED ON 16d COMMON WIRE NAILS (0.162"x3-1/2") OR 16d THREADED HARDENED-STEEL NAILS (0.148"x3-1/2") WITH A MINIMUM PENETRATION OF 2" INTO SIDE GRAIN OF MAIN MEMBER.
2. NAILS SHALL BE PROVIDED IN PAIRS AT A MAXIMUM SPACING AS SHOWN IN TABLE WITH A MINIMUM OF THREE (3) PAIRS OF NAILS PER JAMB. NAILS AT TOP AND BOTTOM OF JAMB SHALL BE PLACED A MAXIMUM OF 6" FROM THE END OF THE JAMB.
3. LOAD PER JAMB CALCULATED BY TAKING DESIGN LOAD (PSF) TIMES DOOR WIDTH (FT) DIVIDED BY 2.

EXAMPLE: DESIGN LOAD = 30psf
DOOR WIDTH = 16ft
LOAD PER JAMB = 30psf x 16ft/2 = 240lb/ft

4. CHART IS BASED ON 6'-6" MINIMUM AND 24'-0" MAXIMUM DOOR HEIGHT.
5. ADDED DOOR JAMB TO BE 2x4 OR LARGER GRADE 2 SYP (SPECIFIC GRAVITY >=0.55) LUMBER OR BETTER MOUNTED TO SUPPORT STRUCTURE.
   IF MOUNTING OVER DRYWALL, INCREASE FASTENER LENGTH TO ACHIEVE MINIMUM REQUIRED PENETRATION.
6. DESIGN OF THE SUPPORT STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE BUILDING DESIGNER AND SHALL BE DESIGNED FOR THE JAMB LOAD LISTED IN ABOVE TABLE AS CALCULATED PER NOTE 3.
7. EDGE DISTANCES, END DISTANCES AND SPACINGS SHALL BE SUFFICIENT TO PREVENT SPLITTING OF THE WOOD.

Approved

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SCHEDULE 3

3/8"Ø A307 HEADED OR HOOKED ANCHOR BOLTS IN NORMAL WEIGHT CONCRETE

	MAXIMUM SPACING OF ANCHOR BOLTS PER JAMB (IN)	
LOAD PER JAMB (LB/FT)[NOTE 3]	2500 PSI CONCRETE	3000 PSI CONCRETE
100	24	24
120	24	24
140	24	24
160	24	24
180	24	24
200	24	24
220	24	24
240	24	24
260	24	24
280	24	24
300	24	24
320	24	24
340	24	24
360	24	24
380	24	24
400	24	24
420	24	24
440	23	24
460	22	24
480	21	24
500	20	24
520	20	24
540	19	23
560	18	22
580	18	21
600	17	20
620	16	20
640	16	19
660	15	19
680	15	18
700	14	17
720	14	17
740	14	16
760	13	16
780	13	16
800	13	15

1. BASED ON 3/8"Ø A307 HEADED OR HOOKED (1.69" MIN. HOOK LENGTH) ANCHOR BOLTS WITH A 2" O.D. WASHER WITH A MINIMUM EMBEDMENT DEPTH OF 3" AND A MINIMUM EDGE DISTANCE OF 3".
2. PROVIDE QUANTITY OF ANCHOR BOLTS AS REQUIRED TO MAINTAIN MAXIMUM SPACING AS SHOWN IN TABLE WITH A MINIMUM OF THREE (3) ANCHOR BOLTS PER JAMB. ANCHOR BOLTS AT TOP AND BOTTOM OF JAMB SHALL BE PLACED A MAXIMUM OF 6" FROM THE END OF THE JAMB.
3. LOAD PER JAMB CALCULATED BY TAKING DESIGN LOAD (PSF) TIMES DOOR WIDTH (FT) DIVIDED BY 2.

EXAMPLE: DESIGN LOAD = 30psf
DOOR WIDTH = 16ft
LOAD PER JAMB = 30psf x 16ft/2 = 240lb/ft

4. CHART IS BASED ON 6'-6" MINIMUM AND 24'-0" MAXIMUM DOOR HEIGHT.
5. ADDED DOOR JAMB TO BE 2x6 OR LARGER GRADE 2 SYP (SPECIFIC GRAVITY >=0.55) LUMBER OR BETTER MOUNTED TO SUPPORT STRUCTURE.
   IF MOUNTING OVER DRYWALL, INCREASE FASTENER LENGTH TO ACHIEVE MINIMUM REQUIRED PENETRATION.
6. DESIGN OF THE SUPPORT STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE BUILDING DESIGNER AND SHALL BE DESIGNED FOR THE JAMB LOAD LISTED IN ABOVE TABLE AS CALCULATED PER NOTE 3.

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SCHEDULE 4
3/8"Ø SIMPSON TITEN HD SCREW ANCHORS

	MAXIMUM SPACING OF ANCHORS PER JAMB (IN)		
LOAD PER JAMB (LB/FT)[NOTE 4]	2500 PSI CONCRETE[NOTE 1]	4000 PSI CONCRETE[NOTE 1]	2000 PSI GROUT FILLED CMU[NOTE 2]
100	24	24	24
120	24	24	24
140	24	24	24
160	24	24	24
180	24	24	24
200	24	24	24
220	24	24	24
240	24	24	24
260	24	24	16
280	24	24	16
300	24	24	16
320	24	24	16
340	24	24	16
360	24	24	16
380	24	24	8
400	24	24	8
420	24	24	8
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620	21	22	8
640	20	22	8
660	19	21	8
680	19	20	8
700	18	20	8
720	18	19	8
740	17	19	N/A
760	17	18	N/A
780	16	18	N/A
800	16	17	N/A

1. BASED ON 3/8"Ø SIMPSON TITEN HD SCREW ANCHOR WITH A 1-3/4" O.D. WASHER INTO NORMAL WEIGHT UNCRACKED CONCRETE WITH A MINIMUM EMBEDMENT DEPTH OF 2-3/4" AND A MINIMUM EDGE DISTANCE OF 2-3/4".
2. BASED ON 3/8"Ø SIMPSON TITEN HD SCREW ANCHOR WITH A 1-3/4" O.D. WASHER INTO GROUT FILLED CMU WITH A MINIMUM EMBEDMENT DEPTH OF 2-3/4", A MINIMUM EDGE DISTANCE OF 4", AND A MINIMUM END DISTANCE OF 4". CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND GROUT SHALL CONFORM TO ASTM C476.
3. PROVIDE QUANTITY OF SCREW ANCHORS AS REQUIRED TO MAINTAIN MAXIMUM SPACING AS SHOWN IN TABLE WITH A MINIMUM OF THREE (3) SCREW ANCHORS PER JAMB. SCREW ANCHORS AT TOP AND BOTTOM OF JAMB SHALL BE PLACED A MAXIMUM OF 6" FROM THE END OF THE JAMB.
4. LOAD PER JAMB CALCULATED BY TAKING DESIGN LOAD (PSF) TIMES DOOR WIDTH (FT) DIVIDED BY 2.

EXAMPLE: DESIGN LOAD = 30psf
DOOR WIDTH = 16ft
LOAD PER JAMB = 30psf x 16ft/2 = 240lb/ft

5. CHART IS BASED ON 6'-6" MINIMUM AND 24'-0" MAXIMUM DOOR HEIGHT.
6. ADDED DOOR JAMB TO BE 2x6 OR LARGER GRADE 2 SYP (SPECIFIC GRAVITY >=0.55) LUMBER OR BETTER MOUNTED TO SUPPORT STRUCTURE.
   IF MOUNTING OVER DRYWALL, INCREASE FASTENER LENGTH TO ACHIEVE MINIMUM REQUIRED PENETRATION.
7. DESIGN OF THE SUPPORT STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE BUILDING DESIGNER AND SHALL BE DESIGNED FOR THE JAMB LOAD LISTED IN ABOVE TABLE AS CALCULATED PER NOTE 4.
8. SCREW ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

Approved

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P/N 411526

SCHEDULE 5
3/8"Ø HILTI KWIK BOLT 3 EXPANSION ANCHOR

	MAXIMUM SPACING OF ANCHORS PER JAMB (IN)		
LOAD PER JAMB (LB/FT)[NOTE 4]	2500 PSI CONCRETE[NOTE 1]	4000 PSI CONCRETE[NOTE 1]	2000 PSI GROUT FILLED CMU[NOTE 2]
100	24	24	24
120	24	24	24
140	24	24	24
160	24	24	24
180	24	24	24
200	24	24	24
220	24	24	24
240	24	24	24
260	24	24	24
280	24	24	24
300	24	24	24
320	24	24	16
340	24	24	16
360	24	24	16
380	24	24	16
400	24	24	16
420	24	24	16
440	24	24	16
460	24	24	16
480	24	24	8
500	24	24	8
520	24	24	8
540	24	24	8
560	24	24	8
580	24	24	8
600	23	23	8
620	22	22	8
640	22	22	8
660	21	21	8
680	20	20	8
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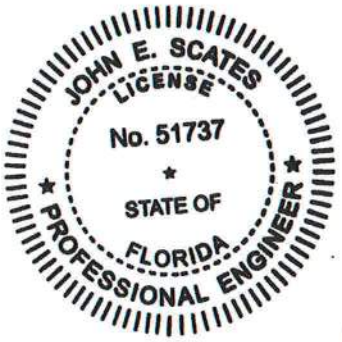
720	19	19	8
740	19	19	8
760	18	18	8
780	18	18	8
800	17	17	8



1. BASED ON 3/8"Ø HILTI KWIK BOLT 3 EXPANSION ANCHOR WITH A 1-3/4" O.D. WASHER INTO NORMAL WEIGHT UNCRACKED CONCRETE WITH A MINIMUM EMBEDMENT DEPTH OF 2-1/2" AND A MINIMUM EDGE DISTANCE OF 3".
2. BASED ON 3/8"Ø HILTI KWIK BOLT 3 EXPANSION ANCHOR WITH A 1-3/4" O.D. WASHER INTO GROUT FILLED CMU WITH A MINIMUM EMBEDMENT DEPTH OF 2-1/2" AND A MINIMUM EDGE DISTANCE OF 4".
   ONLY ONE ANCHOR PER MASONRY UNIT
   CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND GROUT SHALL CONFORM TO ASTM C476.
3. PROVIDE QUANTITY OF ANCHORS AS REQUIRED TO MAINTAIN MAXIMUM SPACING AS SHOWN IN TABLE WITH A MINIMUM OF THREE (3) ANCHORS PER JAMB. ANCHORS AT TOP AND BOTTOM OF JAMB SHALL BE PLACED A MAXIMUM OF 6" FROM THE END OF THE JAMB.
4. LOAD PER JAMB CALCULATED BY TAKING DESIGN LOAD (PSF) TIMES DOOR WIDTH (FT) DIVIDED BY 2.

   EXAMPLE: DESIGN LOAD = 30psf
   DOOR WIDTH = 16ft
   LOAD PER JAMB = 30psf x 16ft/2 = 240lb/ft

5. CHART IS BASED ON 6'-6" MINIMUM AND 24'-0" MAXIMUM DOOR HEIGHT.
6. ADDED DOOR JAMB TO BE 2x6 OR LARGER GRADE 2 SYP (SPECIFIC GRAVITY >=0.55) LUMBER OR BETTER MOUNTED TO SUPPORT STRUCTURE.
   IF MOUNTING OVER DRYWALL, INCREASE FASTENER LENGTH TO ACHIEVE MINIMUM REQUIRED PENETRATION.
7. DESIGN OF THE SUPPORT STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE BUILDING DESIGNER AND SHALL BE DESIGNED FOR THE JAMB LOAD LISTED IN ABOVE TABLE AS CALCULATED PER NOTE 4.
8. SCREW ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

Approved

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The Genuine. The Original.

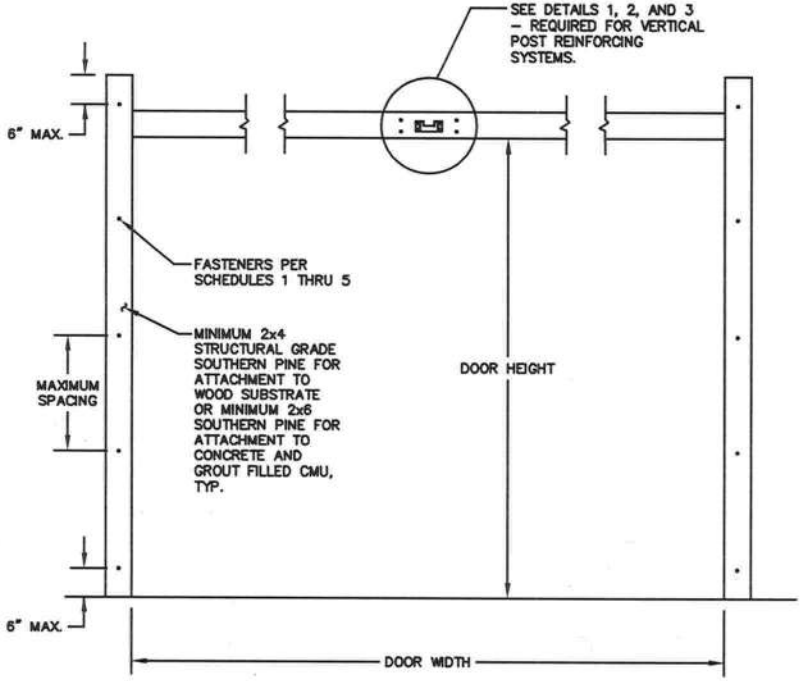
OVERHEAD DOOR

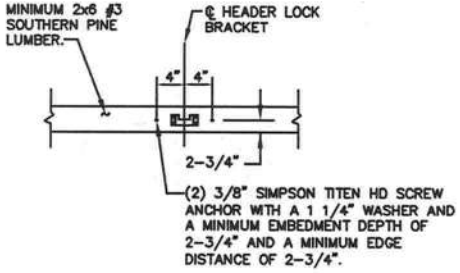
OVERHEAD DOOR CORPORATION
2501 SOUTH STATE HIGHWAY 121
SUITE 200 LEWISVILLE, TX 75067
(800) 275-3920

REVISIONS

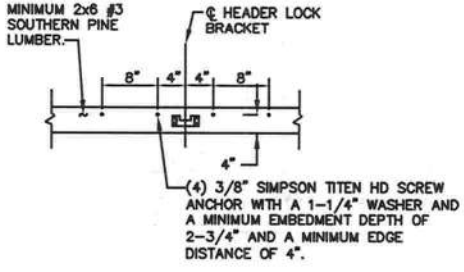
P00 NEW DRAWING, ER31052 ESC 8/6/18

P01 NOTES REVISION JQ 2/27/2020

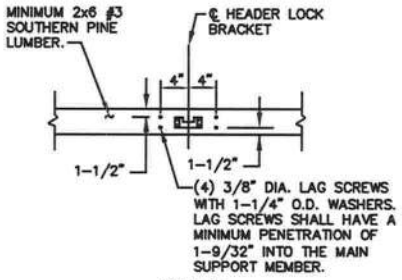




DETAIL 1
MINIMUM 2500 PSI CONCRETE
NOTE: MAXIMUM DESIGN LOAD CAPACITY OF 2085 LBS.



DETAIL 2
MINIMUM 2000 PSI GROUT FILLED CMU
NOTE: MAXIMUM DESIGN LOAD CAPACITY OF 2400 LBS.



DETAIL 3
WOOD SUPPORT STRUCTURE
NOTE: MAXIMUM DESIGN LOAD CAPACITY OF 2430 LBS.

PROFESSIONAL ENGINEER'S SEAL PROVIDED ONLY FOR VERIFICATION OF WINDLOAD CONSTRUCTION DETAILS.

JOHN E. SCATES, PE
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LEWISVILLE, TX 75056
FL PE 51737
TX PE 56308/F2203

	DATE	NAME
DRAWN	8/6/18	ESC
CHECKED		

SHEET 1 OF 2

JAMB CONNECTION SUPPLEMENT

DRAWING PART NO.	REV.
411526	P01

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OVERHEAD DOOR

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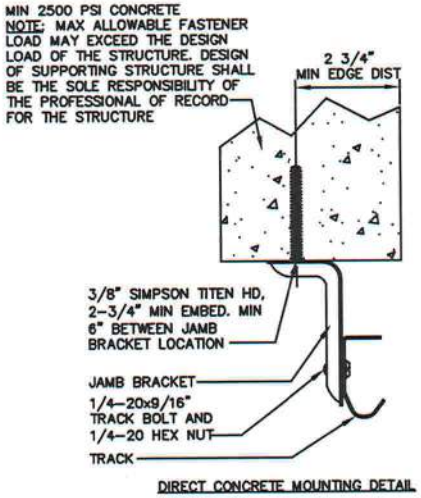
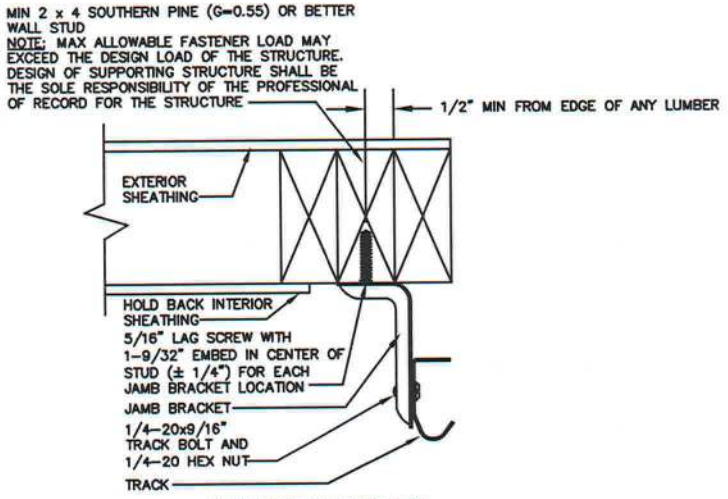
REVISIONS
P00 NEW DRAWING, ER31052 ESC 8/6/18
P01 NOTES REVISION JQ 2/27/2020



DIRECT CONCRETE MOUNTING DETAIL

TRACK BRACKET LOCATIONS AND SPACING PER THE WINDLOAD DOOR DRAWING



DIRECT WOOD MOUNTING DETAIL

IF JAMBS ARE NOT SOUTHERN PINE, MUST ATTACH A SOUTHERN PINE 2X6 PER SCHEDULE 1. IF 2X6 WILL NOT FIT, MAY USE 2X4.

JOHN E. SCATES LICENSE No. 51737 STATE OF FLORIDA PROFESSIONAL ENGINEER

JOHN E. SCATES, PE
2560 KING ARTHUR BLVD #124-54
LEWISVILLE, TX 75056

	DATE	NAME
DRAWN	8/6/18	ESC
CHECKED		

SHEET 2 OF 2

JAMB CONNECTION SUPPLEMENT

DRAWING PART NO.	REV.
411526	P01

YKK AP AMERICA RESIDENTIAL

STYLEVIEW SINGLE HUNG WINDOWS - ORIEL, COTTAGE, EQUAL SASH (NON-HVHZ) (NON-IMPACT)

INSTALLATION NOTES:

1. ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN.
2. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION.
3. INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/2 INCH OF THE DEPICTED LOCATION IN THE ANCHOR LAYOUT DETAIL (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
4. FOR INSTALLATION INTO WOOD FRAMING USE #10 WOOD SCREWS OF SUFFICIENT LENGTH TO ACHIEVE 3/4 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
5. FOR INSTALLATION INTO METAL STUD USE #10 GRADE 5 HWH OR PH SELF-DRILLING OR SELF-TAPPING SCREWS THROUGH THE FRAME OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM OF 3 THREADS PENETRATION BEYOND METAL FRAME SUBSTRATE.
6. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
7. INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
8. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
9. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
   A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
   B. STEEL - MINIMUM YIELD STRENGTH OF 33 KSI. MINIMUM 18 GA. (0.0428") WALL THICKNESS.

GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT EDITION FLORIDA BUILDING CODE (FBC), EXCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
   - AAMA/WDMA/CSA 101/I.S.2/A440-08/11
2. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY, 2X FRAMING AND METAL STUD FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT. DOCUMENTS SHALL BE APPROVED BY AUTHORITY HAVING JURISDICTION (AHJ).
5. APPROVED IMPACT PROTECTIVE SYSTEM **IS REQUIRED** ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. WINDOW FRAME MATERIAL: PVC
7. DESIGNATIONS "X" AND "O" STAND FOR THE FOLLOWING:
   X: OPERABLE PANEL
   O: FIXED PANEL
8. GLAZING MEETS ASTM E1300 REQUIREMENTS, SEE SHEET 4 FOR GLAZING DETAILS.

TABLE OF CONTENTS

CONFIGURATION	DESIGN PRESSURE	MAXIMUM SIZE	MISSILE IMPACT RATING
O/X-O/X-OX (ORIEL)	+50 / -50 PSF	107.5" x 71.5"	NON-IMPACT
O/X-O/X (ORIEL)	+50 / -50 PSF	71.5" x 71.5"	NON-IMPACT
O/X-O/X-O/X (COTTAGE)	+50 / -50 PSF	107.5" x 71.5"	NON-IMPACT
O/X-O/X (COTTAGE)	+50 / -50 PSF	71.5" x 71.5"	NON-IMPACT
O/X-O/X-O/X (EQUAL SASH)	+50 / -50 PSF	107.5" x 71.5"	NON-IMPACT
O/X-O/X (EQUAL SASH)	+50 / -50 PSF	71.5" x 71.5"	NON-IMPACT

YKK AP AMERICA RESIDENTIAL
270 RIVERSIDE PKWY
AUSTELL, GEORGIA 30168
PH: (478)277-1955 FAX: (678)838-6001

TITLE: STYLEVIEW SINGLE HUNG WINDOWS (NON-HVHZ) (NON-IMPACT)

INSTALLATION & GENERAL NOTES

PREPARED BY: BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)394-4478
FAX: (954)294-4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.

Digitally signed by Hermes G Norero
Reason: I am approving this document
Date: 2020.04.29 15:13:04 -05'00'

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

HERMES F. NORERO, P.E.
FLORIDA P.E. No. 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL21451

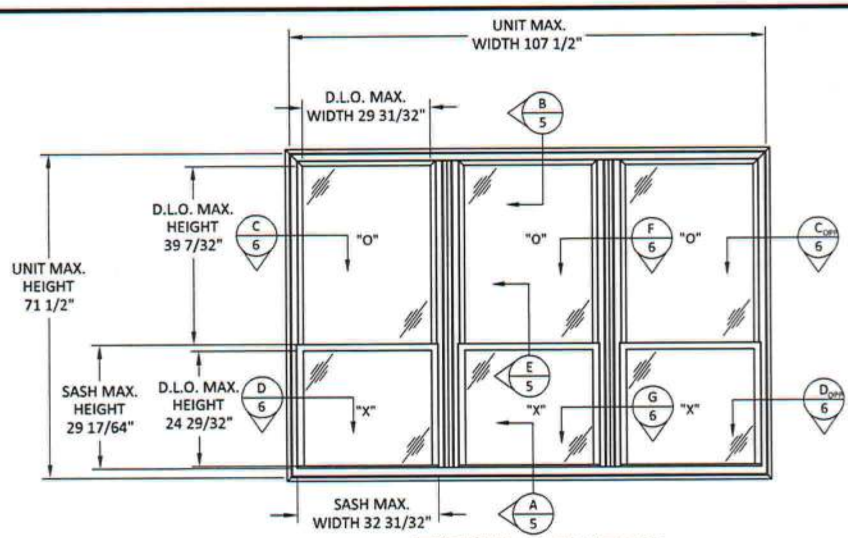
DATE: 10.04.16

DWG. BY: AM | CHK. BY: HFN

SCALE: NTS

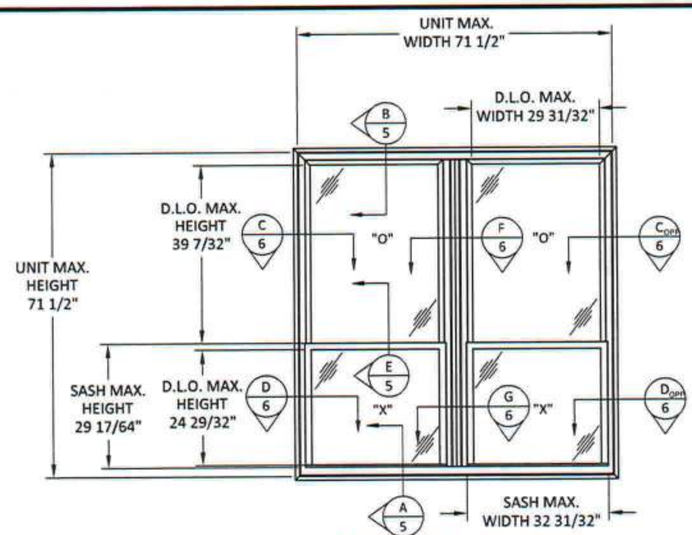
DWG. #: YKK190

SHEET: 1 OF 6



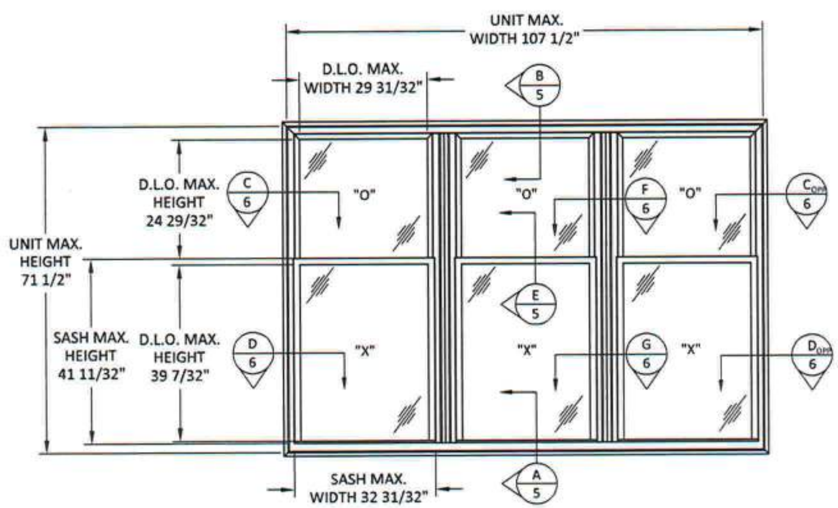
TYPICAL ELEVATION

TRIPLE SINGLE HUNG WINDOW (ORIEL)



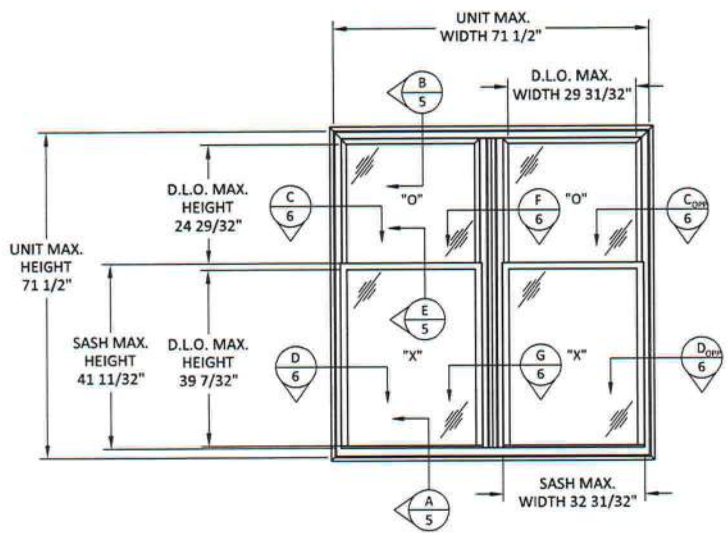
TYPICAL ELEVATION

TWIN SINGLE HUNG WINDOW (ORIEL)



TYPICAL ELEVATION

TRIPLE SINGLE HUNG WINDOW (COTTAGE)



TYPICAL ELEVATION

TWIN SINGLE HUNG WINDOW (COTTAGE)

YKK AP AMERICA RESIDENTIAL
270 RIVERSIDE PKWY
AUSTELL, GEORGIA 30168
PH: (478)277-1955 FAX: (678)838-6001

TITLE: STYLEVIEW SINGLE HUNG WINDOWS (NON-HVHZ) (NON-IMPACT)

ELEVATIONS

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744.4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE

THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT.

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

HERMES F. NORERO, P.E.
FLORIDA P.E. No 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL21451

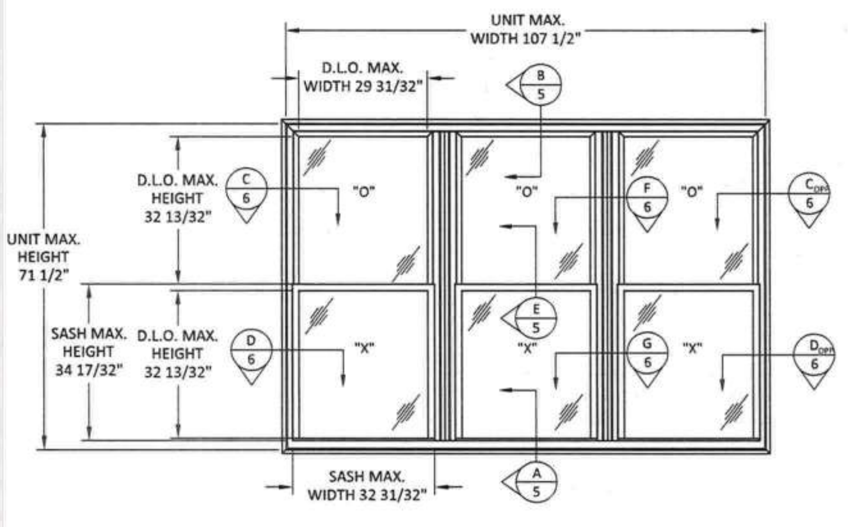
DATE: 10.04.16

DWG. BY: AM | CHK. BY: HFN

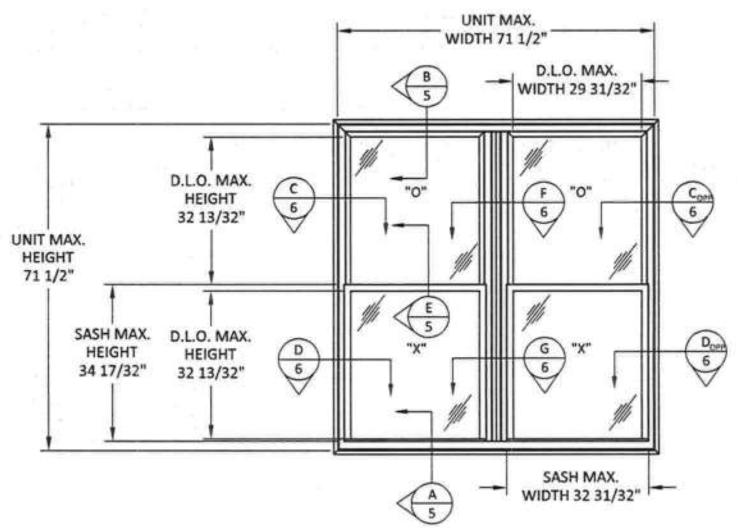
SCALE: NTS

DWG. #: YKK190

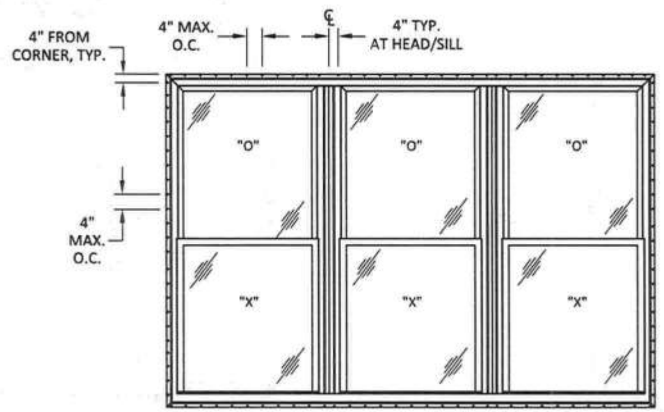
SHEET: 2 OF 6



TYPICAL ELEVATION
TRIPLE SINGLE HUNG WINDOW (EQUAL SASH)



TYPICAL ELEVATION
TWIN SINGLE HUNG WINDOW (EQUAL SASH)



ANCHOR LAYOUT
NAIL FIN INSTALLATION (EQUAL SASH)

NOTE:
TWIN SINGLE HUNG CONFIGURATION HAS SIMILAR ANCHOR LAYOUT AS TRIPLE SINGLE HUNG WINDOW.

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270 RIVERSIDE PKWY
AUSTELL, GEORGIA 30168
PH: (478)277-1955 FAX: (678)838-6001

TITLE:
STYLEVIEW SINGLE HUNG WINDOWS
(NON-HVHZ) (NON-IMPACT)
ELEVATIONS & ANCHOR LAYOUT

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744-4738
WEB: www.buildingdrops.com

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398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL21451

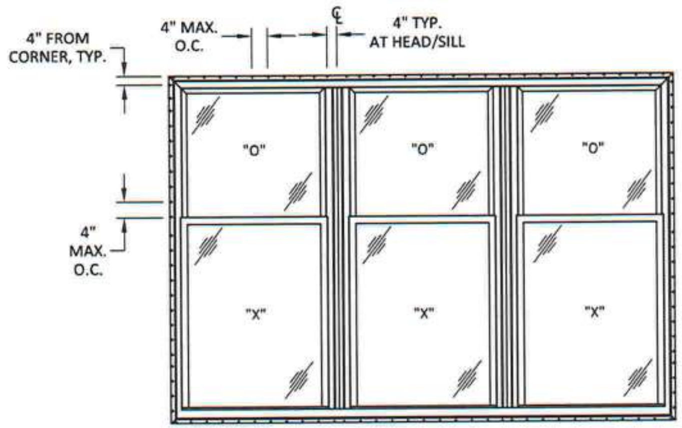
DATE: 10.04.16

DWG. BY: AM | CHK. BY: HFN

SCALE: NTS

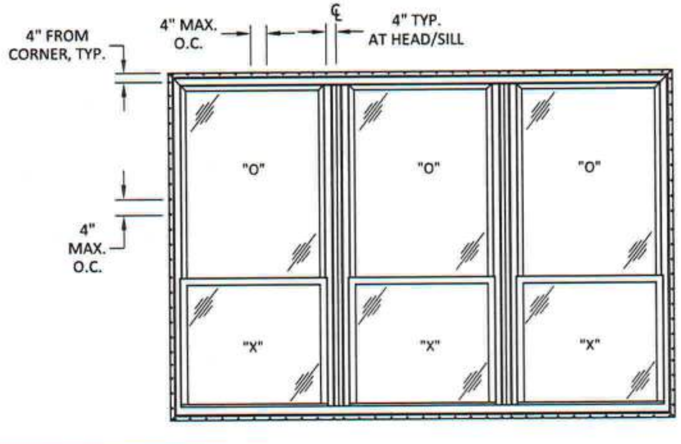
DWG. #: YKK190

SHEET: 3 OF 6



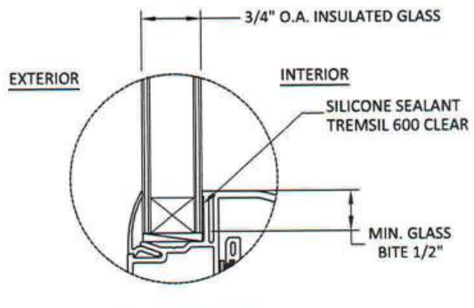
ANCHOR LAYOUT
NAIL FIN INSTALLATION (COTTAGE)

NOTE:
TWIN SINGLE HUNG CONFIGURATION HAS SIMILAR ANCHOR LAYOUT AS TRIPLE SINGLE HUNG WINDOW.



ANCHOR LAYOUT
NAIL FIN INSTALLATION (ORIEL)

ANCHOR SCHEDULE				
METHOD	SUBSTRATE	ANCHOR	MIN. EMBEDMENT	MIN. EDGE DISTANCE
NAIL FIN	MIN. S.G. = 0.55 WOOD	#10 WOOD SCREW	1.5"	0.75"
	18 GAUGE STEEL, MIN fy = 33 ksi	#10 GRADE 5 SELF-DRILLING OR SELF-TAPPING SCREW	3 THREADS PENETRATION BEYOND METAL	0.75"



GLAZING DETAIL

GLAZING NOTES:
1. GLASS THICKNESS AND TYPE SHALL COMPLY WITH ASTM E1300 GLASS STRENGTH REQUIREMENTS.
2. SETTING BLOCK DUROMETER HARDNESS OF 70-90 (SHORE A) AS REFERENCED IN FBC CHAPTER 24.
3. SETTING TO BE LOCATED AT 1/4 SPAN LENGTH FOR GLASS WIDER THAN 36" PER FBC CHAPTER 24.
4. ALL GLAZING CONFIGURATIONS SHALL COMPLY WITH SAFETY GLAZING REQUIREMENTS OUTLINED IN CURRENT FBC.

INTERCEPT STAINLESS STEEL OR TIN PLATED SPACER:
AROUND THE PERIMETER OF THE GLASS

PRIMARY SEALANT:
POLYISOBUTYLENE (PIB)

SECONDARY SEALANT:
STRUCTURAL SILICONE INTENDED FOR FABRICATION OF INSULATED GLASS UNITS.

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270 RIVERSIDE PKWY
AUSTELL, GEORGIA 30168
PH: (478)277-1955 FAX: (678)838-6001

TITLE:
STYLEVIEW SINGLE HUNG WINDOWS (NON-HVHZ) (NON-IMPACT)
ANCHOR LAYOUT & GLAZING DETAIL

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
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REMARKS	BY	DATE

HERMES F. NORERO LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

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FLORIDA P.E. No 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
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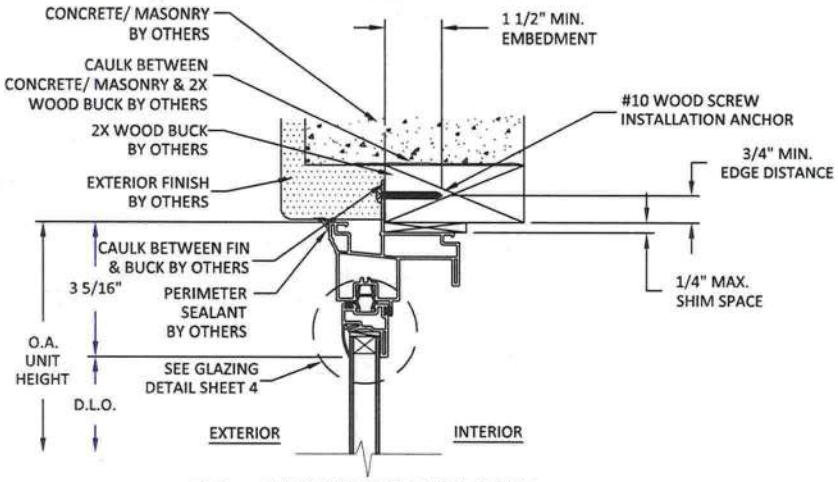
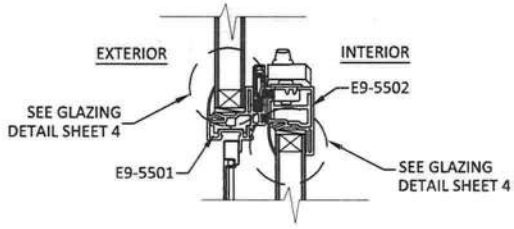
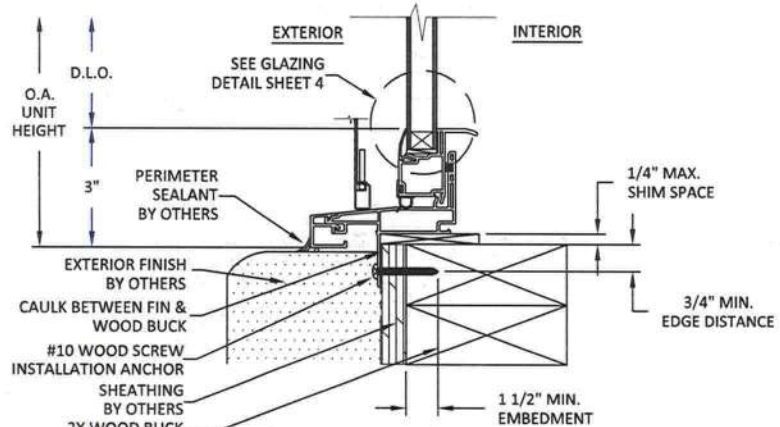


B/5 VERTICAL SECTION
HEAD - 2X WOOD BUCK
NAIL FIN



E/5 VERTICAL SECTION
MEETING RAIL



A/5 VERTICAL SECTION
SILL - 2X WOOD FRAMING
NAIL FIN

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270 RIVERSIDE PKWY
AUSTELL, GEORGIA 30168
PH: (478)277-1955 FAX: (678)838-6001

TITLE: STYLEVIEW SINGLE HUNG WINDOWS (NON-HVHZ) (NON-IMPACT)
VERTICAL SECTIONS

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744-4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE

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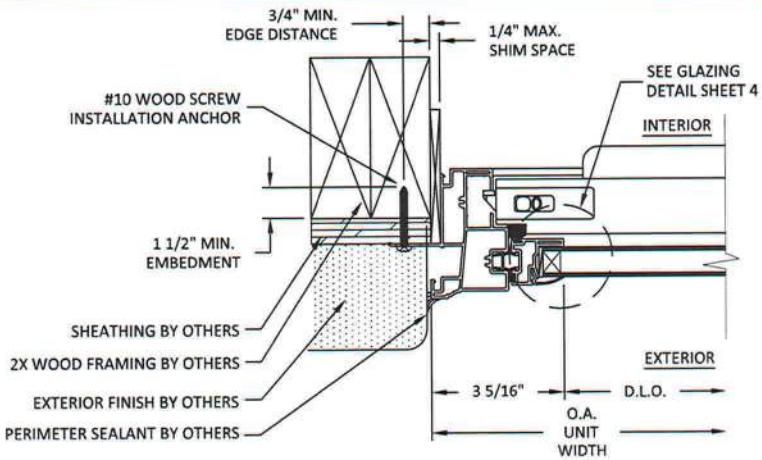
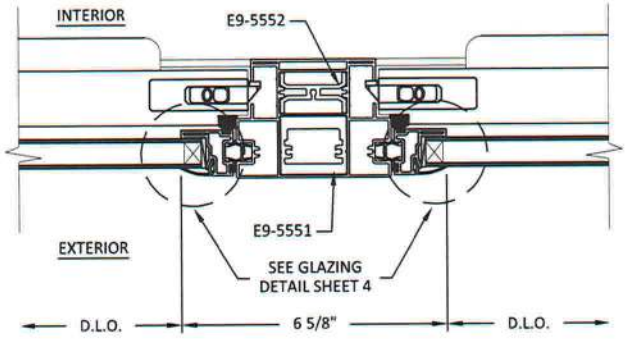
HERMES F. NORERO, P.E.
FLORIDA P.E. No 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

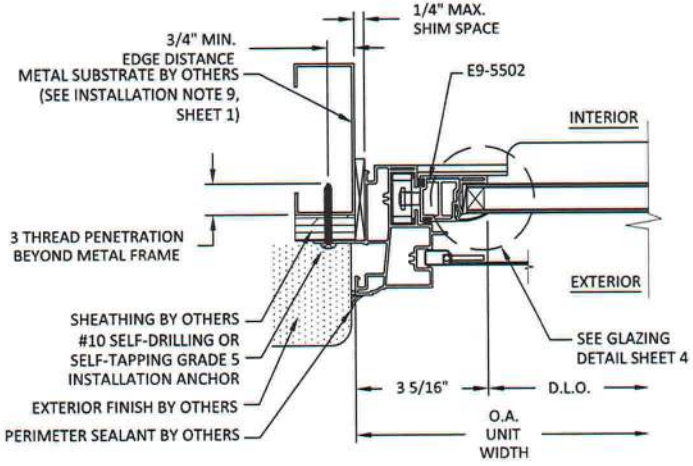
FL #: FL21451
DATE: 10.04.16
DWG. BY: AM
CHK. BY: HFN
SCALE: NTS
DWG. #: YKK190
SHEET: 5 OF 6



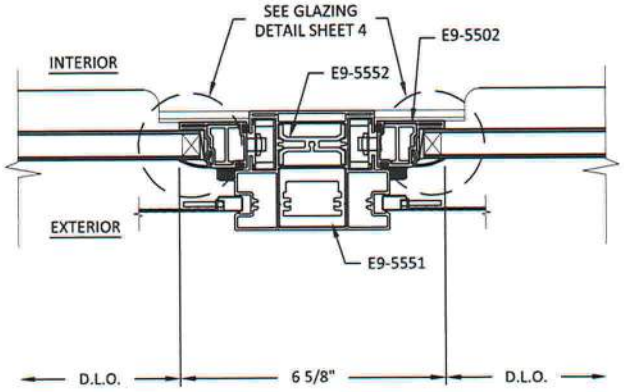
C/6 HORIZONTAL SECTION
FIXED JAMB - 2X WOOD FRAMING
NAIL FIN



F/6 HORIZONTAL SECTION
INTERMEDIATE FIXED LITE



D/6 HORIZONTAL SECTION
SASH JAMB - STEEL STUD
NAIL FIN



G/6 HORIZONTAL SECTION
INTERMEDIATE SASH JAMB

YKK AP AMERICA RESIDENTIAL
270 RIVERSIDE PKWY
AUSTELL, GEORGIA 30168
PH: (678)277-1555 FAX: (678)838-6001

TITLE: STYLEVIEW SINGLE HUNG WINDOWS (NON-HVHZ) (NON-IMPACT)
HORIZONTAL SECTIONS

PREPARED BY:
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
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HERMES F. NORERO
LICENSE
No. 73778
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

HERMES F. NORERO, P.E.
FLORIDA P.E. No 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL21451
DATE: 10.04.16
DWG. BY: AM
CHK. BY: HFN
SCALE: NTS
DWG. #: YKK190
SHEET: 6 OF 6

YKK AP AMERICA RESIDENTIAL

STYLEVIEW NO TRIM PICTURE WINDOW (NON-HVHZ) (NON-IMPACT)

INSTALLATION NOTES:

1. FOR DP +/- 50 PSF, ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH ANCHOR LOCATION SHOWN.
2. FOR DP +/- 35 PSF, ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EVERY OTHER ANCHOR LOCATION SHOWN.
3. THE NUMBER OF INSTALLATION ANCHORS DEPICTED IS THE MINIMUM NUMBER OF ANCHORS TO BE USED FOR PRODUCT INSTALLATION OF THE MAXIMUM SIZE LISTED.
4. INSTALL INDIVIDUAL INSTALLATION ANCHORS WITHIN A TOLERANCE OF ±1/2 INCH THE DEPICTED LOCATION & SPACING IN THE ANCHOR LAYOUT DETAILS (I.E., WITHOUT CONSIDERATION OF TOLERANCES). TOLERANCES ARE NOT CUMULATIVE FROM ONE INSTALLATION ANCHOR TO THE NEXT.
5. FOR INSTALLATION INTO WOOD FRAMING USE *#8 WOOD SCREWS* OF SUFFICIENT LENGTH TO ACHIEVE 1 1/2 INCH MINIMUM EMBEDMENT INTO WOOD SUBSTRATE.
6. FOR INSTALLATION INTO METAL STUD USE #8 PAN HEAD SCREWS THROUGH THE FRAME OF SUFFICIENT LENGTH TO ACHIEVE A MINIMUM OF 3 THREADS PENETRATION BEYOND METAL FRAME SUBSTRATE.
7. SHIM AS REQUIRED AT EACH INSTALLATION ANCHOR WITH LOAD BEARING SHIM(S). MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4 INCH. SHIM SPACE WHERE SPACE OF 1/16 INCH OR GREATER OCCURS. SHIM(S) SHALL BE CONSTRUCTED OF HIGH DENSITY PLASTIC OR BETTER.
8. FOR MASONRY OR CONCRETE OPENINGS, 1X WOOD BUCK MAY BE USED (OPTIONAL AS LONG AS THE MINIMUM EMBEDMENT AND EDGE DISTANCE REQUIREMENTS ARE STILL MET WITHIN THE CORRESPONDING HOST SUBSTRATE. SEE GENERAL NOTE #3 ON SHEET 1 FOR MORE INFORMATION.
9. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER, AND SIDING.
10. INSTALLATION ANCHORS AND ASSOCIATED HARDWARE MUST BE MADE OF CORROSION RESISTANT MATERIAL OR HAVE A CORROSION RESISTANT COATING.
11. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BY THE ANCHOR MANUFACTURER.
12. INSTALLATION ANCHOR CAPACITIES FOR PRODUCTS HEREIN ARE BASED ON SUBSTRATE MATERIALS WITH THE FOLLOWING PROPERTIES:
    A. WOOD - MINIMUM SPECIFIC GRAVITY OF 0.55.
    B. STEEL - MINIMUM YIELD STRENGTH OF 33 KSI. MINIMUM 18 GA. WALL THICKNESS.

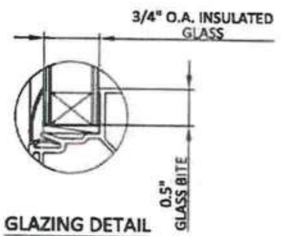
GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE CURRENT EDITION FLORIDA BUILDING CODE (FBC), EXCLUDING HVHZ AND HAS BEEN EVALUATED ACCORDING TO THE FOLLOWING:
    - AAMA/WDMA/CSA 101/I.S.2/A440-17
    - ASTM E283-04(12)
    - ASTM E330-14
2. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE/MASONRY, 2X FRAMING AND METAL STUD FRAMING AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
3. 2X BUCKS (WHEN USED) SHALL BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO THE STRUCTURE. BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD FOR THE PROJECT OF INSTALLATION.
4. THE INSTALLATION DETAILS DESCRIBED HEREIN ARE GENERIC AND MAY NOT REFLECT ACTUAL CONDITIONS FOR A SPECIFIC SITE. IF SITE CONDITIONS CAUSE INSTALLATION TO DEVIATE FROM THE REQUIREMENTS DETAILED HEREIN, A LICENSED ENGINEER OR ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE WITH THIS DOCUMENT IN NON-HVHZ AREAS.
5. APPROVED IMPACT PROTECTIVE SYSTEM IS REQUIRED ON THIS PRODUCT IN AREAS REQUIRING IMPACT RESISTANCE.
6. WINDOW FRAME MATERIAL: PVC
7. DESIGNATIONS "X" AND "O" STAND FOR THE FOLLOWING:
    X: OPERABLE PANEL
    O: FIXED PANEL
8. GLAZING SHALL MEET ASTM E1300 REQUIREMENTS, SEE SHEET 1 FOR GLAZING DETAILS.

TABLE OF CONTENTS

DESIGN PRESSURE TABLE

TYP. OVERALL SIZE		DESIGN PRESSURE	CONFIGURATION	INSTALLATION METHOD	IMPACT RATING	GLAZING TYPE
WIDTH	HEIGTH					
71.5"	71.5"	+50/-50 PSF	"O"	NAIL FIN	NOT RATED	G1
72"	96"	+35/-35 PSF	"O"	NAIL FIN	NOT RATED	G1
79.5"	79.5"	+50/-50 PSF	"O"	NAIL FIN	NOT RATED	G1



GLAZING DETAIL

GLAZING NOTES:

1. GLASS THICKNESS AND TYPE SHALL COMPLY WITH ASTM E1300 GLASS STRENGTH REQUIREMENTS.
2. SETTING BLOCK DUROMETER HARDNESS OF 70-90 (SHORE A) AS REFERENCED IN FBC CHAPTER 24.
3. SETTING BLOCK TO BE LOCATED AT 1/4 SPAN LENGTH FOR GLASS WIDER THAN 36" PER FBC CHAPTER 24.
4. ALL GLAZING CONFIGURATIONS SHALL COMPLY WITH SAFETY GLAZING REQUIREMENTS OUTLINED IN CURRENT FBC.

INTERCEPT STAINLESS STEEL OR TIN PLATED SPACER: AROUND THE PERIMETER OF THE GLASS

PRIMARY SEALANT: POLYISOBUTYLENE (PIB)

SECONDARY SEALANT: STRUCTURAL SILICONE INTENDED FOR FABRICATION OF INSULATED GLASS UNITS.

YKK AP AMERICA RESIDENTIAL
4234 OCMULGEE BLVD.
MACON, GEORGIA 31217
PH: (866) 348-5091

TITLE: STYLEVIEW NO TRIM PICTURE WINDOW (NON-HVHZ) (NON-IMPACT) INSTALLATION, GENERAL NOTES & GLAZING DETAIL

PREPARED BY: BUILDING DROPS, INC.
358 E. DANIA BEACH BLVD., STE. 338
DANIA BEACH, FL 33004
PH: (954)399-8478
FAX: (954)744.4738
WEB: www.buildingdrops.com

REMARKS	BY	DATE

Digitally signed by Hermes F Norero
Reason: I am approving this document

HERMES F. NORERO, P.E.
FLORIDA P.E. No 73778
BUILDING DROPS, INC
358 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL7829

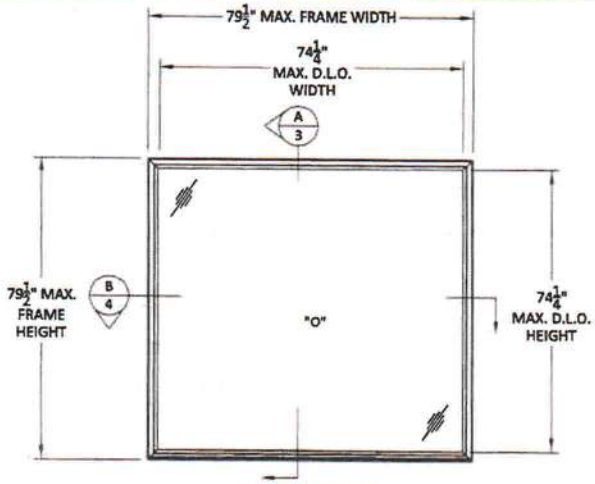
DATE: 02.01.18

DWG. BY: RV | CHK. BY: HFN

SCALE: NTS

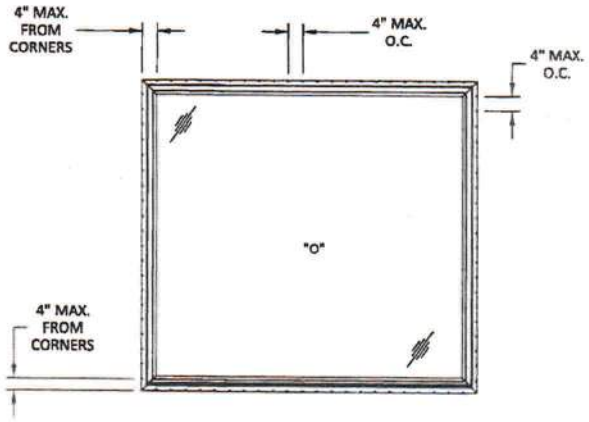
DWG. #: YKK258

SHEET: 1 OF 4



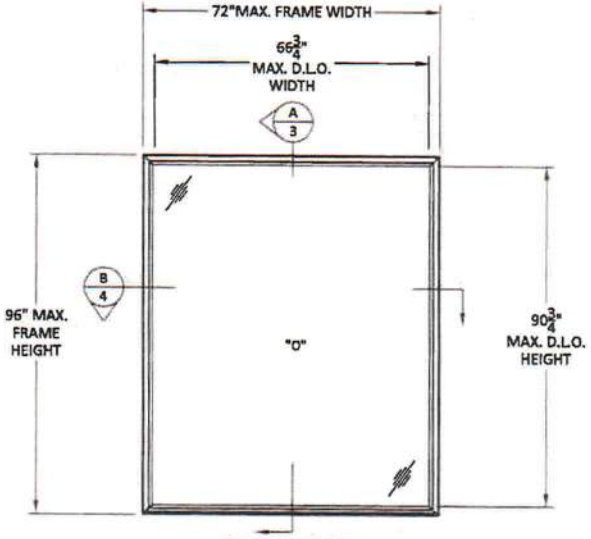
ELEVATION

FIXED WINDOW
DP +50/-50 PSF



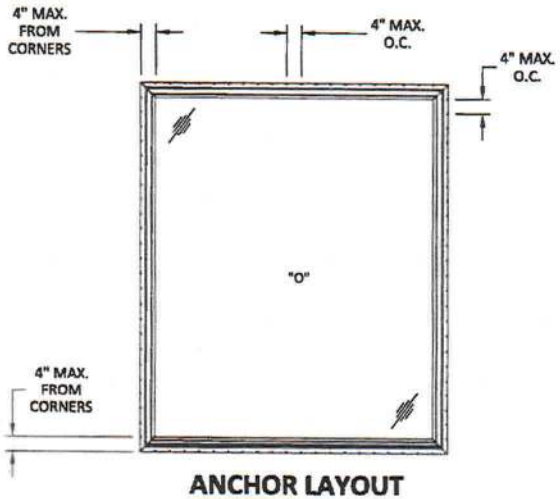
ANCHOR LAYOUT

NAIL FIN - FIXED WINDOW



ELEVATION

FIXED WINDOW
DP +35/-35 PSF



ANCHOR LAYOUT

NAIL FIN - FIXED WINDOW

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4234 OCMULGEE BLVD.
MACON, GEORGIA 31217
PH: (866) 348-9091

TITLE: STYLEVIEW NO TRIM PICTURE WINDOW (NON-HVHZ) (NON-IMPACT)
ELEVATIONS & ANCHOR LAYOUTS

PREPARED BY: BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD, STE. 338
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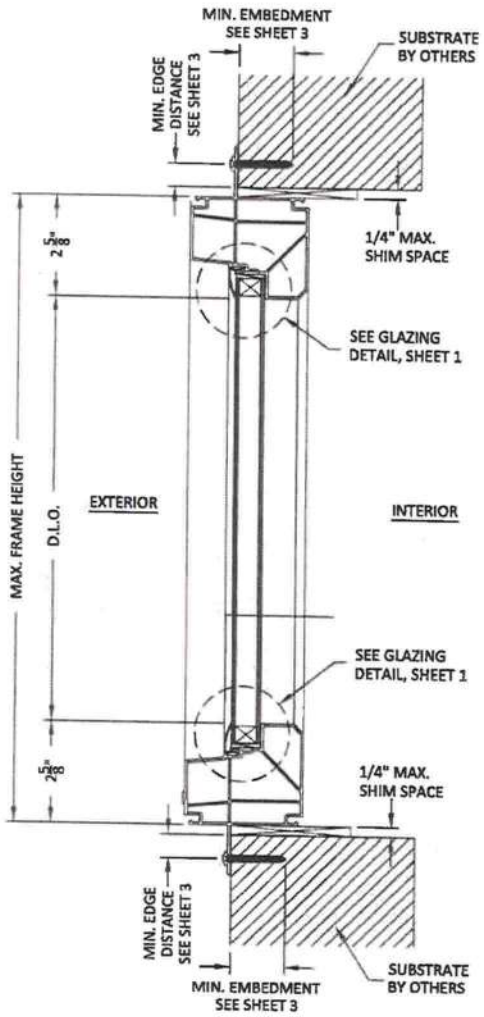
REMARKS	BY	DATE

HERMES F. NORIEGA LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

HERMES F. NORIEGA, P.E.
FLORIDA P.E. No 73778
BUILDING DROPS, INC
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29579

FL #: FL7829
DATE: 02.01.18
DWG. BY: RV
CHK. BY: HFN
SCALE: NTS
DWG. #: YKK258
SHEET: 2 OF 4



A/3 **VERTICAL SECTION**
NAIL FIN

ANCHOR SCHEDULE				
METHOD	SUBSTRATE	ANCHOR SCHEDULE	MIN EMBEDMENT	MIN. EDGE DISTANCE
NAILING FIN	WOOD: MIN. SG = 0.55	#8 WOOD SCREW PAN HEAD	1.5"	0.75"
	METAL: 18 GAUGE Steel, MIN. Fy = 33KSI	#8 TEK SCREW	3 THREADS MIN PENETRATION BEYOND METAL	0.50"

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YKK AP AMERICA RESIDENTIAL
4234 OCMULGEE BLVD.
MACON, GEORGIA 31217
PH: (866) 348-9001

TITLE: STYLEVIEW NO TRIM PICTURE WINDOW (NON-HVHZ) (NON-IMPACT)
VERTICAL SECTION & ANCHOR SCHEDULE

PREPARED BY: BUILDING DROPS, INC.
338 E. DANIA BEACH BLVD., STE. 338
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FAX: (954)744.4738
WEB: www.buildingdrops.com

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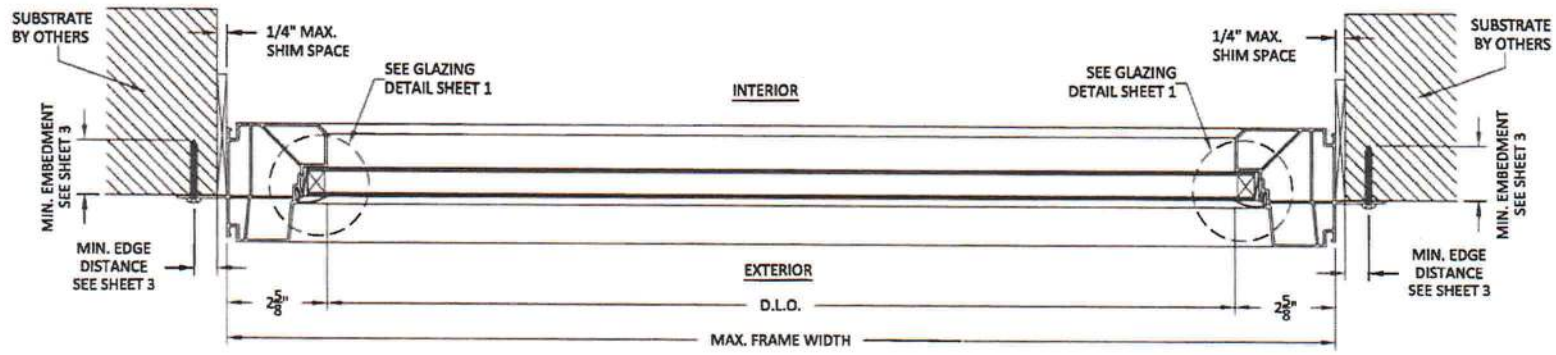
FLORIDA P.E. No 73778
BUILDING DROPS, INC
338 E. DANIA BEACH BLVD., # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL7829
DATE: 02.01.18
DWG. BY: RV
CHK. BY: HFN
SCALE: NTS
DWG. #: YKK258
SHEET: 3 OF 4



B/4 **HORIZONTAL SECTION**

NAIL FIN

YKK AP Quality inspires

YKK AP AMERICA RESIDENTIAL

4234 OGMULGEE BLVD.
MACON, GEORGIA 31217
PH: (866) 348-9091

TITLE: STYLEVIEW NO TRIM PICTURE WINDOW (NON-HVHZ) (NON-IMPACT)
HORIZONTAL SECTION

PREPARED BY: BUILDING DROPS, INC.
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REMARKS	BY	DATE

HERMES F. NORIEGA LICENSE No. 73778 STATE OF FLORIDA PROFESSIONAL ENGINEER

HERMES F. NORIEGA, P.E.
FLORIDA P.E. No. 73778
BUILDING DROPS, INC.
398 E. DANIA BEACH BLVD. # 338
DANIA BEACH, FL 33004
FBPE CERT. OF AUTHORIZATION No. 29578

FL #: FL7829

DATE: 02.01.18

DWG. BY: RV | CHK. BY: HFN

SCALE: NTS

DWG. #: YKK258

SHEET: 4 OF 4

Florida Product Approval

HardiePlank® Lap Siding

- For use inside HVHZ:
    - HardiePlank Lap Siding fastener types, fastening schedule, and installation shall be in accordance with the Miami-Dade County Florida NOA 20-0730.06. Consult the HardiePlank product installation instructions on the follow pages for all other installation requirements.

- For use outside of HVHZ,
    - HardiePlank Lap Siding fastener types, fastening schedule, and installation shall be in accordance with CAE Engineering Reports No.:2001-10.2.1, 2001-10.2.2, 2001-10.2.3. Consult the HardiePlank product installation instructions on the follow pages for all other installation requirements.

HZ10

V. ANDREW TAN LICENSE exp. 2/28/21 No 81662 STATE OF FLORIDA PROFESSIONAL ENGINEER 12/14/20

HardiePlank® Lap Siding

EFFECTIVE DECEMBER 2019

IMPORTANT: FAILURE TO FOLLOW JAMES HARDIE WRITTEN INSTALLATION INSTRUCTIONS AND COMPLY WITH APPLICABLE BUILDING CODES MAY VIOLATE LOCAL LAWS, AFFECT BUILDING ENVELOPE PERFORMANCE AND MAY AFFECT WARRANTY COVERAGE. FAILURE TO COMPLY WITH ALL HEALTH AND SAFETY REGULATIONS WHEN CUTTING AND INSTALLING THIS PRODUCT MAY RESULT IN PERSONAL INJURY. BEFORE INSTALLATION, CONFIRM YOU ARE USING THE CORRECT HARDIEZONE® PRODUCT INSTRUCTIONS BY VISITING HARDIEZONE.COM OR CALL 1-866-942-7343 (866-9-HARDIE)

STORAGE & HANDLING:

Store flat and keep dry and covered prior to installation. Installing siding wet or saturated may result in shrinkage at butt joints. Carry planks on edge. Protect edges and corners from breakage. James Hardie is not responsible for damage caused by improper storage and handling of the product.

⚠ CUTTING INSTRUCTIONS

OUTDOORS

1. Position cutting station so that airflow blows dust away from the user and others near the cutting area.
2. Cut using one of the following methods:
   a. Best: Circular saw equipped with a HardieBlade® saw blade and attached vacuum dust collection system. Shears (manual, pneumatic or electric) may also be used, not recommended for products thicker than 7/16 in.
   b. Better: Circular saw equipped with a dust collection feature (e.g. Roan® saw) and a HardieBlade saw blade.
   c. Good: Circular saw equipped with a HardieBlade saw blade.

INDOORS

DO NOT grind or cut with a power saw indoors. Cut using shears (manual, pneumatic or electric) or the score and snap method, not recommended for products thicker than 7/16 in.

- DO NOT dry sweep dust; use wet dust suppression or vacuum to collect dust.
- For maximum dust reduction, James Hardie recommends using the "Best" cutting practices. Always follow the equipment manufacturer's instructions for proper operation.
- For best performance when cutting with a circular saw, James Hardie recommends using HardieBlade® saw blades.
- Go to jameshardiepros.com for additional cutting and dust control recommendations.

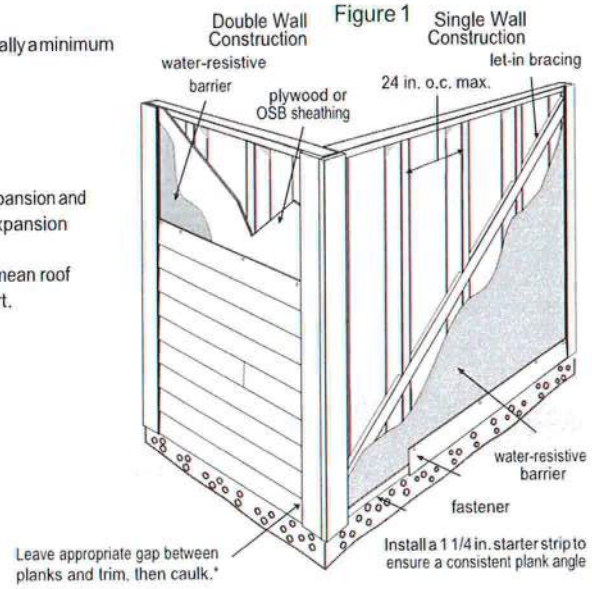
IMPORTANT: The Occupational Safety and Health Administration (OSHA) regulates workplace exposure to silica dust. For construction sites, OSHA has deemed that cutting fiber cement with a circular saw having a blade diameter less than 8 inches and connected to a commercially available dust collection system per manufacturer's instructions results in exposures below the OSHA Permissible Exposure Limit (PEL) for respirable crystalline silica, without the need for additional respiratory protection.

If you are unsure about how to comply with OSHA silica dust regulations, consult a qualified industrial hygienist or safety professional, or contact your James Hardie technical sales representative for assistance. James Hardie makes no representation or warranty that adopting a particular cutting practice will assure your compliance with OSHA rules or other applicable laws and safety requirements.

GENERAL REQUIREMENTS:

- HardiePlank® lap siding can be installed over braced wood or steel studs, 20 gauge (33 mils) minimum to 16 gauge (54 mils) maximum, spaced a maximum of 24 in o.c. or directly to minimum 7/16 in thick OSB sheathing. See General Fastening Requirements. Irregularities in framing and sheathing can mirror through the finished application. Correct irregularities before installing siding.
- Information on installing James Hardie products over non-nailable substrates (ex: gypsum, foam, etc.) can be located in JH Tech Bulletin 19 at www.jamehardie.com
- A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements. James Hardie will assume no responsibility for water infiltration. James Hardie does manufacture HardieWrap® Weather Barrier, a non-woven non-perforated housewrap[1], which complies with building code requirements.
- When installing James Hardie products all clearance details in figs. 3-14 must be followed.
- Adjacent finished grade must slope away from the building in accordance with local building codes - typically a minimum of 6 in. in the first 10 ft..
- Do not use HardiePlank lap siding in Fascia or Trim applications.
- Do not install James Hardie products, such that they may remain in contact with standing water.
- HardiePlank lap siding may be installed on flat vertical wall applications only.
- For larger projects, including commercial and multi-family projects, where the span of the wall is significant in length, the designer and/or architect should take into consideration the coefficient of thermal expansion and moisture movement of the product in their design. These values can be found in the Technical Bulletin "Expansion Characteristics of James Hardie® Siding Products" at www.jameshardie.com.
- James Hardie Building Products provides installation/wind load information for buildings with a maximum mean roof height of 85 feet. For information on installations above 60 feet, please contact JH technical support.

Figure 1



INSTALLATION: JOINT TREATMENT

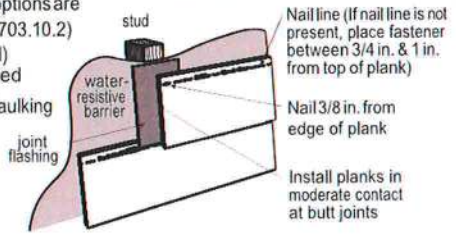
One or more of the following joint treatment options are required by code (as referenced 2018 IRC R703.10.2)

A. Joint Flashing (James Hardie recommended)

B. Caulking* (Caulking is not recommended for ColorPlus for aesthetic reasons as the Caulking and ColorPlus will weather differently. For the same reason, do not caulk nail heads on ColorPlus products.)

C. "H" jointer cover

Figure 2



Note: Field painting over caulking may produce a sheen difference when compared to the field painted PrimePlus. *Refer to Caulking section in these instructions.

[1]For additional information on HardieWrap® Weather Barrier, consult James Hardie at 1-866-4Hardie or www.hardiewrap.com

JamesHardie

SELECT CEDARMILL® | SMOOTH | BEADED CEDARMILL® | BEADED SMOOTH | CUSTOM COLONIAL SMOOTH® | CUSTOM COLONIAL™ ROUGHSAWN

CLEARANCE AND FLASHING REQUIREMENTS

Figure 3
Roof to Wall

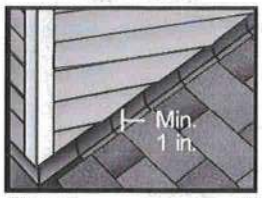


Figure 4
Horizontal Flashing

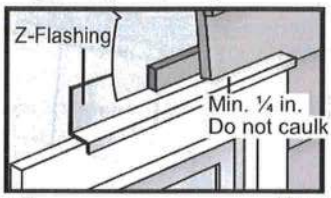


Figure 5
Kickout Flashing

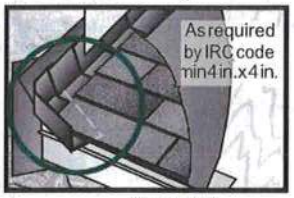


Figure 6
Slabs, Path, Steps to Siding

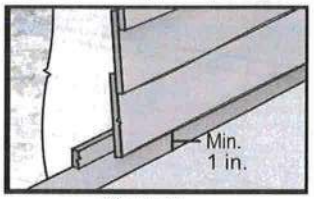


Figure 7
Deck to Wall

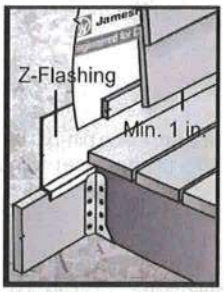


Figure 8
Ground to Siding

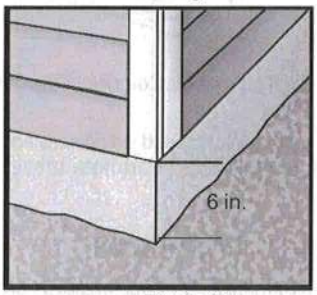


Figure 9
Gutter to Siding

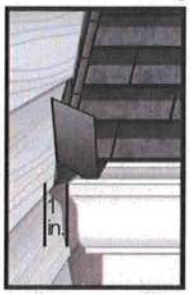


Figure 10
Sheltered Areas

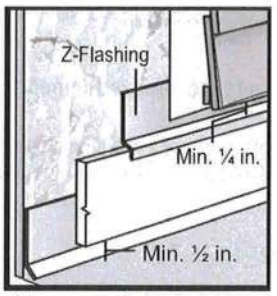


Figure 11
Mortar/Masonry

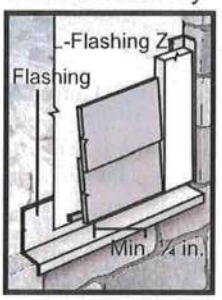


Figure 12
Drip Edge

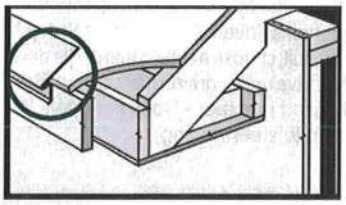


Figure 13
Block Penetration
(Recommended in HZ10)

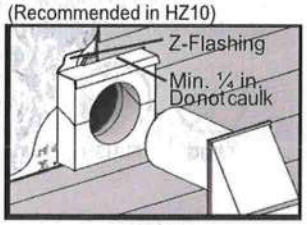
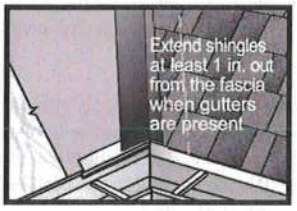


Figure 14
Valley/Shingle Extension



FASTENER REQUIREMENTS*

Refer to the applicable ESR report online to determine which fastener meets your wind load design criteria.

Blind Nailing is the preferred method of installation for HardiePlank® lap siding products. Face nailing should only be used where required by code for high wind areas and must not be used in conjunction with Blind nailing (Please see JH Tech bulletin 17 for exemption when doing a repair).

BLIND NAILING

Nails - Wood Framing
- Siding nail (0.09 in. shank x 0.221 in. HD x 2 in. long)
- 11ga. roofing nail (0.121 in. shank x 0.371 in. HD x 1.25 in. long)

Screws - Steel Framing
- Ribbed Wafer-head or equivalent (No. 8 x 1 1/4 in. long x 0.375 in. HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing
- ET & F Panelfast® nails or equivalent (0.10 in. shank x 0.313 in. HD x 1-1/2 in. long) Nails must penetrate minimum 1/4 in. into metal framing.

OSB minimum 7/16 in.
- Siding nail (0.09 in. shank x 0.215 in. HD x 1-1/2 in. long
- Ribbed Wafer-head or equivalent (No. 8 x 1 5/8 in. long x 0.375 in. HD).

FACE NAILING

Nails - Wood Framing
- 6d (0.113 in. shank x 0.267 in. HD x 2 in. long)
- Siding nail (0.09" shank x 0.221" HD x 2" long)

Screws - Steel Framing
- Ribbed Bugle-head or equivalent (No. 8-18 x 1-5/8 in. long x 0.323 in. HD) Screws must penetrate 3 threads into metal framing.

Nails - Steel Framing
- ET & F pin or equivalent (0.10 in. shank x 0.25 in. HD x 1-1/2 in. long) Nails must penetrate minimum 1/4 in. into metal framing.

OSB minimum 7/16 in.
- Siding nail (0.09 in. shank x 0.221 in. HD x 1-1/2 in. long)

*Also see General Fastening Requirements; and when considering alternative fastening options refer to James Hardie's Technical Bulletin USTB 5 - Fastening Tips for HardiePlank Lap Siding.

FASTENER REQUIREMENTS continued

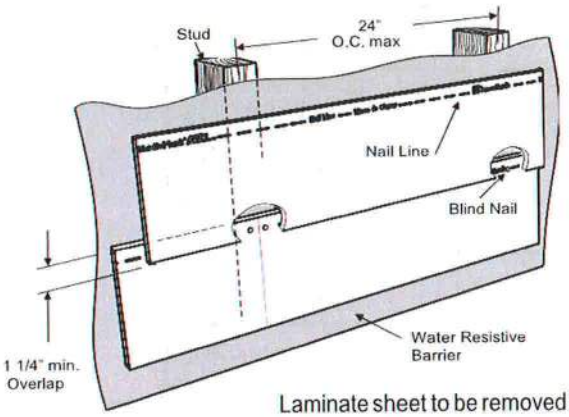


Figure 15

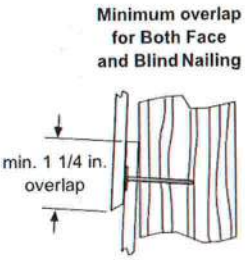
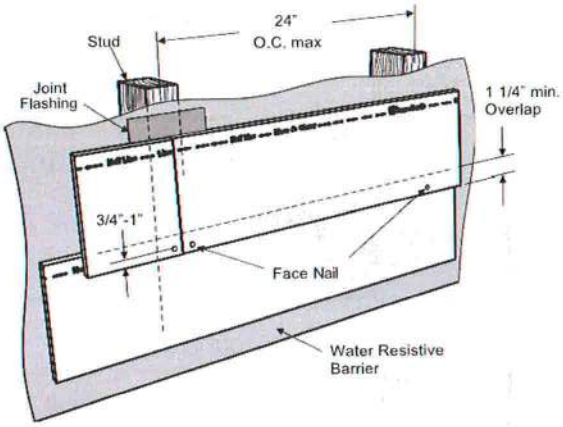


Figure 16



Laminate sheet to be removed immediately after installation of each course for ColorPlus® products.

Pin-backed corners may be done for aesthetic purposes only. Finish nails are recommended for pin-backs. Headed siding nails are allowed. Place pin-backs no closer than 1 in. from plank ends and 3/4 in. from plank edge into min. 3/8 in. wood structural panel. Pin-backs are not a substitute for blind or face nailing.

GENERAL FASTENING REQUIREMENTS

Fasteners must be corrosion resistant, galvanized, or stainless steel. Electro-galvanized are acceptable but may exhibit premature corrosion. James Hardie recommends the use of quality, hot-dipped galvanized nails. James Hardie is not responsible for the corrosion resistance of fasteners. Stainless steel fasteners are recommended when installing James Hardie® products near the ocean, large bodies of water, or in very humid climates.

Manufacturers of ACQ and CA preservative-treated wood recommend spacer materials or other physical barriers to prevent direct contact of ACQ or CA preservative-treated wood and aluminum products. Fasteners used to attach HardieTrim Tabs to preservative-treated wood shall be of hot dipped zinc-coated galvanized steel or stainless steel and in accordance to 2018 IRC R317.3 or 2018 IBC 2304.10.5.

- Consult applicable product evaluation or listing for correct fasteners type and placement to achieve specified design wind loads.
- NOTE: Published wind loads may not be applicable to all areas where Local Building Codes have specific jurisdiction. Consult James Hardie Technical Services if you are unsure of applicable compliance documentation.
- Drive fasteners perpendicular to siding and framing.
- Fastener heads should fit snug against siding (no air space).
- NOTE: Whenever a structural member is present, HardiePlank should be fastened with even spacing to the structural member. The tables allowing direct to OSB or plywood should only be used when traditional framing is not available.

CUT EDGE TREATMENT

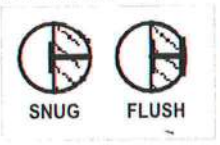
Caulk, paint or prime all field cut edges. James Hardie touch-up kits are required to touch-up ColorPlus products.

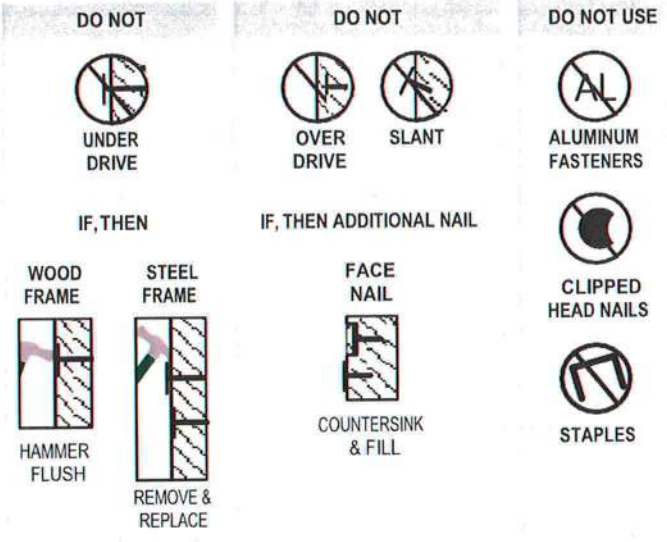
CAULKING

For best results use an Elastomeric Joint Sealant complying with ASTM C920 Grade NS, Class 25 or higher or a Latex Joint Sealant complying with ASTM C834. Caulking/Sealant must be applied in accordance with the caulking/sealant manufacturer's written instructions. Note: some caulking manufacturers do not allow "tooling".

PNEUMATIC FASTENING

James Hardie products can be hand nailed or fastened with a pneumatic tool. Pneumatic fastening is highly recommended. Set air pressure so that the fastener is driven snug with the surface of the siding. A flush mount attachment on the pneumatic tool is recommended. This will help control the depth the nail is driven. If setting the nail depth proves difficult, choose a setting that under drives the nail. (Drive under driven nails snug with a smooth faced hammer - Does not apply for installation to steel framing).





PAINTING

DO NOT use stain, oil/alkyd base paint, or powder coating on James Hardie® Products. Factory-primed James Hardie products must be painted within 180 days of installation. 100% acrylic topcoats are recommended. Do not paint when wet. For application rates refer to paint manufacturers specifications. Back-rolling is recommended if the siding is sprayed.

COLORPLUS® TECHNOLOGY CAULKING, TOUCH-UP & LAMINATE

- Care should be taken when handling and cutting James Hardie® ColorPlus® products. During installation use a wet soft cloth or soft brush to gently wipe off any residue or construction dust left on the product, then rinse with a garden hose.
- Touch up nicks, scrapes and nail heads using the ColorPlus® Technology touch-up applicator. Touch-up should be used sparingly. If large areas require touch-up, replace the damaged area with new HardiePlank® lap siding with ColorPlus® Technology.
- Laminate sheet must be removed immediately after installation of each course.
- Terminate non-factory cut edges into trim where possible, and caulk. Color matched caulks are available from your ColorPlus® product dealer.
- Treat all other non-factory cut edges using the ColorPlus Technology edge coaters, available from your ColorPlus product dealer.

Note: James Hardie does not warrant the usage of third party touch-up or paints used as touch-up on James Hardie ColorPlus products.

Problems with appearance or performance arising from use of third party touch-up paints or paints used as touch-up that are not James Hardie touch-up will not be covered under the James Hardie ColorPlus Limited Finish Warranty.

PAINTING JAMES HARDIE® SIDING AND TRIM PRODUCTS WITH COLORPLUS® TECHNOLOGY

When repainting ColorPlus products, James Hardie recommends the following regarding surface preparation and topcoat application:

- Ensure the surface is clean, dry, and free of any dust, dirt, or mildew
- Repriming is normally not necessary
- 100% acrylic topcoats are recommended
- DO NOT use stain, oil/alkyd base paint, or powder coating on James Hardie® Products.
- Apply finish coat in accordance with paint manufacturers written instructions regarding coverage, application methods, and application temperature
- DO NOT caulk nail heads when using ColorPlus products, refer to the ColorPlus touch-up section

COVERAGE CHART/ESTIMATING GUIDE

Number of 12 ft. planks, does not include waste

COVERAGE AREA LESS OPENINGS SQ (1 SQ = 100 sq.ft.)		HARDIEPLANK® LAP SIDING WIDTH								
	(exposure)	5 1/4 4	6 1/4 5	7 1/4 6	7 1/2 6 1/4	8 6 3/4	8 1/4 7	9 1/4 8	9 1/2 8 1/4	12 10 3/4
1		25	20	17	16	15	14	13	13	9
2		50	40	33	32	30	29	25	25	19
3		75	60	50	48	44	43	38	38	28
4		100	80	67	64	59	57	50	50	37
5		125	100	83	80	74	71	63	63	47
6		150	120	100	96	89	86	75	75	56
7		175	140	117	112	104	100	88	88	65
8		200	160	133	128	119	114	100	100	74
9		225	180	150	144	133	129	113	113	84
10		250	200	167	160	148	143	125	125	93
11		275	220	183	176	163	157	138	138	102
12		300	240	200	192	178	171	150	150	112
13		325	260	217	208	193	186	163	163	121
14		350	280	233	224	207	200	175	175	130
15		375	300	250	240	222	214	188	188	140
16		400	320	267	256	237	229	200	200	149
17		425	340	283	272	252	243	213	213	158
18		450	360	300	288	267	257	225	225	167
19		475	380	317	304	281	271	238	238	177
20		500	400	333	320	296	286	250	250	186

This coverage chart is meant as a guide. Actual usage is subject to variables such as building design. James Hardie does not assume responsibility for over or under ordering of product.

HS11119 P4/4 12/19

DANGER: May cause cancer if dust from product is inhaled. Causes damage to lungs and respiratory system through prolonged or repeated inhalation of dust from product. Refer to the current product Safety Data Sheet before use. The hazard associated with fiber cement arises from crystalline silica present in the dust generated by activities such as cutting, machining, drilling, routing, sawing, crushing, or otherwise abrading fiber cement, and when cleaning up, disposing of or moving the dust. When doing any of these activities in a manner that generates dust you must (1) comply with the OSHA standard for silica dust and/or other applicable law, (2) follow James Hardie cutting instructions to reduce or limit the release of dust; (3) warn others in the area to avoid breathing the dust; (4) when using mechanical saw or high speed cutting tools, work outdoors and use dust collection equipment; and (5) if no other dust controls are available, wear a dust mask or respirator that meets NIOSH requirements (e.g. N-95 dust mask). During clean-up, use a well maintained vacuum and filter appropriate for capturing fine (respirable) dust or use wet clean-up methods - never dry sweep.

WARNING: This product can expose you to chemicals including respirable crystalline silica, which is known to the State of California to cause cancer. For more information go to P65Warnings.ca.gov.

RECOGNITION: In accordance with ICC-ES Evaluation Report ESR-2290, HardiePlank® lap siding is recognized as a suitable alternate to that specified in the 2006, 2009, 2012 & 2015 International Residential Code for One and Two-Family Dwellings, and the 2006, 2009, 2012 & 2015 International Building Code. HardiePlank lap siding is also recognized for application in the following: City of Los Angeles Research Report No. 24862, State of Florida Product Approval FL#13192, Miami-Dade County Florida NOA No. 17-0406.06, U.S. Dept. of HUD Materials Release 1263f, Texas Department of Insurance Product Evaluation EC-23, City of New York MEA 223-93-M, and California DSA PA-019. These documents should also be consulted for additional information concerning the suitability of this product for specific applications.

Product warranties, safety information and additional installation information are available at jameshardiepros.com

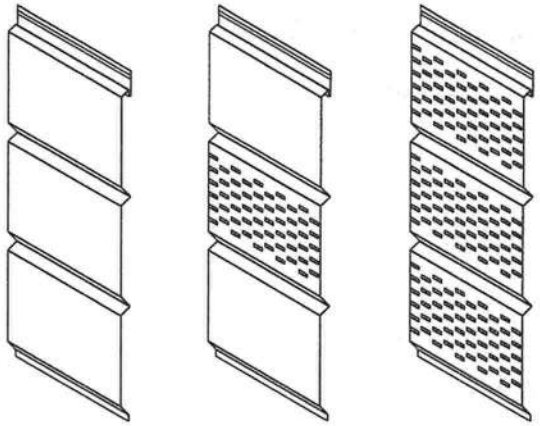
JamesHardie™

AMERICAN CONSTRUCTION METALS

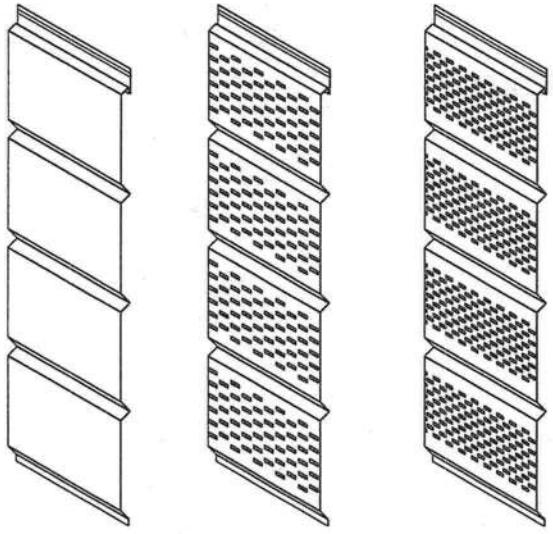
6938 N US Highway 41, Apollo Beach, FL 33572

"TRIPLE 4" & "QUAD 4"

ALUMINUM "V - GROOVE" SOFFIT



TRIPLE 4 (T4)
T-4-012 (.0115" THICK)
T-4-014 (.0135" THICK)



QUAD 4 (Q4)
Q-4-012 (.0115" THICK)
Q-4-014 (.0135" THICK)

GENERAL NOTES

1. This product has been evaluated and is in compliance with the 7th Edition (2020) Florida Building Code excluding the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. Site conditions not covered by this drawing are subject to further engineering analysis.
4. Wood/CMU wall construction, by others, must be designed properly to receive loads from the soffit and/or 2" x 2" batten strips.
5. Aluminum soffits shall conform to the specification and labelling requirements of FBC Section 1709.10.

TABLE OF CONTENTS	
SHEET #	DESCRIPTION
1	Typical elevations & general notes
2	Panel details
3	Soffit details & design pressures
4	Soffit details & design pressures
5	Soffit details, design pressures & bill of materials

L.F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER
10.6.20

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

R.W. BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

NO.	DATE	REVISIONS	BY
7	10/01/20	UPDATE TO 7TH ED. (2020) FBC	LFS
6	03/19/20	ADD ALTERNATE "F" CHANNEL	LFS
5	01/01/09	UPDATE TO 6TH ED. (2017) FBC	LFS
4	03/02/15	UPDATE TO 5TH ED. (2014) FBC	JK
3	12/13/11	UPDATE FOR 2010 FBC	LFS

PRODUCT: ALUMINUM SOFFIT
PART OR ASSEMBLY: TYPICAL ELEVATIONS & GENERAL NOTES

DATE: 01/01/09
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-12019.1
SHEET 1 OF 5

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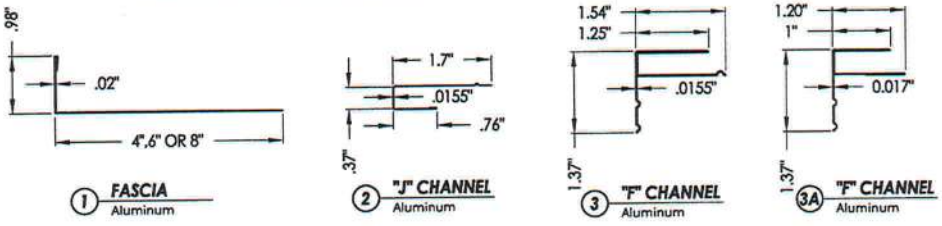
SOFFIT AIR FLOW TABLE

SOFFIT TYPE		AIR FLOW			SOFFIT TYPE		AIR FLOW		
		FREE FLOW AREA (in^2/ft^2)	FREE FLOW AREA (in^2/linear ft)	% FREE FLOW AREA			FREE FLOW AREA (in^2/ft^2)	FREE FLOW AREA (in^2/linear ft)	% FREE FLOW AREA
TRIPLE 4	CENTER VENT NARROW PATTERN	3.91	3.91*	2.71 %	QUAD 4				
	FULL VENT NARROW PATTERN	11.74	11.74*	8.15 %		FULL VENT NARROW PATTERN	11.74	15.61*	8.15 %
	FULL VENT WIDE PATTERN	3.69	3.69*	2.56 %		FULL VENT WIDE PATTERN	3.69	4.91*	2.56 %

* FREE FLOW AREA IS PER LINEAR FOOT OF OVERHANG (SPAN "A" ON SHEETS 3, 4 & 5) PER PANEL (12" TRIPLE 4 PANEL OR 16" QUAD 4 PANEL)

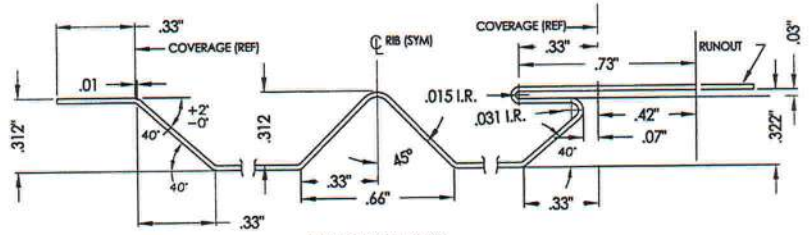


① **FASCIA** Aluminum

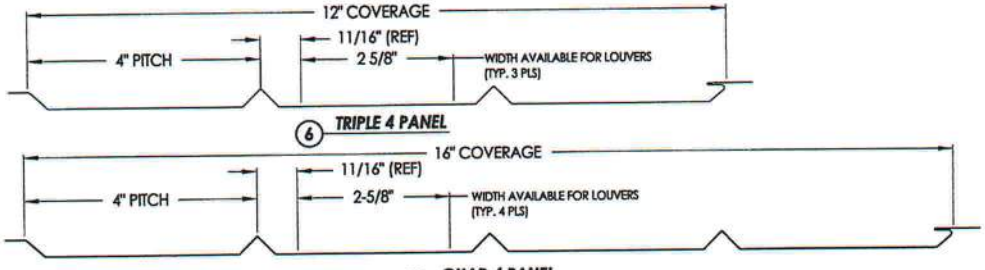
② **"J" CHANNEL** Aluminum

③ **"F" CHANNEL** Aluminum

③A **"F" CHANNEL** Aluminum

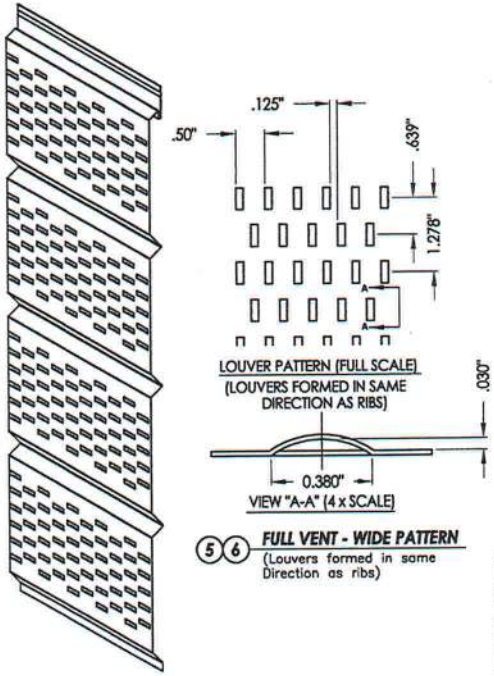


RIB AND END DETAILS

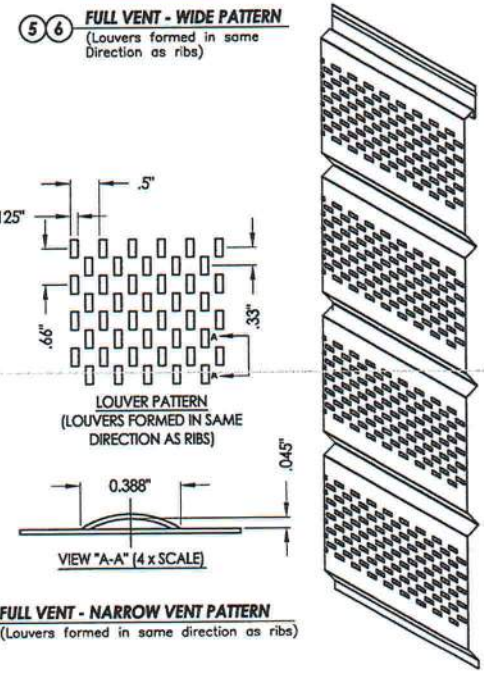


⑥ **TRIPLE 4 PANEL**

⑤ **QUAD 4 PANEL**



⑤⑥ **FULL VENT - WIDE PATTERN** (Louvers formed in same Direction as ribs)



⑤⑥ **FULL VENT - NARROW VENT PATTERN** (Louvers formed in same direction as ribs)

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10.6.20

Documents Prepared By:
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BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

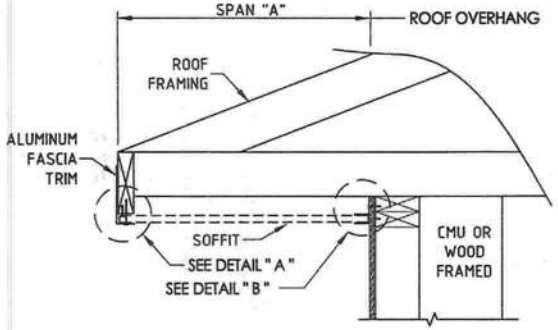
NO	DATE	REVISIONS	BY
7	10/01/20	UPDATE TO 7TH ED. (2020) FBC	LFS
6	03/19/20	ADD ALTERNATE "F" CHANNEL	LFS
5	01/01/09	UPDATE TO 6TH ED. (2017) FBC	LFS
4	03/02/15	UPDATE TO 5TH ED. (2014) FBC	JK
3	12/13/11	UPDATE FOR 2010 FBC	LFS

PRODUCT: ALUMINUM SOFFIT

PART OR ASSEMBLY: PANEL DETAILS

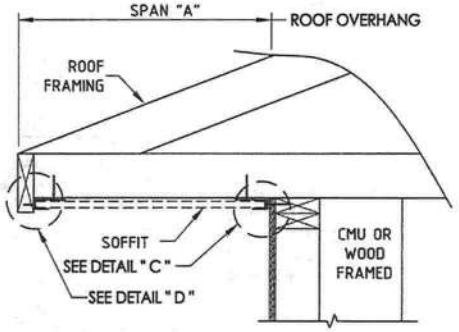
DATE: 01/01/09
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-12019.1
SHEET 2 OF 5

R:\Clients\American Construction Metals PERMANENT\A - Florida Product Approvals\FL-12019\C - Drawings\FL-12019 (2020)\FL-12019.1.dwg, 1-2



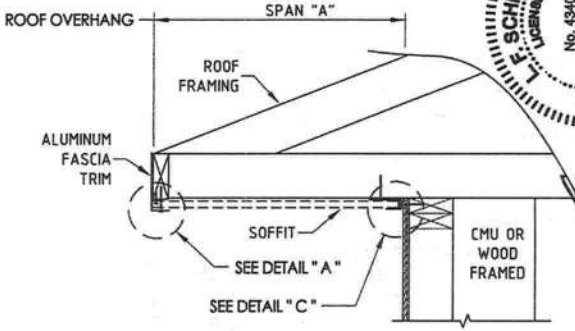
SIDE VIEW - SINGLE SPAN w/F-CHANNEL

(Shown w/ truss/framing cantilever)



SIDE VIEW - SINGLE SPAN w/J-CHANNELS

(Shown w/ truss/framing cantilever)

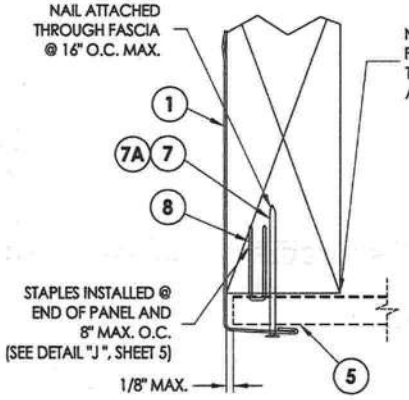


SIDE VIEW - SINGLE SPAN w/J-CHANNEL

(Shown w/ truss/framing cantilever)

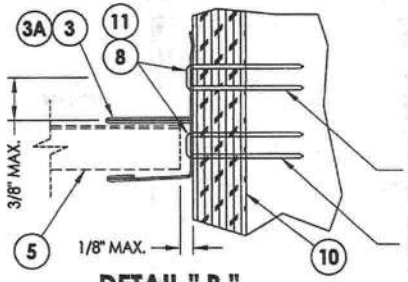
SINGLE SPAN LENGTH "A"	DESIGN PRESSURE (PSF)	
	POSITIVE	NEGATIVE
8"	+70.0	-141.0
10"	+60.0	-60.0
12"	+50.0	-50.0
14"	+38.5	-38.5
16"	+30.0	-30.0

NOTE: WOOD FRAMING AND CONNECTIONS TO BE DESIGNED BY THE ARCHITECT OR ENGINEER OF RECORD



DETAIL " A "

Fascia

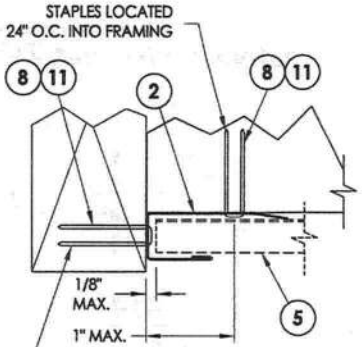


STAPLES INSTALLED @ 24" O.C. (INTO WOOD) ON F-CHANNEL LEG OR T-NAIL @ 12" O.C. (INTO WOOD OR MASONRY)

STAPLES INSTALLED @ 12" O.C. (INTO WOOD) IN F-CHANNEL SLOT OR T-NAIL @ 12" O.C. (INTO WOOD OR MASONRY)

DETAIL " B "

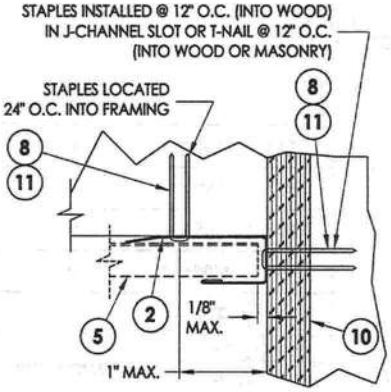
F-Channel



STAPLES INSTALLED @ 12" O.C. (INTO WOOD) IN J-CHANNEL SLOT OR T-NAIL @ 12" O.C.

DETAIL " D "

J-Channel
Fascia



DETAIL " C "

J-Channel

SUBSTRATE NOTES:
1. WOOD SUBSTRATE: G = 0.42 OR BETTER
2. MASONRY SUBSTRATE: 3,000 PSI CONCRETE (ACI 301) OR HOLLOW BLOCK (ASTM C90).

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

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P.O. Box 230, Valrico, FL 33595
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FBPE Registry No. 9813

LYNDON F. SCHMIDT — No. 43409 — STATE OF FLORIDA — PROFESSIONAL ENGINEER

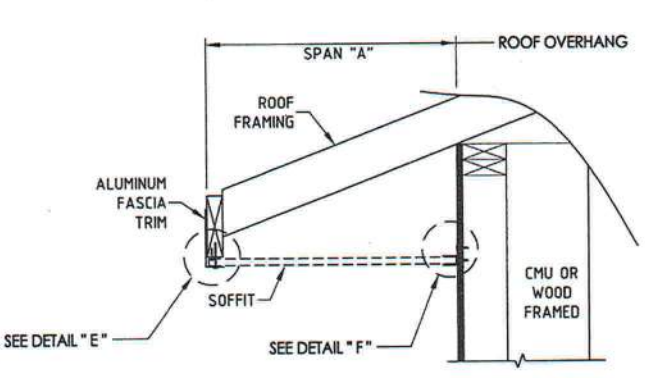
PRODUCT: ALUMINUM SOFFIT

PART OR ASSEMBLY: SOFFIT DETAILS & DESIGN PRESSURES

NO	DATE	REVISIONS	BY
7	10/01/20	UPDATE TO 7TH ED. (2020) FBC	LFS
6	03/19/20	ADD ALTERNATE "F" CHANNEL	LFS
5	01/01/09	UPDATE TO 6TH ED. (2017) FBC	LFS
4	03/02/15	UPDATE TO 5TH ED. (2014) FBC	JK
3	12/13/11	UPDATE FOR 2010 FBC	LFS

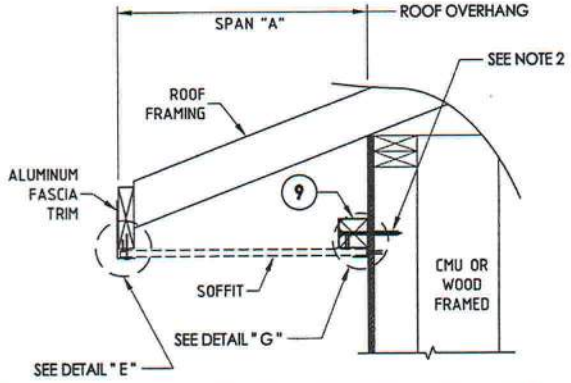
DATE: 1/9/09
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-12019.1
SHEET 3 OF 5

R:\Clients\American Construction Metals PERMANENTA - Florida Product Approvals\FL-12019\C - Drawings\FL-12019 (2020)\FL-12019.1.dwg, 1-3



SIDE VIEW - SINGLE SPAN w/F-CHANNEL

(Shown w/ truss/framing overhang)

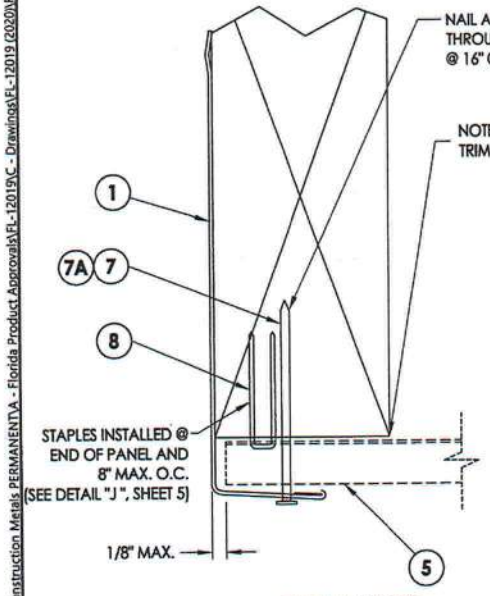


SIDE VIEW - SINGLE SPAN w/J-CHANNEL

(Shown w/ truss/framing overhang)

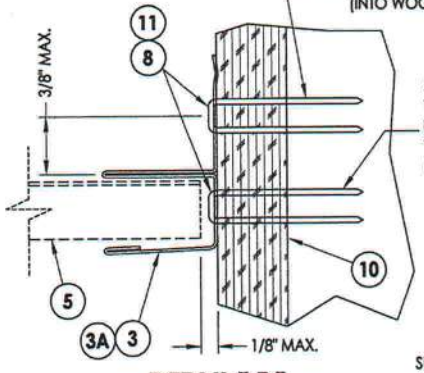
CONNECTOR NOTES:
1. WOOD FRAMING AND CONNECTIONS TO BE DESIGNED BY THE ARCHITECT OR ENGINEER OF RECORD
2. 12d COMMON NAIL OR 3/16" ITW TAPCON CONCRETE SCREW (MIN. 1-1/4" EMBEDMENT) @ 24" ON CENTER

SINGLE SPAN LENGTH "A"	DESIGN PRESSURE (PSF)	
	POSITIVE	NEGATIVE
8"	+70.0	-141.0
10"	+60.0	-60.0
12"	+50.0	-50.0
14"	+38.5	-38.5
16"	+30.0	-30.0



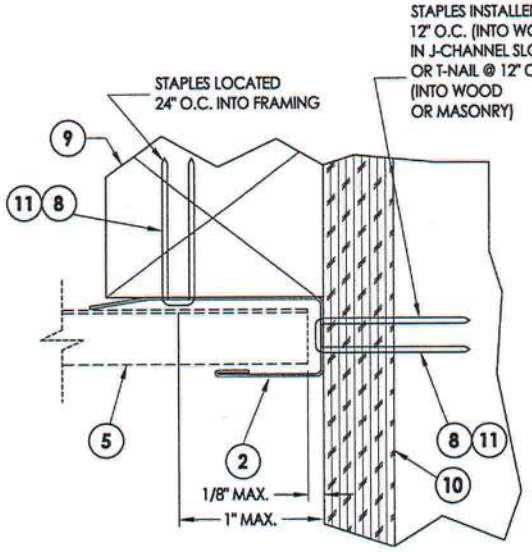
DETAIL " E "

Fascia



DETAIL " F "

F-Channel



DETAIL " G "

J-Channel

SUBSTRATE NOTES:
1. WOOD SUBSTRATE: G = 0.42 OR BETTER
2. MASONRY SUBSTRATE: 3,000 PSI CONCRETE (ACI 301) OR HOLLOW BLOCK (ASTM C90).

STATE OF FLORIDA PROFESSIONAL ENGINEER
L.F. SCHMIDT LICENSE No. 43409

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

R.W. BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: ALUMINUM SOFFIT

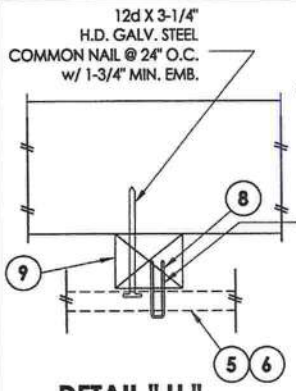
PART OR ASSEMBLY: SOFFIT DETAILS & DESIGN PRESSURES

NO.	DATE	REVISIONS	BY
7	10/01/20	UPDATE TO 7TH ED. (2020) FBC	LFS
6	03/19/20	ADD ALTERNATE "F" CHANNEL	LFS
5	01/01/09	UPDATE TO 6TH ED. (2017) FBC	LFS
4	03/02/15	UPDATE TO 5TH ED. (2014) FBC	JK
3	12/13/11	UPDATE FOR 2010 FBC	LFS

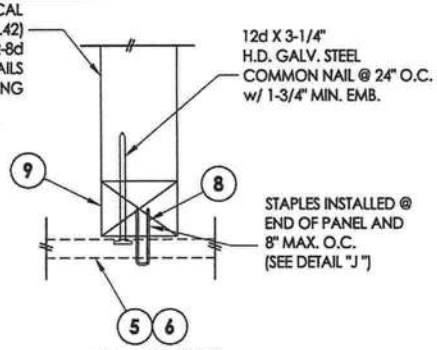
DATE: 1/9/09
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-12019.1
SHEET 4 OF 5

R:\Clients\American Construction Metals PERMANENTA - Florida Product Approvals\FL-12019\C - Drawings\FL-12019.1.dwg, 1-4

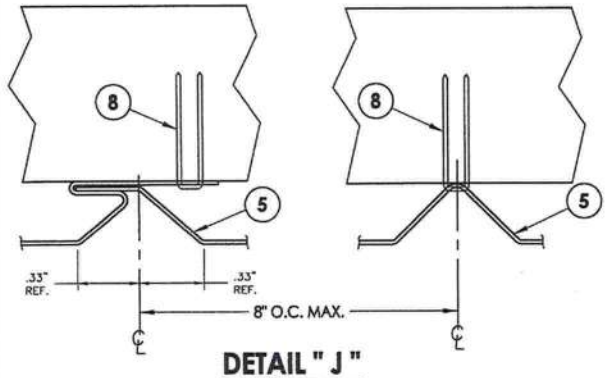
ITEM	DESCRIPTION	MATERIAL
1	FASCIA (0.0215" THK.) ALUM. 3105 - H14	ALUMINUM
2	"J" CHANNEL (0.0155" THK.) ALUM. 3105 - H24	ALUMINUM
3	"F" CHANNEL (0.0155" THK.) ALUM. 3104 - H19	ALUMINUM
3A	"F" CHANNEL (0.0170" THK.) ALUM. 3104 - H19	ALUMINUM
5	QUAD 4 PANEL (0.0115" OR 0.0135" THICK) ALUM. 3105	ALUMINUM
6	TRIPLE 4 PANEL (0.0115" OR 0.0135" THICK) ALUM. 3105	ALUMINUM
7	#15 x 1-3/4" TRIM NAIL	S.S.
7A	14GA. X 1-1/2" LONG FINISHING NAIL w/ 3/16" DIA. HEAD	S.S.
8	18" GA. X 1/4" SS STAPLE (w/ 7/8" MIN. EMBEDMENT)	STEEL
9	2" X 2" BATTEN STRIP (G=0.42 OR BETTER)	WOOD
10	APA B-C GROUP 1 EXT. 15/32" PLYWOOD OR BETTER	WOOD
11	0.097" DIA. T-NAIL (w/ 5/8" MIN. EMBEDMENT)	STEEL



DETAIL " H "



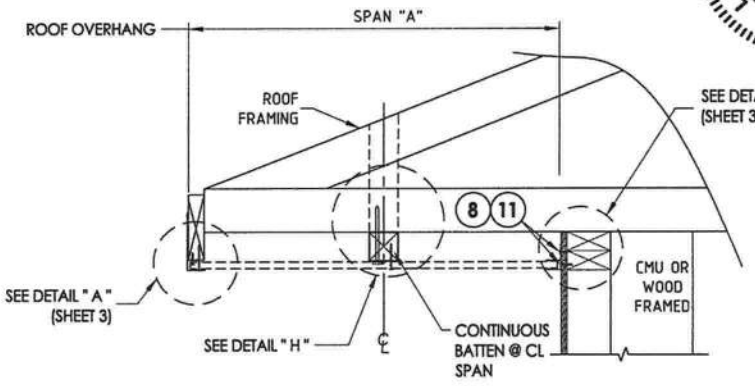
DETAIL " I "



DETAIL " J "

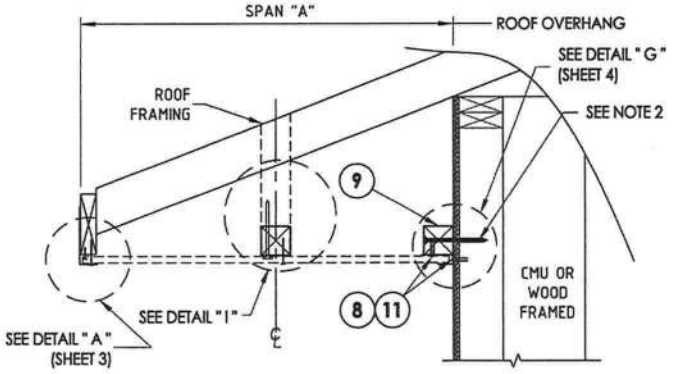
TWIN SPAN LENGTH w/CONTINUOUS BATTEN "A"	DESIGN PRESSURE (PSF)	
	POSITIVE	NEGATIVE
16"	+70.0	-70.0
18"	+66.5	-66.5
20"	+60.0	-60.0
22"	+54.5	-54.5
24"	+50.0	-50.0

CONNECTOR NOTES:
1. WOOD FRAMING AND CONNECTIONS TO BE DESIGNED BY THE ARCHITECT OR ENGINEER OF RECORD
2. 12d COMMON NAIL OR 3/16" ITW TAPCON CONCRETE SCREW (MIN. 1-1/4" EMBEDMENT) @ 24" ON CENTER



SIDE VIEW - DOUBLE SPAN w/BATTEN

(Shown w/ truss/framing cantilever)



SIDE VIEW - DOUBLE SPAN w/BATTEN

(Shown w/ truss/framing overhang)

SUBSTRATE NOTES:
1. WOOD SUBSTRATE: G = 0.42 OR BETTER
2. MASONRY SUBSTRATE: 3,000 PSI CONCRETE (ACI 301) OR HOLLOW BLOCK (ASTM C90).

STATE OF FLORIDA PROFESSIONAL ENGINEER
LYNDON F. SCHMIDT LICENSE No. 43409

Documents Prepared By:
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PRODUCT: ALUMINUM SOFFIT

PART OR ASSEMBLY: SOFFIT DETAILS, DESIGN PRESSURES & BILL OF MATERIALS

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SHEET 5 OF 5

R:\Clients\American Construction Metals PERMANENTLA - Florida Product Approvals\FL-12019\C - Drawings\FL-12019 (2020)\FL-12019.1.dwg, 1-5

UL Evaluation Report

UL ER2919-01

Issued: May 21, 2013

Revised: November 18, 2020

Visit UL, LLC's Product iQ™ database for the status of this Report.

UL Category Code: ULEZ

CSI MasterFormat®

DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Sub-level 2: 07 30 00 – Steep Slope Roofing
Sub-level 3: 07 31 00 – Shingles and Shakes
Sub-level 4: 07 31 13 – Asphalt Shingles

COMPANY:

TAMKO BUILDING PRODUCTS LLC
198 FOUR STATES DRIVE
GALENA, KANSAS 66739
(417) 624-6644
www.tamko.com

1. SUBJECT: Asphalt Shingles

ELITE GLASS-SEAL,

HERITAGE, HERITAGE IR, HERITAGE PREMIUM, HERITAGE WOODGATE, HERITAGE VINTAGE, AND HERITAGE PROLINE TITAN XT

HERITAGE VINTAGE 12 X 12 HIP AND RIDGE, 12-¼ X 12 HIP AND RIDGE, AND 12-¼ X 12 HERITAGE HIP AND RIDGE IR

HERITAGE VINTAGE STARTER

2. SCOPE OF EVALUATION

- 2018, 2015, 2012, and 2009 *International Building Code* ® (IBC)
- 2018, 2015, 2012, and 2009 *International Residential Code* ® (IRC)
- 2020 Florida Building Code – Building
- 2020 Florida Building Code – Residential
- ICC ES Acceptance Criteria for Quality Documentation (AC10)

The products were evaluated for the following properties:

- Exterior Fire Exposure (ANSI/UL790, ASTM E108)
- Wind Resistance (ASTM D3161; ASTM D7158
- Physical Properties (ASTM D3462)
- Impact Resistance (ANSI/UL 2218)

3. REFERENCED DOCUMENTS

- UL790 (ASTM E108), Standard Test Methods for Fire Tests of Roof Coverings
- UL 2218 , Standard Test Methods for Impact Resistance of Prepared Roof Covering Materials
- ASTM D3161, Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)
- ASTM D7158, Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)
- ASTM D3462, Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules
- UL Subject 2375 Issue No. 2, Outline of Investigation for Hip and Ridge Shingles (UL Fire and Wind Tests)
- ICC-ES Acceptance Criteria for Quality Documentation (AC10)

4. USES

TAMKO asphalt shingles are used as roof coverings for new and existing roofs.

5. PRODUCT DESCRIPTION

TAMKO asphalt shingles are roof covering materials complying with the following properties when installed as described in this report. The products are three-tab shingles, laminated shingles and hip & ridge shingles.

Fire Classification: TAMKO asphalt shingles covered under this Report have been tested for fire classification Class A in accordance with UL 790 (ASTM E108). Shingles tested in accordance with UL790 (ASTM E108) qualify for use under Section 1505.1 of the 2020 Florida Building Code - Building, IBC, Section R902.1 of the IRC and 2020 Florida Building Code - Residential.

Wind Resistance: TAMKO asphalt shingles covered under this Report have been tested for wind resistance in accordance with ASTM D3161 or ASTM D7158.

Shingles tested in accordance with ASTM D3161 are classified as Class F and qualify for use under the exception to Section 1504.1.1 of the 2018 and 2015 IBC and Section 1507.2.7.1 of the 2012 and 2009 IBC and 2020 Florida Building Code - Building, the exception to Section R905.2.4.1 of the IRC, and Section R905.2.4 of 2020 Florida Building Code - Residential.

Shingles tested in accordance with ASTM D7158 are classified as Class H and qualify for use in locations as shown in Table 1507.2.7.1 of the 2012, 2009 IBC and 2020 Florida Building Code - Building, Table R905.2.4.1 of the 2012 and 2009 IRC, or Table R905.2.6.1 of the 2020 Florida Building Code - Residential, where the maximum basic wind speed is 150 mph (67 m/s) or less with exposure category of B or C (ASCE 7) and a maximum building height of 60 feet (18.3 m). Installation must be in accordance with Section 1507.2.6 of the 2018 IBC, 2020 Florida Building Code - Building, and Section 1507.2.7 of the 2015, 2012, and 2009 IBC, or Section R905.2 of the IRC and 2020 Florida Building Code - Residential, as applicable.

Physical Properties: TAMKO asphalt shingles covered under this Report have been tested for physical properties in accordance with ASTM D3462. Shingles tested in accordance with ASTM D3462 qualify for use under Section 1507.2.4 of the 2018 IBC, Section 1507.2.5 of the 2015, 2012, and 2009 IBC, Section 1507.2.5 of the 2020 Florida Building Code - Building, or Section R905.2.4 of the IRC and 2020 Florida Building Code - Residential. When installed on new construction in accordance with this report and the TAMKO Building Products LLC installation instructions, the shingles are a Class A roof covering. When the shingles are installed over existing roof coverings, the Class A fire classification is maintained.

5.1 Three-Tab Shingles – Elite Glass-Seal:

Elite Glass-Seal shingles are three-tab shingles manufactured with a single fiberglass mat, coated on both sides with asphalt, and surfaced on the weather-exposed side with mineral granules. The shingles are self-sealing and have beads of thermal-tab sealing adhesive above the shingle butt on the weather side. See Table 2 for product dimensions and manufacturing locations.

5.2 Laminated Shingles – Heritage, Heritage IR, Heritage Premium, Heritage Woodgate, Heritage Vintage, and Heritage Proline Titan XT:

Heritage, Heritage IR, Heritage Premium, Heritage Woodgate, Heritage Vintage, and Heritage Proline Titan XT shingles are laminated shingles manufactured with a double layer of fiberglass mats coated with asphalt on all sides, and surfaced on the weather-exposed side with mineral granules. See Table 3, Table 4, Table 5, Table 6, Table 7, Table 10, and Table 13 for product dimensions and manufacturing locations.

5.3 Hip & Ridge Shingles – 12-¼ X 12 Hip and Ridge, Heritage Vintage 12 X 12 Hip and Ridge, 12-¼ X 12 Heritage Hip and Ridge IR:

Hip and Ridge are prefabricated hip and ridge shingles available as 12-¼ X 12 Hip and Ridge and 12-¼ x 12 Heritage Hip and Ridge IR. Heritage Vintage Hip and Ridge are prefabricated hip and ridge shingles available as 12 X 12 Hip and Ridge. As an alternative, Elite Glass-Seal shingles are cut into three 12-¼ inch by 12-inch (305 mm by 305 mm) hip and ridge shingles. See Table 8, Table 9, and Table 11 for product dimensions and manufacturing locations.

6. INSTALLATION

TAMKO asphalt shingles must be installed in accordance with the applicable code, this report and the manufacturer's published installation instructions. The shingles must be installed in accordance with Section 1507.2 of the IBC and 2020 Florida Building Code - Building, or Section R905.2 of the IRC and 2020 Florida Building Code - Residential, as applicable, except as noted in this report.

The manufacturer's published installation instructions must be available at all times on the jobsite during installation.

Minimum roof slopes must be 2:12 (16.67% slope) for the three-tab shingles described under 5.1 of this Report and for the laminated shingles described under 5.2 of this Report.

6.1 Underlayment and Ice Barriers:

For roof slopes 4:12 and greater, the roof deck must be covered with a minimum of one layer of underlayment as described in Sections 7.2 and 7.3 of this Report. Underlayment application must be in accordance with Table 1507.1.1 of the 2018 IBC, 2020 Florida Building Code - Building, and Section 1507.2.8 of the 2015, 2012, and 2009 IBC or Section R905.2.7 of the IRC and Section 905.2.3 of the 2020 Florida Building Code - Residential, as applicable.

For roof slopes 2:12 and up to but less than 4:12, two layers of the underlayment described in Section 7.2 or one layer of the self-adhering polymer modified bitumen sheet in described in Section 7.3 of this Report are required. Underlayment application must be in accordance with Section 1507.1.1 of the 2018 IBC, 2020 Florida Building Code - Building, and Section 1507.2.8 of the 2015, 2012, and 2009 IBC, Section R905.1.1 of the IRC, and 2020 Florida Building Code - Residential, as applicable.

In areas where there has been a history of ice forming along the eaves, causing a backup of water, an ice barrier must be provided in accordance with Section 1507.1.2 of the 2018 IBC and Section 1507.2.8.2 of the 2020 Florida Building Code - Building, 2015, 2012, and 2009 IBC or Section R905.2.7 of the 2018 IRC, 2020 Florida Building Code - Residential, and Section R905.16.4.1 2015 IRC, and Section R905.2.7.1 of the 2012, and 2009 IRC, as applicable.

6.2 Starter Shingle:

A starter course, as described in Section 7.4 of this Report, must be attached to the eave edge using fasteners described in Section 7.5 of this Report, located 1-½ to 3 inches (38.1 to 76.2 mm) from the eave edge and spaced 1 inch (25.4 mm) and 12 inches (305 mm) from each end, for a total of four fasteners per shingle. Starter strips must overhang the eave and rake edges ¼ to ¾ inch (6.4 to 19.1 mm) if no drip edge flashing is present. If drip edge flashing is present, install shingles even with the drip edge or overhang the drip edge up to ¾ inch.

6.3 Asphalt Shingles:

The first course of field shingles must be installed over the starter course described in Section 7.4 of this Report.

Shingles must be installed with vertical joints offset a minimum of 4 inches (102 mm) from adjacent courses.

6.3.1 Three-Tab Shingles – Elite Glass-Seal:

For roof slopes 2:12 up to but less than 21:12 (16.67% to 175% slope), each shingle must be fastened to the roof deck using a minimum of four fasteners, spaced as shown in Table 2.

For roof slopes equal to or greater than 21:12 (175% slope), six fasteners must be used, spaced as shown in Table 2.

Fasteners must be in a nail area between 5-$^{5}/_{8}$ inches and 6-$^{7}/_{8}$ inches from the butt edge of the shingle.

Maximum exposure to the weather must be 5-⅛ inches (130 mm).

In colder climates or wind regions where it is questionable whether the thermal-sealing adhesive will activate to seal the shingles, the shingles can be hand-sealed. A 1-in diameter (25.4 mm) spot of asphalt cement complying with ASTM D4586, Type I, Class I, should be placed under the corner of each tab (two spots per tab).

6.3.2 Laminated Shingles – Heritage, Heritage IR, Heritage Premium, Heritage Woodgate, and Heritage Proline XT:

For roof slopes 2:12 up to but less than 21:12 (16.67% to 175% slope), each shingle must be fastened to the roof deck using a minimum of four fasteners, spaced as shown in Tables 3, 4, 5, 6, 10, and 13.

For roof slopes equal to or greater than 21:12 (175% slope), six fasteners must be used, spaced as shown in Tables 3, 5, 6, 10, and Table 13.

Maximum exposure to the weather must be 5-⅝ inches (143 mm).

In colder climates or wind regions where it is questionable whether the thermal-sealing adhesive will activate to seal the shingles, the shingles can be hand-sealed. Four evenly spaced 1-inch diameter (25.4 mm) spots of cement should be placed under the exposed portion of the shingle, approximately 1 inch (76 mm) above the butt edge.

6.3.3 Laminated Shingles – Heritage Vintage:

For roof slopes 2:12 up to but less than 21:12 (16.67% to 175% slope), each shingle must be fastened to the roof deck using a minimum of five fasteners, spaced as shown in Table 7.

For roof slopes equal to or greater than 21:12 (175% slope), nine fasteners must be used, spaced as shown in Table 7.

Fasteners must be located 6 and 11-½ inches (152 and 292 mm) above the butt edge of the shingles.

Maximum exposure to the weather must be 5 inches (127 mm).

In colder climates or wind regions where it is questionable whether the thermal-sealing adhesive will activate to seal the shingles, the shingles must be hand-sealed. Four evenly spaced 1-inch diameter (25.4 mm) spots of cement should be placed under the exposed portion of the shingle, approximately 1 inch (127 mm) above the butt edge.

6.4 Valley Construction and Other Flashing:

Valleys must consist of woven, open valley or closed-cut construction and must be flashed in accordance with Section 1507.2.8.2 of the 2018 IBC, and Section 1507.2.9.2 of the 2020 Florida Building Code - Building, 2015, 2012, and 2009 IBC or Section R905.2.8.2 of the IRC and 2020 Florida Building Code - Residential. Other flashings must be in accordance with Sections 1503.2 and 1507.2.8 of 2020 Florida Building Code - Building, 2018 IBC, Section 1507.2.9 of the 2015, 2012, and 2009 IBC, or Section R903.2 and Section R905.2.8 of the IRC and 2020 Florida Building Code - Residential, as applicable.

6.5 Hip and Ridge Application:

Hip and ridge shingles must be placed evenly over hips and ridges, and must be fastened to the roof deck using two fasteners, one located on either side of the shingle, 5-1/2 inches (140 mm) or 5-5/8 inches (143 mm) from the exposed end, and 1 inch (25.4 mm) in from the edge as shown in Tables 8 and 9. Fasteners must be a minimum ¼ inch (6.4 mm) longer than those used in the field of the roof, as specified in Section 7.5 of this report. The 12-¼ X 12 Hip and Ridge and 12-¼ x 12 Heritage Hip and Ridge IR prefabricated hip and ridge shingles must be applied with a maximum exposure of 5-⅛ inches. (130 mm). Heritage Vintage 12 X 12 Hip and Ridge prefabricated hip and ridge shingles must be installed with a maximum exposure of 5 inches (127 mm). Hip and ridge shingles are installed starting at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing wind.

6.6 Reroofing:

The existing asphalt shingle roof covering must be inspected in accordance with the provisions and limitations of Section 1510 of the IBC, Section 1511 of the 2020 Florida Building Code - Building, Section R908.1 of the IRC, or Section 901.1 of the 2020 Florida Building Code - Residential, as applicable. Prior to the reroofing, hip and ridge coverings must be removed.

Except as noted in this section, the shingles must be installed in accordance with Section 6.3 and 6.5 of this Report. Fasteners must be of sufficient length to penetrate ¾ inch (19.1 mm) into the sheathing, or through the sheathing where the sheathing is less than ¾ inch (19.1 mm) thick. Flashing and edging must comply with Section 6.4 and with Section1511.6 of the 2018 and 2015 IBC and 2020 Florida Building Code - Building, Section 1510.6 of the 2012, and 2009 IBC and Section R908.6 of the 2018 and 2015 IRC, 2020 Florida Building Code - Residential, and R907.6 of the 2012, and 2009 IRC, as applicable.

7. INSTALLATION MATERIALS

7.1 Sheathing:

The roof deck must be code-complying, minimum ⅜-inch thick (9.5 mm), exterior plywood complying with DOC PS-1; rated sheathing complying with DOC PS-2; or solid sheathing using minimum nominally 1 by 6 lumber.

7.2 Underlayment:

Under the IBC or IRC, underlayment must comply with ASTM D226, Type I (minimum), ASTM D4869, Type I (minimum) or ASTM D6757 as specified in Section 1507.1.1 of the 2020 Florida Building Code - Building, Section 1507.2.3 of the IBC or Section R905.1.1 of the IRC, and 2020 Florida Building Code - Residential.

7.3 Self-adhering Polymer Modified Bitumen Sheet:

The self-adhering polymer modified bitumen sheet must comply with ASTM D1970.

7.4 Starter Shingles:

The starter course shingle consists of either TAMKO 10-inch starter, TAMKO Shingle Starter, TAMKO Perforated Starter, or a self-sealing three-tab shingle. If self-sealing three-tab shingles are used, remove the exposed tab portion and install with factory-applied sealant adjacent to the eaves.

Heritage Vintage requires a Heritage Vintage Starter shown in Table 12 is to be installed over the starter course at the eave edge.

7.5 Fasteners:

Fasteners must be minimum No. 12 gage [0.105 inch (2.7 mm)], ⅜-inch diameter head (9.5 mm), galvanized, stainless steel, aluminum or copper corrosion-resistance nails. Fasteners must be of sufficient length to penetrate into the sheathing ¾-inch (19.1 mm), or through the sheathing, where the sheathing is less than ¾-inch (19.1 mm) thick. Fasteners must be compliant with ASTM F1667.

7.6 Asphalt Cement:

Asphalt cement must comply with ASTM D4586, Type I, Class I.

8. CONDITIONS OF USE

The TAMKO Asphalt Shingles described in this Report comply with, or are suitable alternatives to, what is specified in those codes listed in Section 2 of this Report, subject to the following conditions:

8.1 Materials and methods of installation shall comply with this Report and the manufacturer's published installation instructions. In the event of a conflict between the installation instructions and this Report, this Report governs.

8.2 The products are manufactured at the locations listed in Table 1 of this Report under the UL LLC Classification and Follow-Up Service Program, which includes regular audits in accordance with quality elements of ICC-ES Acceptance Criteria for Quality Documentation, AC10.

8.3 See UL Product iQ™ database for Prepared Roof-Covering Materials (TFWZ).

9. SUPPORTING EVIDENCE

9.1 Manufacturer's descriptive product literature, including installation instructions.

9.2 See UL Product iQ™ database for the following:

9.2.1 UL test reports and Classification in accordance with ANSI/UL 790, Class A and UL Subject 2375 for Roof-Covering Materials (TFWZ).

9.2.2 UL test reports and Classification in accordance with ASTM D3462 for Prepared Roof-Covering Materials (TFWZ).

9.2.3 UL test reports and Classification in accordance with ASTM D7158, Class H for Prepared Roof-Covering Materials (TGAH).

9.2.4 UL test reports and Classification in accordance with ASTM D3161, Class F Prepared Roof-Covering Materials (TFWZ).

9.3 Quality Documentation in accordance with ICC-ES Acceptance Criteria for Quality Documentation, AC10.

10. IDENTIFICATION

TAMKO asphalt shingles described in this Evaluation Report are identified by a marking on each package bearing the report holder's name (TAMKO Building Products LLC), the plant identification, the product name, the UL Listing/Classification Mark and the evaluation report number UL ER2919-01. The validity of this Evaluation Report is contingent upon this identification appearing on the package.

11. USE OF UL EVALUATION REPORT

11.1 The approval of building products, materials or systems is under the responsibility of the applicable authorities having jurisdiction.

11.2 UL Evaluation Reports shall not be used in any manner that implies an endorsement of the product, material or system by UL.

11.3 The status of this report, as well as a complete directory of UL Evaluation Reports may be found at UL.com via the Product iQ™ database.

Table 1 – Manufacturing Locations

LISTEE	LOCATION	FACTORY ID
TAMKO BUILDING PRODUCTS LLC	7910 S CENTRAL EXPY DALLAS TX 75216	D
TAMKO BUILDING PRODUCTS LLC	4500 TAMKO DR FREDERICK MD 21704	F
TAMKO BUILDING PRODUCTS LLC	601 N HIGH ST JOPLIN MO 64801	J
TAMKO BUILDING PRODUCTS LLC	1598 HWY 183 PHILLIPSBURG KS 67661	P
TAMKO BUILDING PRODUCTS LLC	KAUL INDUSTRIAL PARK 2300 35TH ST TUSCALOOSA AL 35401	T

Table 2 – Elite Glass-Seal

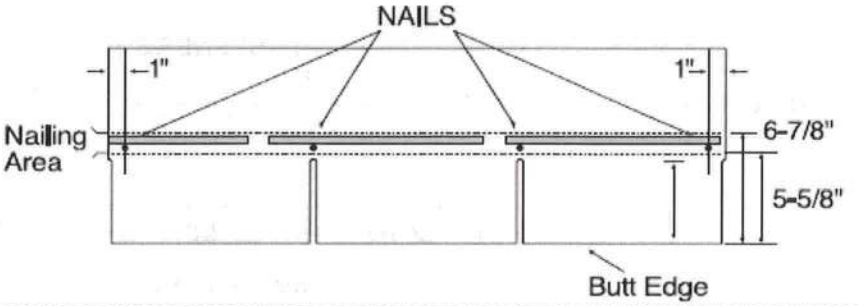
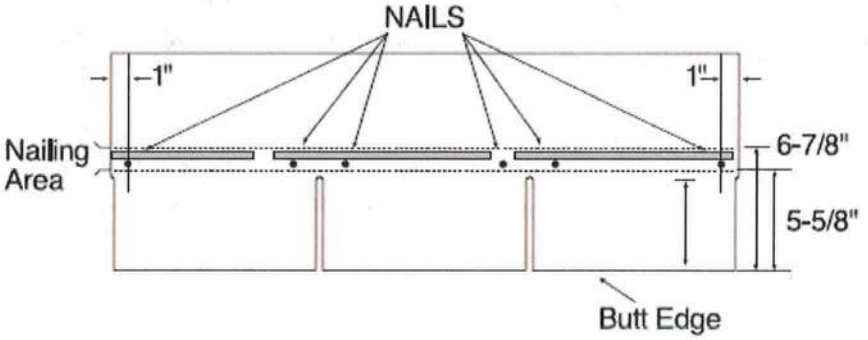
Dimensions:	12-¼" x 36"
Plant Location(s):	Frederick, Joplin
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 3 – Heritage

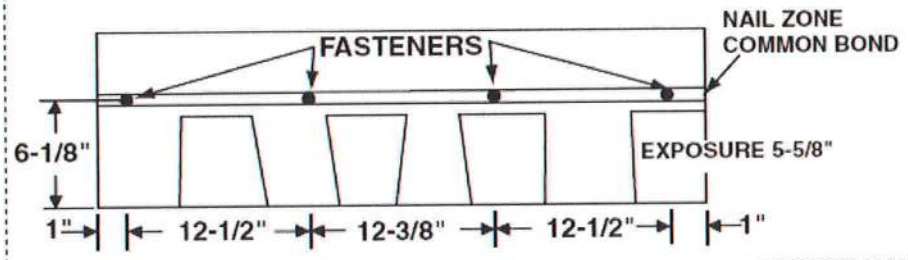
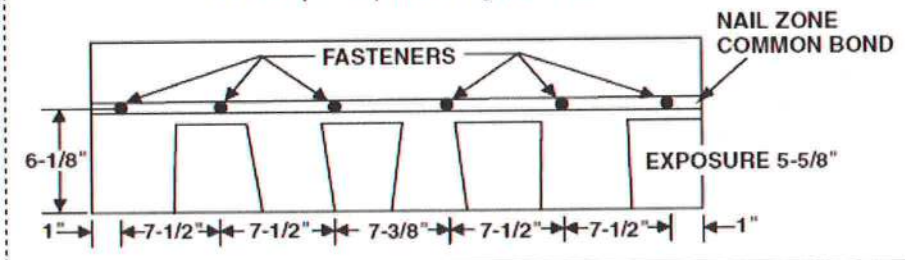
Dimensions:	13-¼" x 39-$^{3}/_{8}$"
Plant Location(s):	Dallas, Frederick, Joplin, Phillipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 4 – Heritage

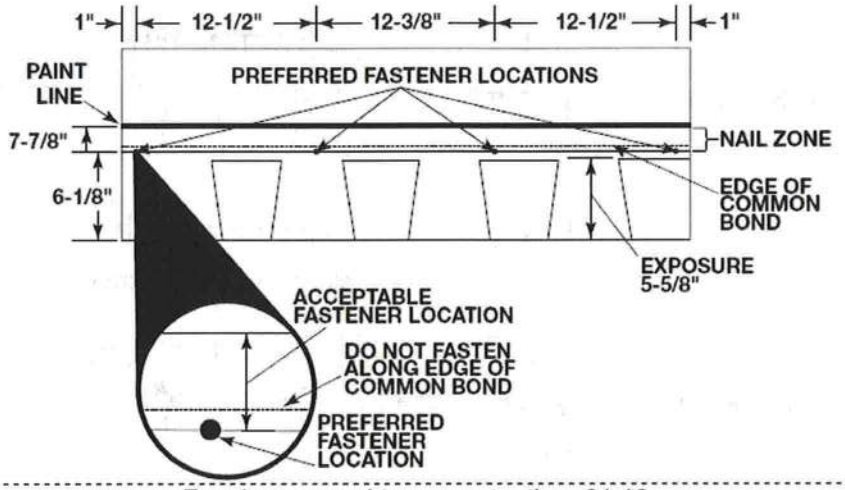
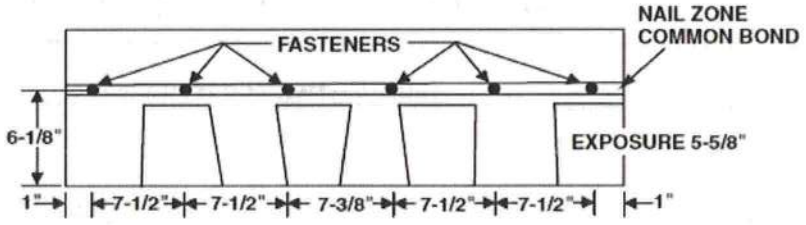
Dimensions:	13-¼" x 39-$^{3}/_{8}$"
Plant Location(s):	Tuscaloosa
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 5 – Heritage Premium

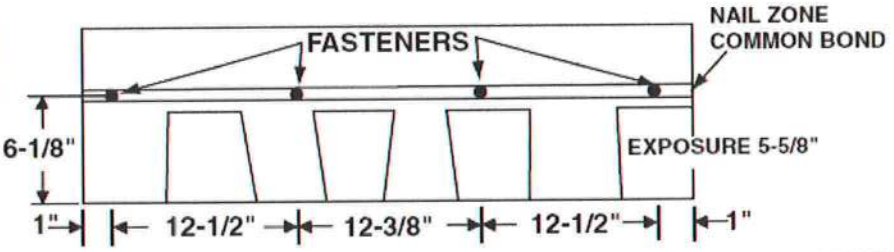
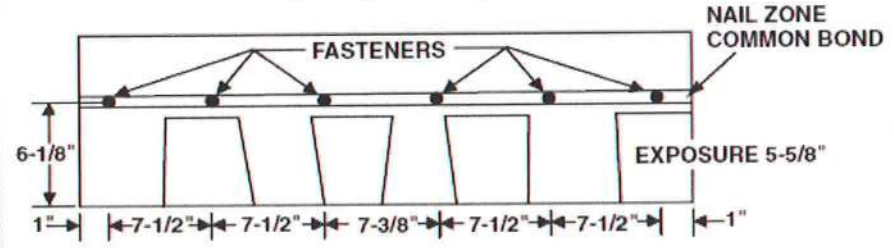
Dimensions:	13-¼" x 39-$^3/_8$"
Plant Location(s):	Phillipsburg, Frederick
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 6 – Heritage Woodgate

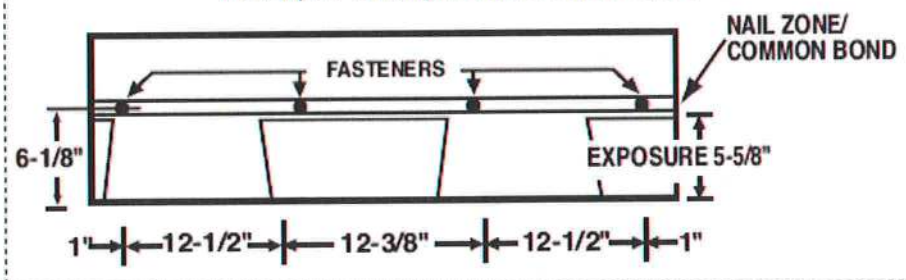
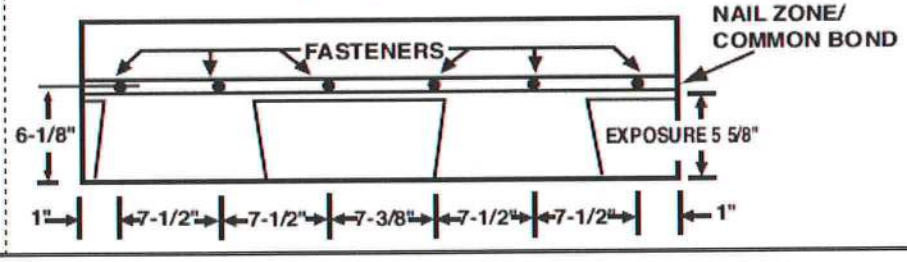
Dimensions:	13-¼" x 39-$^3/_8$"
Plant Location(s):	Dallas, Frederick
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

Table 7 – Heritage Vintage

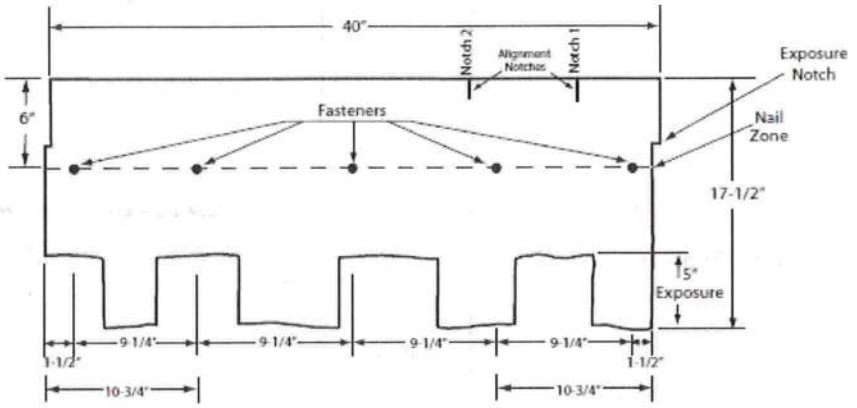
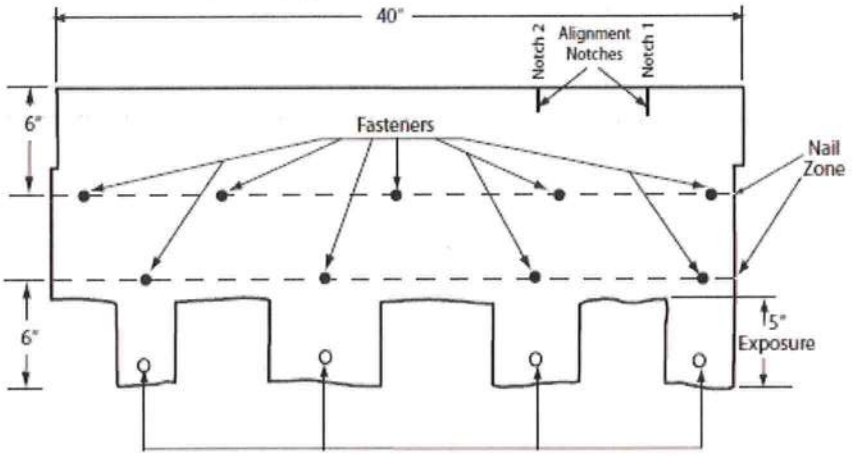
Dimensions:	17-1/2" x 40"
Plant Location(s):	Phillipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12  Apply under each tab 1" diameter asphalt adhesive cement.

Table 8 – Heritage Vintage 12 X 12 Hip and Ridge

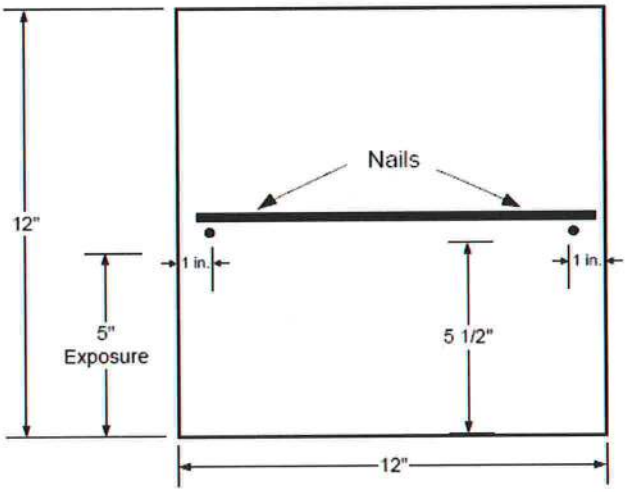
Dimensions:	12" x 12"
Plant Location(s):	Phillipsburg
Fastening Pattern:	

Table 9 – 12-¼ X 12 Hip and Ridge

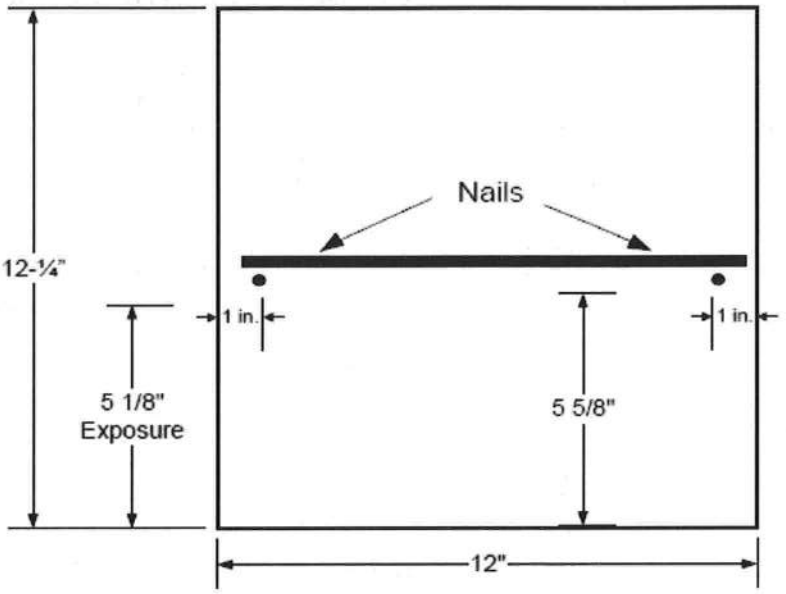
Dimensions:	12-¼" x 12"
Plant Location(s):	Frederick, Joplin
Fastening Pattern:	

Table 10 – Heritage IR

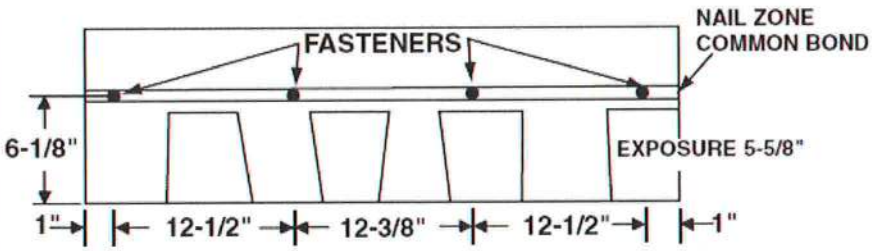
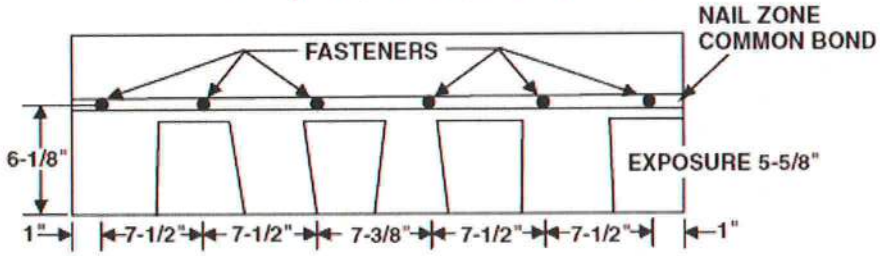
Dimensions:	13-¼" x 39-$^{3}/_{8}$"
Plant Location(s):	Joplin, Philipsburg
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than21:12 

Table 11 Heritage Hip and Ridge IR

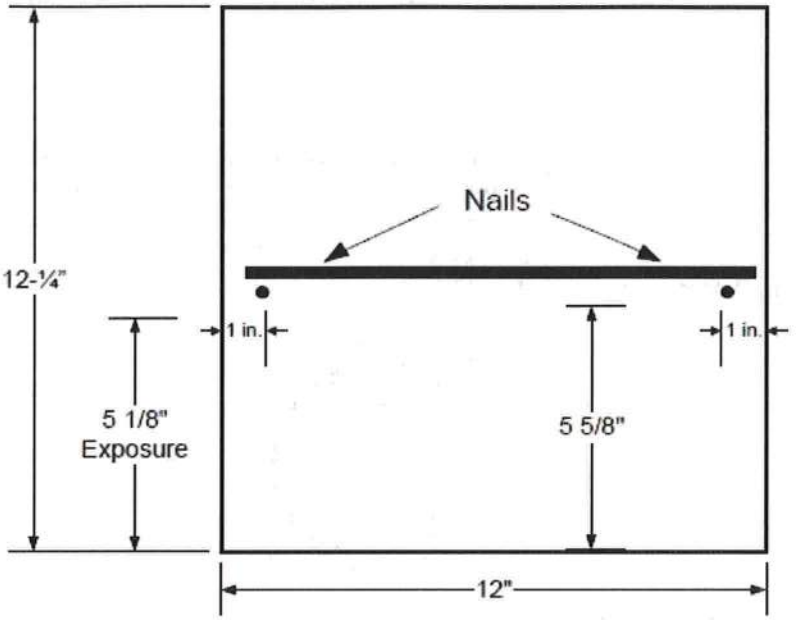
Dimensions:	12-¼" x 12"
Plant Location(s):	Joplin
Fastening Pattern:	

Table 12 Heritage Vintage Starter

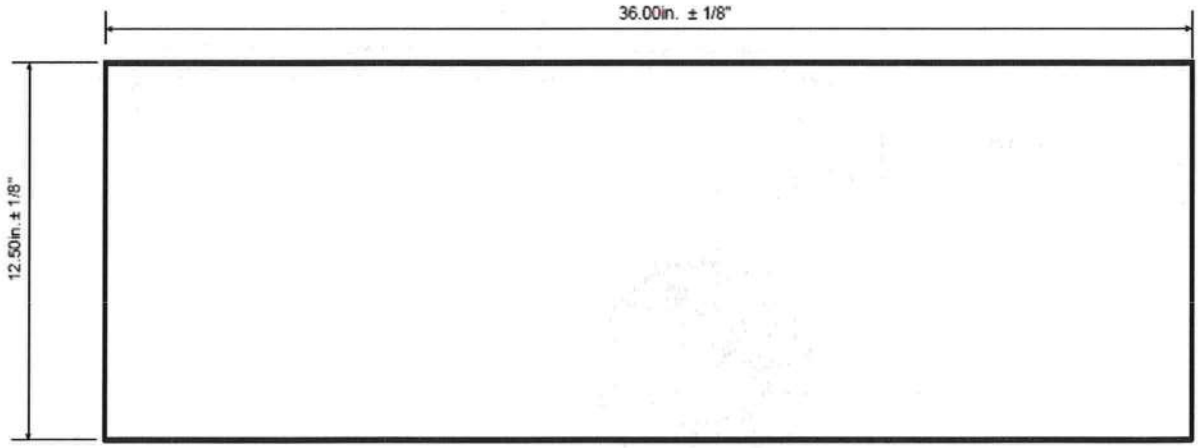
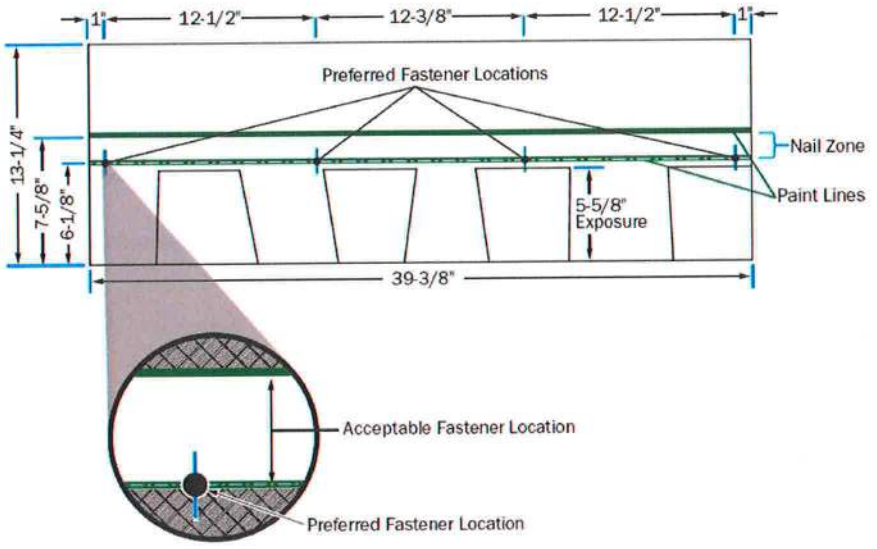
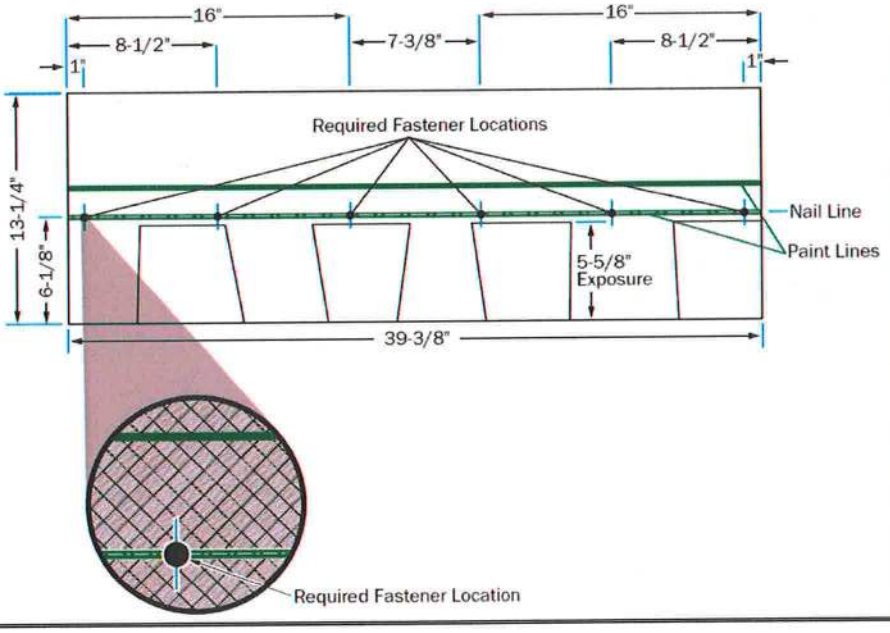


Table 13– Heritage Proline Titan XT

Dimensions:	13-¼" x 39-$^{3}/_{8}$"
Plant Location(s):	Philipsburg and Frederick
Fastening Pattern:	For slopes 2:12 up to but less than 21:12 
Fastening Pattern:	For slopes equal to or greater than 21:12 

NEMO|etc.
Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER EVALUATE TEST CONSULT

EVALUATION REPORT

Tarco Roofing
One Information Way, Suite 225
Little Rock, AR 72202
(254) 913-7750

Evaluation Report 10880.07.08-R13
FL10450-R13
Date of Issuance: 07/11/2008
Revision 13: 09/18/2020

SCOPE:
This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The products described herein have been evaluated for compliance with the **7th Edition (2020) Florida Building Code** sections noted herein.

DESCRIPTION: Tarco Roof Underlayments

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein and FBC 1507.1.1.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our Evaluation Reports by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance or the production facility location(s). NEMO ETC, LLC requires a complete review of its Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO|etc. Evaluated" may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire Evaluation Report 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 Evaluation Report consists of pages 1 through 11.

Prepared by:

Robert J.M. Nieminen, P.E.
Florida Registration No. 59166, Florida DCA ANE1983

The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 09/18/2020. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

NEMO | etc.

ROOFING COMPONENT EVALUATION

1. SCOPE:

Product Category: Roofing
Sub-Category: Underlayment
Compliance Statement: **Tarco Roof Underlayments**, as produced by **Tarco Roofing**, have demonstrated compliance with the following sections of the **7th Edition (2020) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

Section	Property	Standard	Year
1504.3.1	Wind resistance	FM 4474	2011
1507.1.1 / R905.1.1	Material standard	ASTM D226	2009
1507.1.1 / R905.1.1	Material standard	ASTM D4869	2016
1507.1.1, 1507.2.4, 1507.2.9.2 / R905.1.1, R905.2.8.2	Material standard	ASTM D1970	2015
1507.2.9.2, 1507.6.5 / R905.2.8.2, R905.5.4	Material standard	ASTM D3909	2014
1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Tear strength	ASTM D4533	2015
1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Tensile strength	ASTM D5035	2011
1507.1.1.1(5) / R905.1.1.1(5)	Liquid water transmission	ASTM D4869	2016
1507.2.9.2, 1507.6.5 / R905.2.8.2, R905.5.4	Material standard	ASTM D6380	2013
1507.3.3 / R905.3.3	Material standard	FRSA/TRI, Sixth Edition	2018
1507.11.2 / R905.11.2	Material standard	ASTM D6164	2011
TAS 110	Accelerated Weathering	ASTM D4798	2011

3. REFERENCES:

Entity	Examination	Reference	Date
ERD (TST6049)	D4869, D5035	C30280.12.09	12/11/2009
ERD (TST6049)	FRSA/TRI	T33190.08.10	08/06/2010
ERD (TST6049)	ASTM D1970	T32530.08.10	08/17/2010
ERD (TST6049)	ASTM D4798	C30280.12.09-R2	08/20/2010
ERD (TST6049)	FM 4474	T37610.07.11	06/29/2011
ERD (TST6049)	ASTM D3909	T40780.04.12	04/06/2012
ERD (TST6049)	ASTM D6380	T40790.04.12	04/06/2012
ERD (TST6049)	ASTM D6164	T35410.04.12	04/18/2012
ERD (TST6049)	ASTM D1970	T45250.04.13-R2	04/23/2013
ERD (TST6049)	FRSA/TRI	T43930.09.13-R2	09/11/2013
ERD (TST6049)	D226 & D4869	SC4950.02.14-R2	06/25/2014
ERD (TST6049)	ASTM D1970	TAR-SC9480.15	07/02/2015
ERD (TST6049)	FM 4474	TAR-SC8020.14	12/03/2015
ERD (TST6049)	FM 4474	TAR-SC5670.03.16	03/21/2016
ERD (TST6049)	FM 4474	T6460.06.07-R2	05/26/2017
ERD (TST6049)	ASTM D226	TAR-SC13965.02.17-R1	05/17/2017
ERD (TST6049)	FBC 1507.1.1	TAR-SC16115.17	10/02/2017
ERD (TST6049)	FRSA/TRI	TAR-SC16115.17	10/02/2017
ERD (TST6049)	ASTM D4533	CTR-SC16080.10.17	10/25/2017
PRI (TST5878)	ASTM D1970	BRY-018-02-01	08/11/2003
PRI (TST5878)	ASTM D1970	BRY-017-02-01	08/11/2003
PRI (TST5878)	ASTM D226	TOT-014-02-02	05/18/2004
PRI (TST5878)	ASTM D226	TOT-015-02-02	05/24/2004
PRI (TST5878)	ASTM D4869	TOT-009-02-01	09/14/2004
PRI (TST5878)	ASTM D4869	TOT-009-02-02	09/14/2004
PRI (TST5878)	ASTM D226	TOT-041-02-01	05/24/2006
M-D (CER1592)	FBC HVHZ	16-1116.09	01/12/2017
NEMO (TST6049)	FRSA/TRI	TAR-SC8020.06.18	06/05/2018
NEMO (TST6049)	Tensile adhesion	4S-TAR-18-002.07.18-1	07/20/2018
NEMO (TST6049)	FRSA/TRI	4S-TAR-18-002.07.18-2	07/20/2018
NEMO (TST6049)	TAS 117(B)	4i-CTR-19-SSCRT-01.A	04/10/2019
NEMO (TST6049)	ASTM D4798	4j-TAR-19-SSUDL.01.A	08/27/2019
Tarco Roofing	Adhesive comp	Affidavit	12/15/2015
Tarco Roofing	FBC Cross-List	Listing Agreement	01/20/2020
UL, LLC. (QUA9625)	QA	Service Confirm (IND)	11/22/2016
UL, LLC. (QUA9625)	QA	Service Confirm (PA)	06/28/2017
UL, LLC. (QUA9625)	QA	Service Confirm (TX)	08/13/2018

4. PRODUCT DESCRIPTION:

	Product	Material Standard	Plant(s)	Description
4.1	LeakBarrier® MS300 Ice and Water Armor	ASTM D1970	Belton, TX Greencastle, PA	self-adhering, glass mat reinforced, mineral surfaced, SBS modified roof underlayment
4.2	TopShield Ice & Water G300	ASTM D1970	Belton, TX Greencastle, PA	self-adhering, glass mat reinforced, mineral surfaced, SBS modified roof underlayment
4.3	LeakBarrier® PS200^{HT} Ice and Water Armor	ASTM D1970 and FRSA/TRI 09-18	Belton, TX Greencastle, PA	self-adhering, glass mat reinforced, fabric surfaced, SBS modified roof underlayment
4.4	LeakBarrier® PS200^{MU} Ice and Water Armor	ASTM D1970	Belton, TX Greencastle, PA	self-adhering, glass mat reinforced, smooth poly film surfaced, SBS modified roof underlayment
4.5	LeakBarrier® NR600 Ultra Ice and Water Armor	ASTM D1970 and FRSA/TRI 09-18	Greencastle, PA	self-adhering, polyester-fabric surfaced, SBS modified roof underlayment
4.6	LeakBarrier® SS400 Ice and Water Armor	ASTM D1970	Belton, TX Greencastle, PA	self-adhering, fiberglass reinforced, smooth surfaced modified underlayment
4.7	Tarco 30	ASTM D226, Type II	Belton, TX Greencastle, PA	asphalt-saturated organic felt
4.8	LeakBarrier® EasyLay®	ASTM D226, Type II	Belton, TX Greencastle, PA	asphalt-coated polyester fabric roof underlayment
4.9	Fiberglass Mineral Surfaced Roll Roofing	ASTM D3909	Greencastle, PA	glass-fiber-reinforced, asphalt-coated, granule surfaced underlayment used as a valley liner
4.10	ASTM Organic Mineral Surface Tile Underlayment	ASTM D6380, Class M	Greencastle, PA	asphalt-saturated organic roll roofing sheet
4.11	LeakBarrier® EasyMop™ SBS	FRSA/TRI April 09-18	Greencastle, PA	polyester reinforced, SBS modified bitumen roofing underlayment
4.12	LeakBarrier® EasyLay® UDL 15	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Gujarat, India	woven-polymeric scrim with a textured fabric on the top surface
4.13	LeakBarrier® EasyLay® UDL 30	1507.1.1.1(2&3, Exception), 1507.1.1.1(5) / R905.1.1.1(2&3, Exception), R905.1.1.1(5)	Gujarat, India	woven-polymeric scrim with a textured fabric on the top surface

5. LIMITATIONS:

5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

5.2 This Evaluation Report is not for use in FBC High Velocity Hurricane Zone jurisdictions (i.e., Broward and Miami-Dade Counties).

5.3 This Evaluation Report pertains to above-deck roof components. Roof decks and structural members shall be in accordance with FBC requirements to the satisfaction of the Authority Having Jurisdiction.

5.4 This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.

5.5 **Tarco Roof Underlayments** may be used with any prepared roof cover where the product is specifically referenced within FBC approval documents. If not listed, a request may be made to the Authority Having Jurisdiction for approval based on this evaluation combined with supporting data for the prepared roof covering.

5.6 Allowable Roof Covers:

TABLE 1: ROOF COVER OPTIONS

Underlayment	Asphalt Shingles *(1507.2)*	Clay and Concrete Tile *(1507.3)*		Metal		Slate or Slate-Type Shingles *(1507.7)*	Wood	
		Mechanical Attach	Adhesive-Set	Panels *(1507.4)*	Shingles *(1507.5)*		Shingles *(1507.8)*	Shakes *(1507.9)*
LeakBarrier MS300	Yes	No	No	No	No	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
TopShield Ice & Water G300	Yes	No	No	No	No	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier PS200^{HT}	Yes	Yes	Yes See 5.6.1	Yes (No copper or zinc)	Yes (No copper or zinc)	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier PS200^{MU}	Yes	No	No	Yes (No copper or zinc)	Yes (No copper or zinc)	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier NR600 Ultra	Yes	Yes	Yes See 5.6.1	Yes (No copper or zinc)	Yes (No copper or zinc)	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier SS400	Yes	No	No	No	No	Yes	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)	Yes (joint strips, 1507.1.1.3 / R905.1.1.3)
LeakBarrier EasyLay	Yes	Yes See 5.6.2	Yes See 5.6.2	No	No	Yes	No	No
LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30	Yes	Yes See 5.6.2	Yes See 5.6.2	Yes	Yes	Yes	No	No
Tarco 30	Yes	Yes See 5.6.2	Yes See 5.6.2	Yes	Yes	Yes	Yes	Yes
Fiberglass Mineral Surfaced Roll Roofing	Yes (Valley Liner)	No	No	No	No	No	No	No
ASTM Organic Mineral Surface Tile Underlayment	Yes (Valley Liner)	Yes (Cap Sheet in 2-ply system)	Yes (Cap Sheet in 2-ply system) See 5.6.1	No	No	No	No	No
LeakBarrier EasyMop SBS	No	Yes (Cap Sheet in 2-ply system)	Yes (Cap Sheet in 2-ply system) See 5.6.1	No	No	No	No	No

5.6.1 Adhesive-set is limited to use of following underlayment / tile-adhesive combinations.

TABLE 1A: ALLOWABLE UNDERLAYMENT / TILE-ADHESIVE COMBINATIONS[1]		
Underlayment	**Adhesive**	**Florida Product Approval**
LeakBarrier PS200^{HT}	Dupont "Tile Bond™ Roof Tile Adhesive"	FL22525
LeakBarrier PS200^{HT}, LeakBarrier NR600 Ultra, ASTM Organic Mineral Surface Tile Underlayment or LeakBarrier EasyMop SBS	ICP Adhesives and Sealants "Polyset® AH-160"	FL6332
LeakBarrier PS200^{HT}	ICP Adhesives and Sealants "Polyset® RTA-1"	FL6276

5.6.2 Tarco 30, EasyLay, LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30 may be used as a mechanically attached anchor sheet followed by an asphalt-applied ASTM Organic Mineral Surface Tile Underlayment or LeakBarrier EasyMop SBS.

5.7 **Allowable Substrates:**

TABLE 2: SUBSTRATE OPTIONS FOR ADHERED UNDERLAYMENTS			
Underlayment	**Application**	**Primer**	**Substrates**
LeakBarrier MS300	self-adhering	(Optional) ASTM D41	plywood; OSB or structural concrete
TopShield Ice & Water G300			
LeakBarrier PS200^{HT}			
LeakBarrier PS200^{MU}			
LeakBarrier NR600 Ultra			
LeakBarrier SS400			
LeakBarrier MS300	self-adhering	none	ASTM D226 Type II felt; ASTM D4869 Type III or IV felt; LeakBarrier EasyLay, LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30
TopShield Ice & Water G300			
LeakBarrier PS200^{HT}			
LeakBarrier PS200^{MU}			
LeakBarrier NR600 Ultra			
LeakBarrier SS400			
LeakBarrier MS300	self-adhering	ASTM D41	metal (flashing metal, valley metal, etc.)
TopShield Ice & Water G300			
LeakBarrier PS200^{HT}			
LeakBarrier PS200^{MU}			
LeakBarrier NR600 Ultra			
LeakBarrier SS400			
ASTM Organic Mineral Surface Tile Underlayment	hot asphalt	ASTM D41	structural concrete
LeakBarrier EasyMop SBS			
ASTM Organic Mineral Surface Tile Underlayment	hot asphalt	None	ASTM D226 Type II felt, ASTM D4601 base sheet
LeakBarrier EasyMop SBS			

[1] *Refer to Tile Manufacturer's or Adhesive Manufacturer's Florida Product Approval for Overturning Moment Resistance Performance.*

5.8 **Attachment Limitations:**

5.8.1 For use under mechanically attached NON-TILE prepared roof coverings, attachment shall be in accordance with the manufacturer's installation instructions, but – for mechanically attached underlayments or base sheets - not less than **FBC 1507.1.1** or **R905.1.1**.

5.8.2 For use under tile roof systems, attachment shall be in accordance with the manufacturer's installation instructions, but – for mechanically attached base sheets - not less than:

- **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, Appendix A, Table 1 (for Two-Ply Asphalt Applied Hot Mop Underlayment)

  or

- Section 5.8.3 herein (for other underlayment systems).

5.8.3 Wind Resistance for Underlayment Systems in Tile Roof Applications:
The following wind uplift limitations apply to underlayment systems that are not prescriptive in the **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition. The Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per **FBC 1504.9** has already been applied).

5.8.3.1 Direct-to-Deck:
The maximum design pressure for the selected assembly shall meet or exceed that required under FRSA/TRI *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, Appendix A, Table 1A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

#1 Maximum Design Pressure = **-75.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction
Primer:	(Optional) ASTM D41
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered.
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#2 Maximum Design Pressure = **-120.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction
Primer:	(Optional) ASTM D41
Joint Treatment:	Plywood joints are covered with 4-inch wide strips of LeakBarrier PS200^{MU} or LeakBarrier EasyBase, rolled into place to create continuous bond
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#3 Maximum Design Pressure = **-217.5 psf**:

Deck:	Structural concrete to meet project requirements to satisfaction of Authority Having Jurisdiction.
Primer:	(Optional) ASTM D41
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#4 All other direct-deck, adhered underlayment systems beneath tile roof systems carry a Maximum Design Pressure of -45 psf.

5.8.3.2 Mechanically-Attached Base Sheet:

The maximum design pressure for the selected assembly shall meet or exceed that required under **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, Appendix A, Table 1A or the critical (highest) design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**.

Alternatively, the maximum design pressure for the selected assembly shall meet or exceed at least the Zone 1 design pressure determined in accordance with **FBC 1609** or **FBC Residential Chapter 3**. Elevated pressure zones shall employ an attachment density designed by a qualified design professional to resist the elevated pressure criteria. Commonly used methods are ANSI/SPRI WD1, FM Loss Prevention Data Sheet 1-29, Roofing Application Standard RAS 117 and Roofing Application Standard RAS 137. Assemblies marked with an asterisk* carry the limitations set forth in Section 2.2.10.1 of FM Loss Prevention Data Sheet 1-29 (February 2020) for enhancements.

#5 Maximum Design Pressure = **-45.0 psf***:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30 (48" wide rolls).
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps
Spacing:	6" o.c. at the 4-inch wide side laps and 8" o.c. at three (3) equally spaced, staggered center rows.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#6 Maximum Design Pressure = **-45.0 psf***:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30 (48" wide rolls).
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps
Spacing:	6" o.c. at the 4-inch wide side laps and 8" o.c. at three (3) equally spaced, staggered center rows.
Primer:	ASTM D41 primer at tin-caps.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier NR600 Ultra, self-adhered.

#7 Maximum Design Pressure = **-60.0 psf**:

Deck:	Min. 19/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps
Spacing:	7" o.c. at the 4-inch wide side laps and 7" o.c. at three (3) equally spaced, staggered center rows.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#8 Maximum Design Pressure = **-60.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30 (48" wide rolls).
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps
Spacing:	6" o.c. at the 4-inch wide side laps and 6" o.c. at four (4) equally spaced, staggered center rows.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#9 Maximum Design Pressure = **-60.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30 (48" wide rolls).
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps
Spacing:	6" o.c. at the 4-inch wide side laps and 6" o.c. at four (4) equally spaced, staggered center rows.
Primer:	ASTM D41 primer at tin-caps.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier NR600 Ultra, self-adhered and back nailed using 12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps spaced 12" o.c. within the self-adhering side laps.

#10 Maximum Design Pressure = **-82.5 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay
Fasteners:	Simplex MAXX Cap Fasteners
Spacing:	8" o.c. at the 4-inch wide side laps and 8" o.c. at four (4) equally spaced, staggered center rows.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

#11 Maximum Design Pressure = **-120.0 psf**:

Deck:	Min. 15/32-inch plywood to meet project requirements to satisfaction of Authority Having Jurisdiction.
Base Sheet:	LeakBarrier EasyLay
Fasteners:	12 ga. x 1.25-inch long x 3/8-inch head diameter annular ring shank roofing nails and 1-5/8-inch diameter tin caps
Spacing:	4" o.c. at the 4-inch wide side laps and 4" o.c. at four (4) equally spaced, staggered center rows.
Base Ply:	(Optional) LeakBarrier PS200^{MU}, self-adhered
Underlayment:	LeakBarrier PS200^{HT}, self-adhered.

5.9 **Exposure Limitations:**

TABLE 3: EXPOSURE LIMITATIONS

Underlayment	Prepared Roof Cover Installation Type	Maximum Exposure (days)
LeakBarrier PS200^{HT}, LeakBarrier NR600 Ultra, ASTM Organic Mineral Surface Tile Underlayment or LeakBarrier EasyMop SBS	Adhesive-set tile roof system or mechanically attached	180
LeakBarrier EasyLay	Mechanically attached	180
LeakBarrier EasyLay UDL 30	Mechanically attached	180
LeakBarrier MS300, PS200^{MU}, SS400 or TopShield Ice & Water G300	Mechanically attached	30
LeakBarrier EasyLay UDL 15	Mechanically attached	30
Tarco 30	Mechanically attached	1

5.10 Tile Slippage Limitations: When loading roof tiles on the underlayment in direct-deck tile roof assemblies, the maximum roof slope shall be as follows. These slope limitations can only be exceeded by using battens during loading of the roof tiles.

TABLE 4: TILE SLIPPAGE LIMITATIONS FOR DIRECT-DECK TILE INSTALLATIONS

Underlayment*	Tile Profile	Staging Method	Maximum Slope
LeakBarrier PS200^{HT}	Flat	10-tile stack** or 6-tile stack (4 over 2)	6:12
	Lugged	6-tile stack (4 over 2)	6:12
LeakBarrier NR600 Ultra	Flat or Lugged	6-tile stack (4 over 2)	6:12
ASTM Organic Mineral Surface Tile Underlayment or LeakBarrier EasyMop SBS	Flat	6-tile stack (4 over 2)	5:12
	Lugged	6-tile stack (4 over 2)	6:12

Notes: **Tarco Roofing specifies a minimum 48 cure-time after the installation of self-adhering membranes and before loading of roofing tiles.*

***If tiles are to be left in a staged condition for more than 30 days, Tarco Roofing requires tiles be staged two tiles perpendicular to slope, four tiles on top, parallel to slope, regardless of the allowances noted above*

6. INSTALLATION:

6.1 **Tarco Roof Underlayments** shall be installed in accordance with **Tarco Roofing** installation instructions subject to the Limitations set forth in Section 5 herein and the specifics noted below.

6.2 Re-fasten any loose decking panels, and check for protruding nail heads. Sweep the substrate thoroughly to remove any dust and debris prior to application, and prime the substrate (if applicable).

6.3 Tarco 30:

6.3.1 Non-Tile Applications:

Shall be installed in compliance with requirements for an approved mechanically attached underlayment (ASTM D226, Type II) in **FBC Table 1507.1.1.1** or **FBC Residential Table R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

6.3.2 Tile Applications:

Tarco 30 is limited to use as a mechanically attached base sheet in the "TWO-PLY SYSTEM" from **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, followed by ASTM Organic Mineral Surface Tile Underlayment or LeakBarrier EasyMop SBS applied in hot asphalt, or other FBC Approved hot-asphalt applied cap sheet. Refer to **FRSA/TRI**, Sixth Edition, Appendix A, Table 1 for attachment requirements.

6.4 LeakBarrier EasyLay:

6.4.1 Non-Tile Applications:

Shall be installed in compliance with requirements for an approved mechanically attached underlayment (ASTM D226, Type II) in **FBC Table 1507.1.1.1** or **FBC Residential Table R905.1.1.1** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

6.4.2 Tile Applications:

LeakBarrier EasyLay is limited to use as a mechanically attached base sheet in the "TWO-PLY SYSTEM" from **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition

- When LeakBarrier EasyLay is followed by ASTM Organic Mineral Surface Tile Underlayment or LeakBarrier EasyMop SBS applied in hot asphalt, or other FBC Approved hot-asphalt applied cap sheet, refer to **FRSA/TRI**, Sixth Edition, Appendix A, Table 1 for attachment requirements.
- When LeakBarrier EasyLay is followed by LeakBarrier PS200^{HT}, refer to Section 5.8.3.2 herein for attachment requirements.

6.5 LeakBarrier EasyLay UDL 15 or LeakBarrier EasyLay UDL 30:

6.5.1 Non-Tile Applications:

Shall be installed in compliance with requirements for a synthetic underlayment in **FBC 1507.1.1.1(2, Exception), 1507.1.1.1(3, Exception)** or **1507.1.1.1(5)** or **FBC Residential R905.1.1.1(2, Exception), R905.1.1.1(3, Exception)** or **R905.1.1.1(5)** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions. FBC requirements take precedence over the manufacturer's installation instructions.

6.5.2 Tile Applications:

LeakBarrier EasyLay UDL 15 and LeakBarrier EasyLay UDL 30 are limited to use as a mechanically attached base sheet in the "TWO-PLY SYSTEM" from **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, followed by LeakBarrier PS200^{HT}, self-adhered. Refer to Section 5.8.3.2 herein for attachment requirements.

6.6 LeakBarrier® MS300, LeakBarrier® PS200^{MU}, LeakBarrier® SS400 Ice and Water Armor or TopShield Ice & Water G300:

6.6.1 Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **1507.1.1.3** or **FBC Residential R905.1.1.1** or **R905.1.1.3** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions.

When installed over a mechanically attached, FBC Approved ASTM D226 Type II felt or ASTM D4869, Type III or IV felt, the felt shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

6.6.2 Multi-Ply Underlayment Systems:

LeakBarrier® SS400 Ice and Water Armor followed by LeakBarrier® SS400 Ice and Water Armor is allowable for use under mechanically attached prepared roof systems. Limits of use are those associated with the top-layer material. This is not a requirement, but is allowable if a multi-ply underlayment system is desired.

6.7 LeakBarrier® PS200^{HT} or LeakBarrier® NR600 Ultra:

6.7.1 Non-Tile Applications:

Shall be installed in compliance with requirements for an approved self-adhering underlayment (ASTM D1970) in **FBC 1507.1.1.1** or **1507.1.1.3** or **FBC Residential R905.1.1.1** or **R905.1.1.3** for the type of prepared roof covering to be installed, and the manufacturer's installation instructions.

When installed over a mechanically attached, FBC Approved ASTM D226 Type II felt or ASTM D4869, Type III or IV felt, the felt shall be fastened in accordance with **FBC 1507.1.1** or **R905.1.1**.

6.7.2 Tile Applications:

Shall be installed in compliance with requirements for a Self-Adhered Membrane in the **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition, and the manufacturer's installation instructions.

Refer to Section 5.8.2 for attachment limitations.

Refer to Table 4 for tile staging limitations.

6.8 ASTM Organic Mineral Surface Tile Underlayment and LeakBarrier™ EasyMop SBS:

6.8.1 Tile Applications:

ASTM Organic Mineral Surface Tile Underlayment and LeakBarrier™ EasyMop SBS are limited to use as the Hot Asphalt applied "Cap Sheet" in the "TWO-PLY SYSTEM" from **FRSA/TRI** *Florida High Wind Concrete and Clay Roof Tile Installation Manual*, Sixth Edition.

Refer to Section 5.8.2 for attachment limitations.

Refer to Table 4 for tile staging limitations.

6.9 Fiberglass Mineral Surface Roll Roofing and ASTM Organic Mineral Surface Tile Underlayment:

6.9.1 Fiberglass Mineral Surface Roll Roofing and ASTM Organic Mineral Surface Tile Underlayment are limited to use as a valley liner in accordance with **FBC 1507.2.9.2** or **FBC Residential R905.2.8.2**. Installation shall be in accordance with the manufacturer's instructions before applying shingles.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Contact the named QA entity for manufacturing facilities covered by **F.A.C. Rule 61G20-3** QA requirements. Refer to Section 4 herein for products and production locations having met codified material standards.

9. QUALITY ASSURANCE ENTITY:

UL LLC – QUA9625; (414) 248-6409; Karen.buchmann@ul.com

- END OF EVALUATION REPORT -