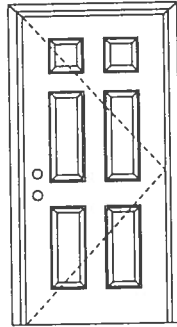


X

Opaque Inswing Unit

COP-WL-MA0101-02**FIBERGLASS DOORS****APPROVED ARRANGEMENT:****Note:**

Units of other sizes are covered by this report as long as the panel used does not exceed 3'0" x 6'8".

Warnock Hersey



Test Data Review Certificate #3026447A
#3026447B, #3026447C and COP/Test
Report Validation Matrix #3026447A-
001, 002, 003, #3026447B-001, 002,
003, #3026447C-001, 002, 003
provides additional information -
available from the ITS/WH website
(www.itssemko.com), the Masonite
website (www.masonite.com) or the
Masonite technical center.

Single Door

Maximum unit size = 3'0" x 6'8"

Design Pressure**+76.0/-76.0**

limited water unless special threshold design is used

Large Missile Impact Resistance**Hurricane protective system (shutters) is REQUIRED.**

Actual design pressure and impact resistant requirements for a specific building design and geographic location is determined by ASCE 7-national, state or local building codes specify the edition required.

MINIMUM ASSEMBLY DETAIL:

Compliance requires that minimum assembly details have been followed – see MAD-WL-MA0001-02.

MINIMUM INSTALLATION DETAIL:

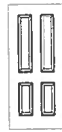
Compliance requires that minimum installation details have been followed – see MID-WL-MA0001-02.

APPROVED DOOR STYLES:

Flush



6-panel



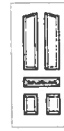
New England 4-panel



Eyebrow 4-panel



9-panel



Eyebrow 5-panel with scroll

Oakcraft
Wood-grain *ART* Textured
FIBERGLASS ENTRY DOORS

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice

ARTEK
Non-Textured Fiberglass Entry Doors

PREMDOR Collection
Premium Quality Doors

Exclusively from
Masonite
Masonite International Corporation

X

Opaque Inswing Unit

COP-WL-MA0101-02

FIBERGLASS DOORS

CERTIFIED TEST REPORTS:

NCTL 210-1973-1, 2, 3

Certifying Engineer and License Number: Ramesh Patel, P.E./20224

Unit Tested in Accordance with Miami-Dade BCCO PA202.

Door panels constructed from 0.075" minimum thick fiberglass skins. Both stiles constructed of 1-5/8" laminated lumber. Top end rails constructed of 31/32" wood. Bottom end rails constructed of 31/32" wood composite. Interior cavity of slab filled with rigid polyurethane foam core.

Frame constructed of wood with an extruded aluminum threshold.

PRODUCT COMPLIANCE LABELING:

TESTED IN
ACCORDANCE WITH
MIAMI-DADE BCCO PA202

COMPANY NAME
CITY, STATE

To the best of my knowledge and ability the above side-hinged exterior door unit conforms to the requirements of the 2001 Florida Building Code, Chapter 17 (Structural Tests and Inspections).



State of Florida, Professional Engineer
Kurt Balthazor, P.E. – License Number 56533



Test Data Review Certificate #3026447A, #3026447B, #3026447C and COP/Test Report Validation Matrix #3026447A-001, 002, 003; #3026447B-001, 002, 003; #3026447C-001, 002, 003 provides additional information - available from the ITSWH website (www.itsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center

2

Oakcraft
Wood grain  Textured
FIBERGLASS ENTRY DOORS

ARTEK
Non-Textured Fiberglass Entry Doors

PREMDOR Collection
Premium Quality Doors



Exclusively from

Masonite
Masonite International Corporation

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice

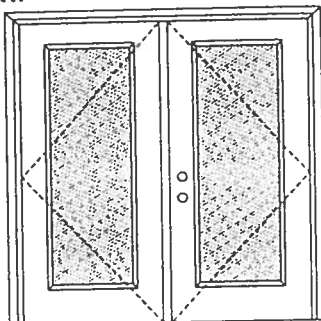
XX

Glazed Outswing Unit

COP-WL-JH4162-02

WOOD-EDGE STEEL DOORS

APPROVED ARRANGEMENT:

**Note:**

Units of other sizes are covered by this report as long as the panels used do not exceed 3'0" x 6'8".

Double Door

Maximum unit size = 6'0" x 6'8"

Design Pressure

+40.5/-40.5

Limited water unless special threshold design is used.

Large Missile Impact Resistance

Hurricane protective system (shutters) is **REQUIRED**.

Actual design pressure and impact resistant requirements for a specific building design and geographic location is determined by ASCE 7-national, state or local building codes specify the edition required.

MINIMUM ASSEMBLY DETAIL:

Compliance requires that minimum assembly details have been followed – see MAD-WL-MA0012-02 and MAD-WL-MA0041-02.

MINIMUM INSTALLATION DETAIL:

Compliance requires that minimum installation details have been followed – see MID-WL-MA0002-02.

APPROVED DOOR STYLES:

1/4 GLASS:



100 Series



133, 135 Series



136 Series



680 Series



822 Series

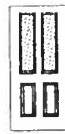
1/2 GLASS:



105 Series*



106, 160 Series*



129 Series*



200 Series*



12 R/L, 23 R/L, 24 R/L Series*



107 Series*



108 Series



304 Series

* This glass kit may also be used in the following door styles: 5-panel; 5-panel with scroll; Eyebrow 5-panel; Eyebrow 5-panel with scroll.

1

Johnson
EntrySystems

March 29, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Collection
Premium Quality Doors



Exclusively from
Masonite

Masonite International Corporation

XX

Glazed Outswing Unit

COP-WL-JH4162-02

WOOD-EDGE STEEL DOORS

APPROVED DOOR STYLES:**3/4 GLASS:**

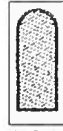
404 Series



410 Series



450 Series

FULL GLASS:

109 Series

114, 120, 122
Series

152 Series



149 Series



300 Series

CERTIFIED TEST REPORTS:

NCTL 210-1897-7, 8, 9, 10, 11, 12; NCTL 210-1864-5, 6, 7, 8; NCTL 210-2178-1, 2, 3

Certifying Engineer and License Number: Barry D. Portney, P.E. / 16258.

Unit Tested in Accordance with Miami-Dade BCCO PA202.

Evaluation report NCTL-210-2794-1

Door panels constructed from 26-gauge 0.017" thick steel skins. Both stiles constructed from wood. Top end rails constructed of 0.041" steel. Bottom end rails constructed of 0.021" steel. Interior cavity of slab filled with rigid polyurethane foam core. Slab glazed with insulated glass mounted in a rigid plastic lip lite surround.

Frame constructed of wood with an extruded aluminum bumper threshold.

PRODUCT COMPLIANCE LABELING:

TESTED IN
ACCORDANCE WITH
MIAMI-DADE BCCO PA202

COMPANY NAME
CITY, STATE

To the best of my knowledge and ability the above side-hinged exterior door unit conforms to the requirements of the 2001 Florida Building Code, Chapter 17 (Structural Tests and Inspections).

State of Florida, Professional Engineer
Kurt Balthazor, P.E. – License Number 56533

2**Johnson™
EntrySystems**

March 29, 2002

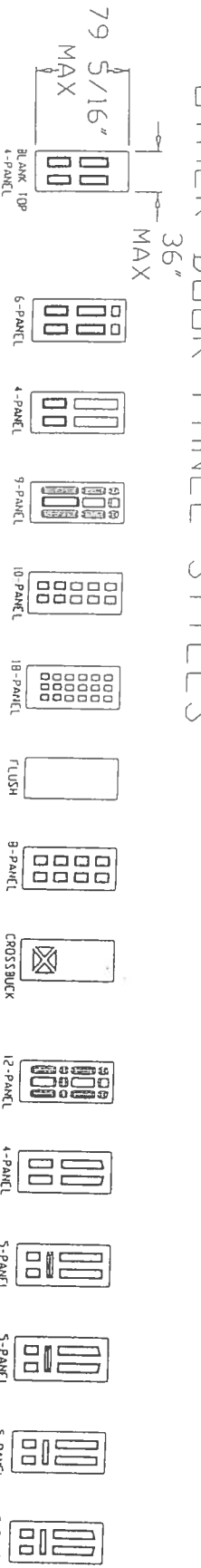
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.



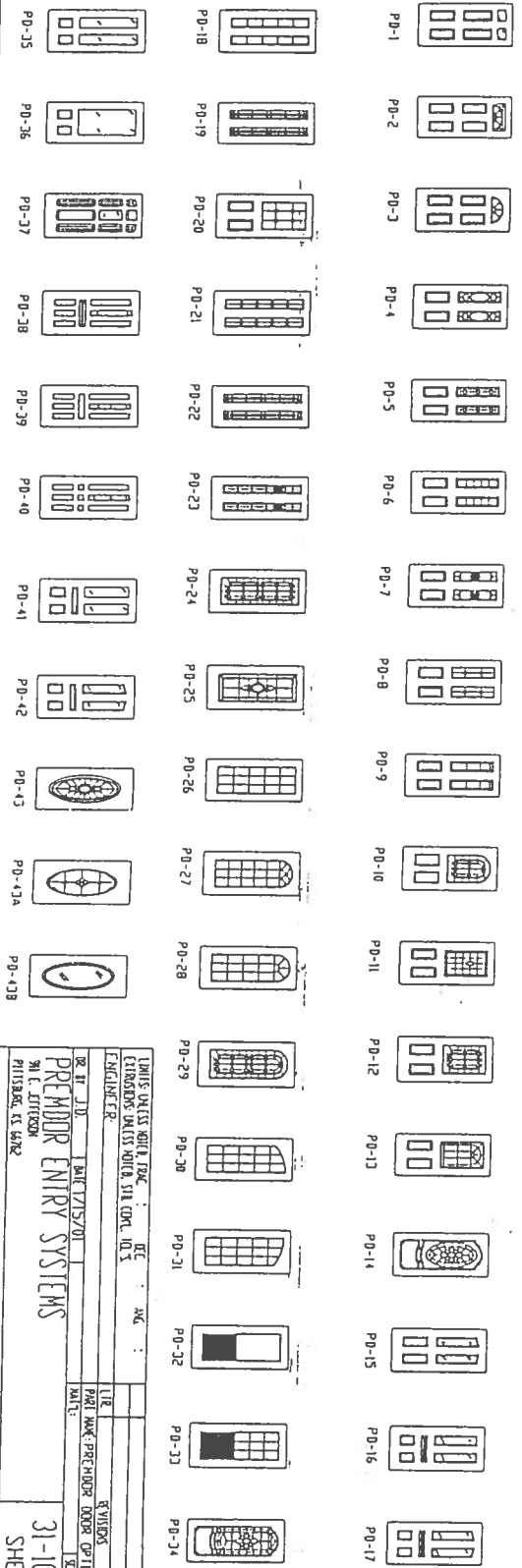
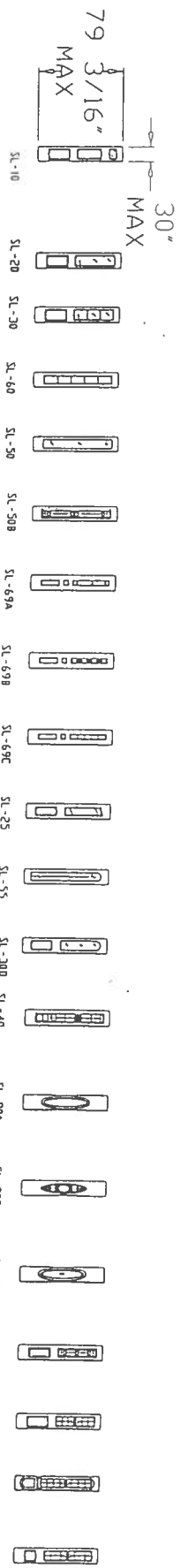
Exclusively from

Masonite®
Masonite International Corporation

OTHER DOOR PANEL STYLES



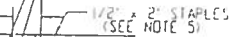
OTHER SIDELITE STYLES



LINDS DATES: 1/10/12, 1/10/12, 1/10/12
 ENGINEER: [Signature]
 DATE: 1/10/12
 PROJECT: 31-1020-EM-1
 SHEET: 6 OF 6
 REVISION: 1/10/12

APPROVED AS COMPLYING WITH THE
 SOUTH FLORIDA BUILDING CODE
 DATE: 1/10/12
 BY: [Signature]
 PRODUCT CONTROL DIVISION
 BUILDING CODE COMPLIANCE OFFICE

#10 @ 1 1/2' MINIMUM EMBEDMENT
(14) PER HEAD & SILL, (6) PER J
ALTERNATE: 3/16" PTH TAPCONS
= 1 1/2' MINIMUM EMBEDMENT



1.) WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.
2.) THE PRECEDING DRAWINGS ARE INTENDED TO QUALIFY THE FOLLOWING INSTALLATIONS.

- LI INSURING RJ INSURING

* UNITS SHALL BE INSTALLED ONLY AT LOCATIONS PROTECTED BY A CANOPY OR OVERHANG SUCH THAT THE ANGLE BETWEEN THE EDGE OF CANOPY OR OVERHANG TO SILL IS LESS THAN 45 DEGREES. UNLESS UNIT IS INSTALLED IN NON-HABITABLE AREAS WHERE THE UNIT AND THE AREA ARE DESIGNED TO ACCEPT WATER INFILTRATION

APPROVED AS COMPLYING WITH THE
SOUTH FLORIDA BUILDING CODE
DATE JUN 05 2001
BY [Signature]
PROJECT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO 01-031416

[illegible]

OTHER CONFIGURATIONS

1/2"
GLASS BITE

EXTERIOR

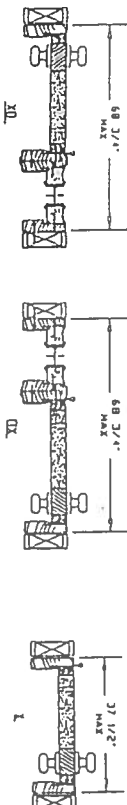
INTERIOR

1/8" TEMPERED GLASS

28

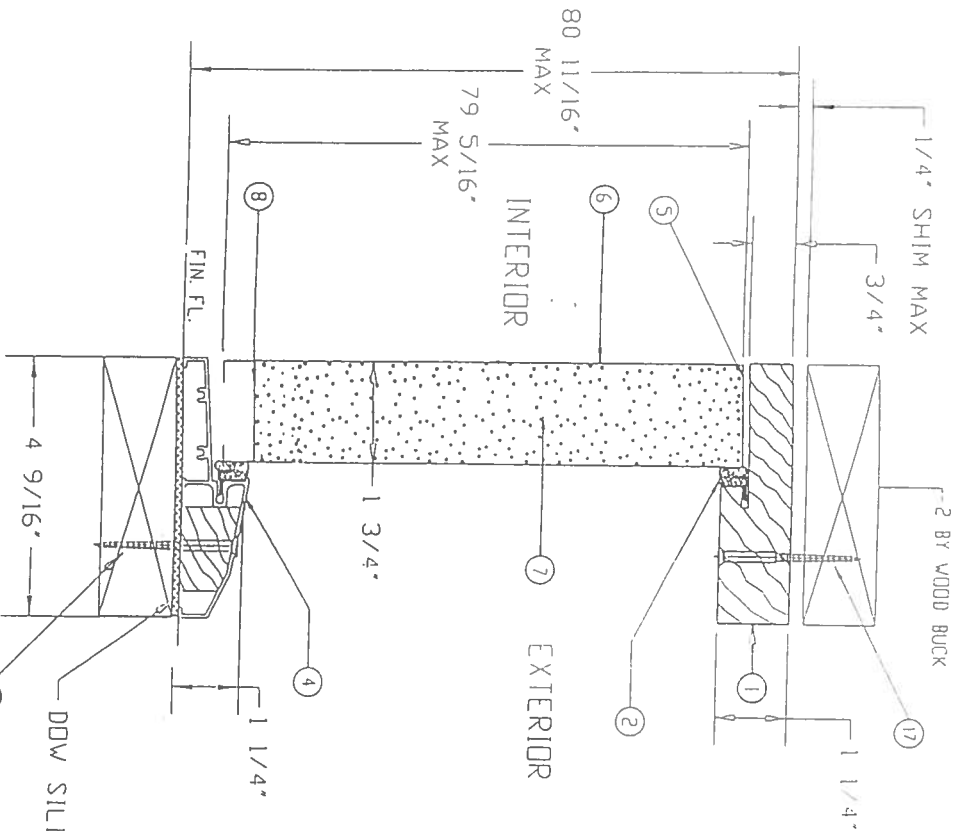
29

SUPERIOR VINYL FRAME
EXTERIOR GRADE LATEX CAULK



APPROVED AS COMPETING WITH THE
SOUTH FLORIDA BUILDING CODE
DATE JUN 05 2001
BY Maundling
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
APPROPRIATE NO 01-0314-16

[illegible]



SECTION B-B

APPROVED AS SHOWN WITH THE
DATE: JUN 05 2001
BY: [Signature]
PROJECT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 01-0319-11C

MATERIALS LIST

ITEM NO	DESCRIPTION	PART NUMBER	COMMENTS
1	WOOD HEAD JAMB	EM-14	1 1/4" X 4 9/16" MIL TO BE PINE OR EQUIVALENT
2	COMPRESSION WEDGE STRIP	EM-25	LOCKSCREW BRAND LUXEAL 9650 (BRODIE)
3	WOOD STRIKE JAMB	EM-12	1 1/4" X 4 9/16" MIL TO BE PINE OR EQUIVALENT
4	ALUMINUM-BUFFER THRESHOLD	EM-15	PREHODOR BRAND OR EQUIVALENT - 1 1/4" X 4 9/16"
5	TOP CHANNEL	EM-08	PREHODOR BRAND - 1 11/16" - 20 GA STEEL
6	STEEL SKIN	36 ga (41-100-1000)	36 ga (41-100-1000)
7	POLYURETHANE FOAM CORE	EM-07	PREHODOR BRAND - 1 11/16" - 20 GA STEEL
8	WOOD LOCK BLOCK	EM-09	4" X 9 1/2" MIL TO BE PINE OR EQUIVALENT
9	WOOD LOCK BLOCK	EM-06	PREHODOR BRAND - 1 11/16" - 20 GA STEEL
10	STRIKE STILE	EM-05	PREHODOR BRAND - 1 11/16" - 20 GA STEEL
11	HINGE STILE	EM-10	PREHODOR BRAND - 050" THICK - MIL TO BE POLYETHYLENE
12	LOCK PREP FILLER PLATE	EM-16	HAGER BRAND HINGE OR EQUIVALENT - 097" THICK (STEEL)
13	4"x4" HINGE	EM-12	1 1/4" X 4 9/16" MIL TO BE PINE OR EQUIVALENT
14	WOOD HINGE JAMB	EM-13	1 1/4" X 4 9/16" MIL TO BE PINE OR EQUIVALENT
15	10-24 X 1/2" F.H.S.		(4) SCREWS PER HINGE INTO DOOR
16	10 X 2" F.H.S.		(5) SCREWS THROUGH HINGE JAMB INTO SIDE LITE JAMB. 8" DOWN FROM TOP OF DOOR
17	1/8" FINE WOODEN 1/2" THICK DOOR		MAX 18" OC. INCREASING
18	SIDE LITE WOOD STILE	EM-28	15/16" X 1 11/16" MIL TO BE PINE OR EQUIVALENT
19	18 X 2" F.H.S.		(2) SCREWS AT EACH STRIKE PLATE
20	LOCKSET		Kwikset Brand 200 Lock OR HARDLOC Brand 100 Lock
21	NOT USED ON THIS MODEL		
22	WOOD SIDE LITE JAMB	EM-19	1 1/4" X 4 9/16" MIL TO BE PINE OR EQUIVALENT
23	22" X 64" SINGLE PANEL GLASS	EM-20	1/8" PER FRAME TO BE PINE OR EQUIVALENT
24	SIDE LITE TRIM (WOOD)	EM-21	5/16" X 1/2" MIL TO BE PINE OR EQUIVALENT
25	WOOD CASING	EM-22	1/8" X 1 1/2" MIL TO BE PINE OR EQUIVALENT
26	WOOD SIDE LITE HEAD JAMB	EM-23	1 1/4" X 4 9/16" MIL TO BE PINE OR EQUIVALENT
27	POLYPROPYLENE LITE FRAME	DC-1643, DR-2	1 HP Polypropylene by DOL
28	16 X 1 1/2" PAN HEAD SCREWS		18 PER FRAME TO BE PINE OR EQUIVALENT
29	PIN NAIL		1/2" LONG NAIL, 4" IN FROM END, MAX 8" OC. IN DOOR, USED ON MULLINS AND 1

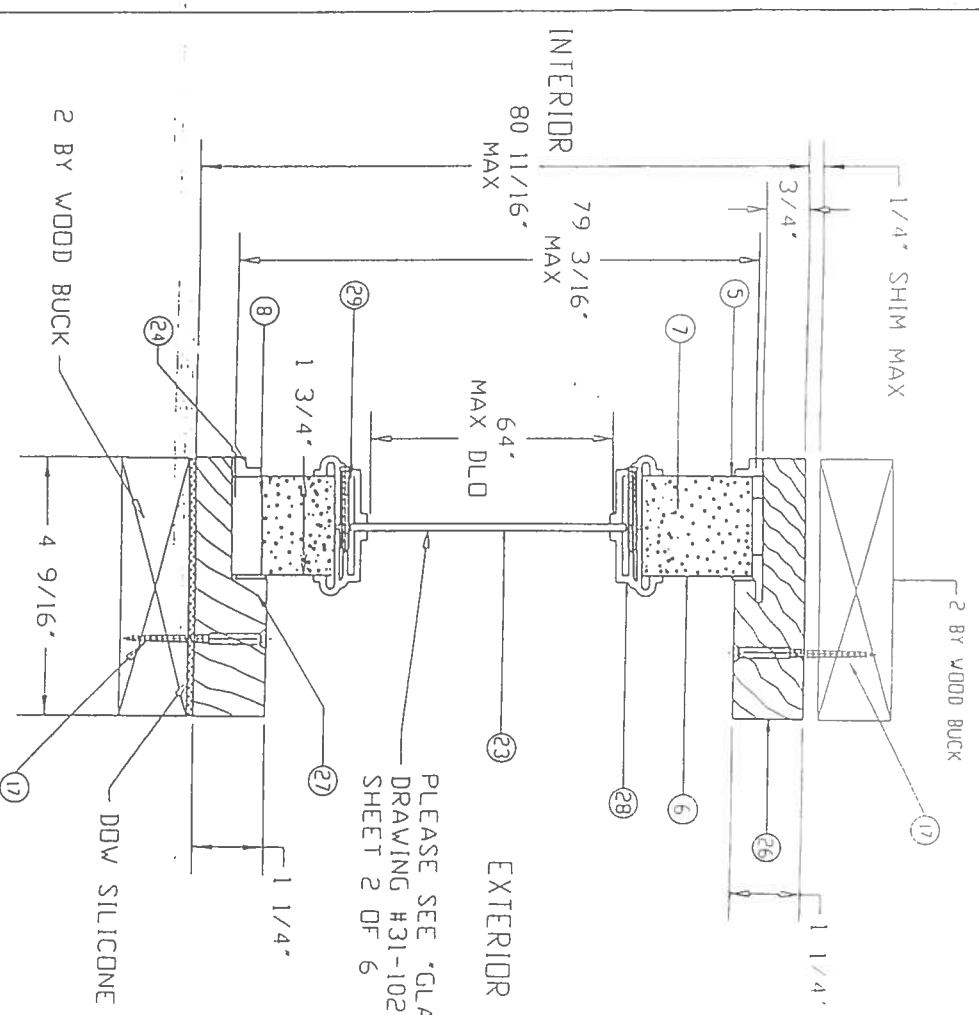
DATE	BY	REVISION	DATE
07/11/01	JD		
10-1-99	RS		

PREHODOR ENTRY SYSTEMS

PHILSBORO, NJ 08862

31-1020-EM-1
SHEET 3 OF 6

REVISION LETTER B



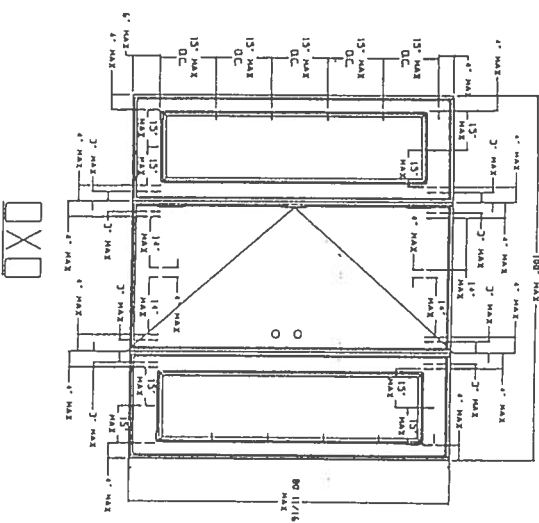
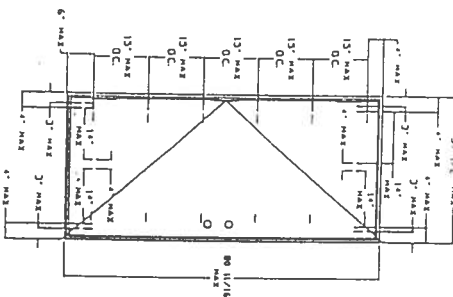
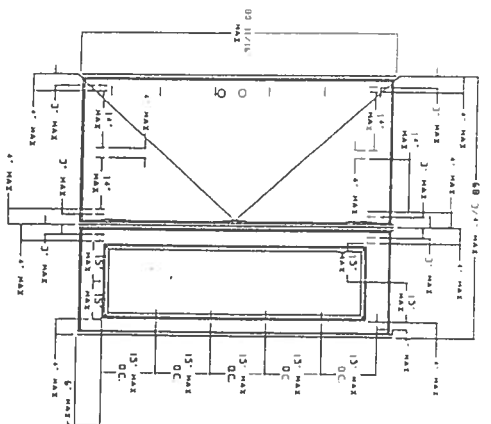
PLEASE SEE 'GLAZING DETAIL'
DRAWING #31-1020-EM-1
SHEET 2 OF 6

SECTION C-C

APPROVED AS SHOWN WITH THE
SCHEMATIC BY THE
DATE 10/15/97
BY *Michael R. Smith*
PRODUCT CONTROL DIVISION
BUILDING CODE COMPLIANCE OFFICE
ACCEPTANCE NO. 0314-112

REVISIONS		DATE	BY	REASON
1	DATE	7-29-97	BY	REASON
2	DATE	7-29-97	BY	REASON
3	DATE	7-29-97	BY	REASON
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100	DATE	7-29-97	BY	REASON

REVISION LETTER

[illegible][illegible]

REVISED



**AAMA/NWDA 101/I.S.2-97
TEST REPORT SUMMARY**

Rendered to:

MI HOME PRODUCTS, INC.

**SERIES/MODEL: 650 Fin
TYPE: Aluminum Single Hung Window**

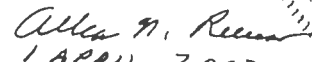
Title of Test	Results
Rating	H-R40 52 x 72
Overall Design Pressure	+45.0 psf -47.2 psf
Operating Force	11 lb max.
Air Infiltration	0.13 cfm/ft ²
Water Resistance	6.00 psf
Structural Test Pressure	+67.5 psf -70.8 psf
Deglazing	Passed
Forced Entry Resistance	Grade 10

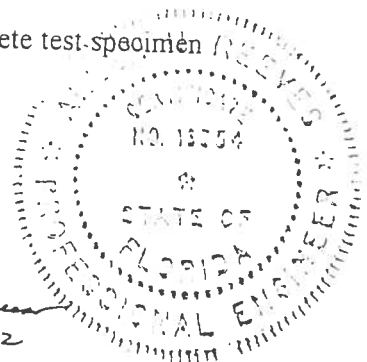
Reference should be made to Report No. 01-41134.01 dated 03/26/02 for complete test-specimen description and data.

For ARCHITECTURAL TESTING, INC.


Mark A. Hess, Technician

MAH:nlb


1 APRIL 2002





Architectural Testing

AAMA/NWWDA 101/I.S.2-97 TEST REPORT

Rendered to

MI HOME PRODUCTS, INC.
650 West Market Street
P.O. Box 370
Gratz, Pennsylvania 17030-0370

Report No: 01-41134.01
Test Date: 03/07/02
Report Date: 03/26/02
Expiration Date: 03/07/06

Project Summary: Architectural Testing, Inc. (ATI) was contracted by MI Home Products, Inc. to perform tests on Series/Model 650 Fin, aluminum single hung window at their facility located in Elizabethville, Pennsylvania. The samples tested successfully met the performance requirements for a H-R40 52 x 72 rating.

Test Specification: The test specimen was evaluated in accordance with AAMA/NWWDA 101/I.S.2-97, *Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors*.

Test Specimen Description

Series/Model: 650 Fin

Type: Aluminum Single Hung Window

Overall Size: 4' 4-1/4" wide by 6' 0-3/8" high

Active Sash Size: 4' 1-3/4" wide by 3' 0-5/8" high

Daylight Opening Size: 3' 11-3/8" wide by 2' 9-1/2" high

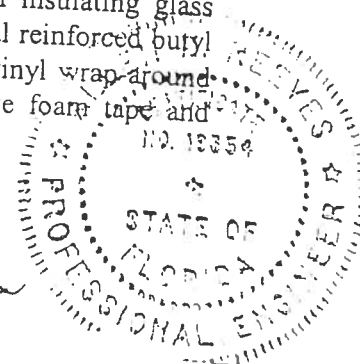
Screen Size: 4' 0-1/4" wide by 2' 11-1/8" high

Finish: All aluminum was white.

Glazing Details: The active and fixed lites utilized 5/8" thick, sealed insulating glass constructed from two sheets of 1/8" thick, clear annealed glass and a metal reinforced butyl spacer system. The active sash was channel glazed utilizing a flexible vinyl wrap-around gasket. The fixed lite was interior glazed against double-sided adhesive foam tape and secured with PVC snap-in glazing beads.

130 Derry Court
York, PA 17402-9405
phone: 717.764.7700
fax: 717.764.4129
www.archtest.com

Allen M. Reun
1 APRIL 2002



Test Specimen Description: (Continued)

Weatherstripping:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.230" high by 0.270" backed polypile with center fin	1 Row	Fixed meeting rail
0.250" high by 0.187" backed polypile with center fin	2 Rows	Active sash stiles
1/2" x 1/2" dust plug	4 Pieces	Active sash, top and bottom of stiles
1/4" foam-filled vinyl bulb seal	1 Row	Active sash, bottom rail

Frame Construction: The frame was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1" screws through the head and sill into each jamb screw boss. End caps were utilized on the ends of the fixed meeting rail and secured with two 1-1/4" screws per cap. Meeting rail was secured to the frame utilizing two 1-1/4" screws.

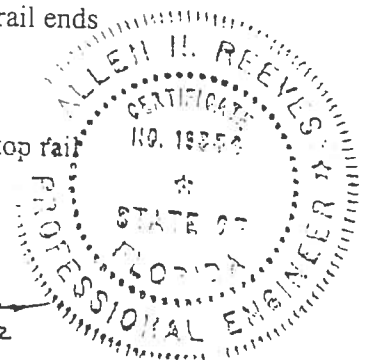
Sash Construction: The sash was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1-1/2" screws through the rails into each jamb screw boss.

Screen Construction: The screen was constructed from roll-formed aluminum with keyed corners. The fiberglass mesh was secured with a flexible spline.

Hardware:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Metal cam lock with keeper		Midspan, active meeting rail with keeper adjacent on fixed meeting rail
Plastic tilt latch	2	Active sash, meeting rail ends
Metal tilt pin	2	Active sash, bottom rail ends
Balance assembly	2	One in each jamb
Screen plunger	2	4" from rail ends on top rail

Allen H. Reeves
1 APRIL 2002





Test Specimen Description: (Continued)

Drainage: Sloped sill

Reinforcement: No reinforcement was utilized.

Installation: The test specimen was installed into a 2 x 8 #2 Spruce-Pine-Fir wood test buck with #8 x 1-5/8" drywall screws every 8" on center around the nail fin. Polyurethane was used as a sealant under the nail fin and around the exterior perimeter.

Test Results:

The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.2.1.6.1	Operating Force	11 lbs	30 lbs max
	Air Infiltration (ASTM E 283-91) @ 1.57 psf (25 mph)	0.13 cfm/ft ²	0.3 cfm/ft ² max
	Water Resistance (ASTM E 547-00) (with and without screen) WTP = 2.86 psf	No leakage	No leakage
2.1.4.1	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 33 seconds) @ 25.9 psf (positive) @ 34.7 psf (negative)	0.42"* 0.43"*	0.26" max. 0.26" max.

**Exceeds L/175 for deflection, but passes all other test requirements.*

2.1.4.2	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 10 seconds) @ 38.9 psf (positive) @ 52.1 psf (negative)	0.02" 0.02"	0.18" max. 0.18" max.
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Allen H. Reeves
1 APRIL 2002



Test Specimen Description: (Continued)

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.2.1.6.2	Deglazing Test (ASTM E 987) In operating direction at 70 lbs		
	Meeting rail	0.12"/25%	0.50"/100%
	Bottom rail	0.12"/25%	0.50"/100%
	In remaining direction at 50 lbs		
	Left stile	0.06"/12%	0.50"/100%
	Right stile	0.06"/12%	0.50"/100%
	Forced Entry Resistance (ASTM F 588-97)		
	Type: A		
	Grade: 10		
	Lock Manipulation Test	No entry	No entry
	Tests A1 through A5	No entry	No entry
	Test A7	No entry	No entry
	Lock Manipulation Test	No entry	No entry

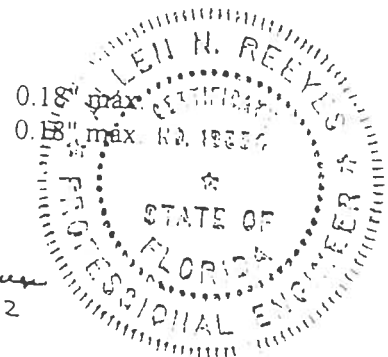
Optional Performance

4.3	Water Resistance (ASTM E 547-00) (with and without screen) WTP = 6.00 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 33 seconds)		
	@ 45.0 psf (positive)	0.47"*	0.26" max.
	@ 47.2 psf (negative)	0.46"*	0.26" max.

*Exceeds L/175 for deflection, but passes all other test requirements.

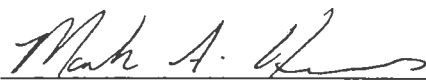
Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 10 seconds)	
@ 67.5 psf (positive)	0.05"
@ 70.8 psf (negative)	0.05"

Allen N. Reeves
1 APRIL 2002



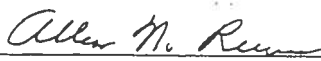
Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of four years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

For ARCHITECTURAL TESTING, INC:

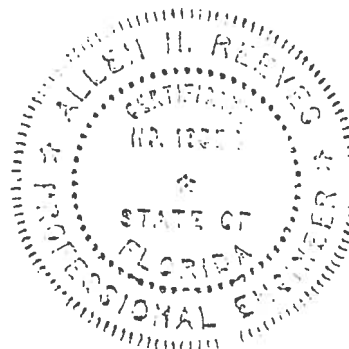


Mark A. Hess
Technician

MAH:nlb
01-41134.01



Allen N. Reeves, P.E.
Director - Engineering Services
1 APRIL 2002



THIS FENESTRATION PRODUCT COMPLIES* WITH THE
NEW FLORIDA BUILDING CODE
FOR RESIDENTIAL BUILDINGS WITH A MEAN ROOF HEIGHT OF 30 FT. OR LESS,
EXPOSURE "B" (WHICH IS INLAND OF A LINE THAT IS 1500 FT. FROM THE COAST),
AND **WALL ZONE "5"** (INSTALLED NEAR THE CORNER OF THE BUILDING).

PER *ASTM E1300*, THE CORRECT GLASS THICKNESS, BASED ON THE *NEGATIVE*
DESIGN PRESSURE (DP) LISTED BELOW, HAS BEEN INSTALLED IN THIS UNIT.
THE GLASS THICKNESS IS BASED ON ITS' WIDTH, HEIGHT, AND ASPECT RATIO.

WIND ZONE: 110 MPH
DESIGN PRESSURE (DP): + 21.8 / - 29.1

THIS PRODUCT MEETS THE REQUIREMENTS FOR STRUCTURAL LOADS, WATER AND
AIR INFILTRATION PER ATTACHED *AAMA* PERFORMANCE LABEL. BE ADVISED THAT
IF LOADS ARE PLACED UP TO OR EXCEEDING THE TESTED LEVELS, THIS PRODUCT
MAY BE ALTERED IN SUCH A WAY THAT FUTURE PERFORMANCE WILL BE REDUCED.

* COMPLIANCE MUST INCLUDE INSTALLATION ACCORDING TO
MANUFACTURER'S INSTRUCTIONS AND FLORIDA CODE REQUIREMENTS.

MIP-467

sample label



January 31, 2002

TO: OUR FLORIDA CUSTOMERS:

Effective February 1, 2002, the following TAMKO shingles, as manufactured at TAMKO's Tuscaloosa, Alabama, facility, comply with ASTM D-3161, Type I modified to 110 mph. Testing was conducted using four nails per shingle. These shingles also comply with Florida Building Code TAS 100 for wind driven rain.

- Glass-Seal AR
- Elite Glass-Seal AR
- ASTM Heritage 30 AR (formerly ASTM Heritage 25 AR)
- Heritage 40 AR (formerly Heritage 30 AR)
- Heritage 50 AR (formerly Heritage 40 AR)

All testing was performed by Florida State certified independent labs.

Please direct all questions to TAMKO's Technical Services Department at 1-800-641-4691.

TAMKO Roofing Products, Inc.

RESIDENTIAL HEATING AND COOLING REQUIREMENTS*

Page 1



HEATING AND COOLING REQUIREMENTS DUE TO GLASS AREA

WINDOWS & GLASS DOORS		AREA SQUARE FEET	DESIGN TEMPERATURE DIFFERENCE					HEATING (BTUH LOSS)
			30°	35°	40°	45°	50°	
Glass Doors, Infiltration less than 1.0 CFM/FT								
Single Glass								
Double Glass			50	60	70	75	85	
Other Sliding Glass Doors		120	40	45	(50)	55	60	6000
Single Glass								
Double Glass			75	85	100	115	125	
Windows, Infiltration less than 0.50 CFM/FT		199	60	70	(80)	90	100	15920
Single Glass								
Double Glass			40	50	55	60	70	
Windows, Infiltration less than 0.75 CFM/FT			25	30	35	40	45	
Single Glass								
Double Glass			45	50	60	65	75	
Other Windows			30	35	40	45	50	
Single Glass								
Double Glass			75	90	105	115	130	
Fixed or Picture Windows			60	70	80	90	105	
Single Glass								
Double Glass			40	50	55	60	70	
Other		53.32	25	30	(35)	40	45	1866
Total BTUH Loss (Enter on Line 2, Page 2)								23786

WINDOWS & GLASS DOORS	AREA SQUARE FEET	COOLING MULTIPLIER (CIRCLE)												COOLING (BTUH GAIN)	
		SINGLE GLASS						DOUBLE GLASS							
		90°			95°			90°			95°				
		C	T	R	C	T	R	C	T	R	C	T	R		
No Shading															
N	175	30	22	20	30	26	25	20	14	13	(25)	17	16		2325
NE & NW		60	41	36	65	45	41	50	29	24	50	32	27		
E & W	86	85	60	53	90	64	57	70	44	36	(75)	47	39		6450
SE & SW		75	51	45	80	55	50	60	37	30	65	40	33		
S	111.32	45	31	28	50	35	33	35	21	18	(40)	24	21		4453
Draperies or Blinds															
N		20	17	16	25	21	20	15	11	11	20	14	14		
NE & NW		35	33	30	40	37	34	30	22	21	35	25	24		
E & W		55	48	43	55	52	47	45	32	30	50	35	33		
SE & SW		45	39	35	50	43	39	40	26	25	40	29	28		
S		30	26	24	30	30	28	25	17	16	25	20	19		
Roller Shades															
N		25	19	17	25	23	22	20	12	11	20	15	14		
NE & NW		45	36	32	50	40	37	40	26	22	45	29	25		
E & W		65	53	47	70	57	51	55	37	32	60	40	35		
SE & SW		55	44	39	60	48	44	50	32	27	50	35	30		
S		35	28	25	40	32	30	30	20	16	35	23	19		
Awnings, Porches, Etc.															
All Directions		25	22	20	30	26	25	15	14	13	20	17	16		
Other															
Total BTUH Gain (Line 2, Page 2)															13228

TOTAL HEATING AND COOLING REQUIREMENTS

Page 2

For: _____

Name: Joel & Susan Law

Address: _____

City: _____

() Check Constr. Type	ITEM	AREA SQUARE FEET	DESIGN TEMPERATURE DIFFERENCE					HEATING (BTUH LOSS)	DESIGN TEMP		COOLING (BTUH GAIN)
									90°	95°	
			30°	35°	40°	45°	50°				
	Gross Wall Area	1897						23786			13226
	Glass Area (From page 1)	372									
	Partitions, Frame:		17	19	22	25	28		6.5	10.0	
	Finished 1 side, No Insulation		9	11	12	14	16		4.5	6.0	
	Finished 2 sides, No Insulation		4	5	5.5	6	7		2.5	3.5	
	Finished 2 sides, R-5		2	3	3	4	4		2.0	2.5	
	Finished 2 sides, R-11				2			756		2.8	1058
	Other	R-14 378									
	Doors (Excluding glass)		135	160	180	200	225		10.0	13.0	
	No weatherstripping		70	85	95	110	120		10.0	13.0	
	Weatherstripped		123	144	164	185	205		4.3	5.5	
	R-5 Insulation, No weatherstripping		68	79	(90)	101	113	1620	4.0	(5.0)	90
	R-5 Insulation, weatherstripping	18									
	Other										
	Net Exterior Walls		9	10	12	13	14		4.5	6.0	
	CBS Furred, No Insulation		5	6	7	8	8		3.0	4.2	
	CBS Furred, R-3 Insulation		4	5	6	6	7		2.7	3.8	
	CBS Furred, R-4 Insulation		4	5	5	6	6		2.5	3.5	
	CBS Furred, R-5 Insulation		8	9	10	11	13		5.5	7.0	
	Frame, No Insulation		2	2	3	3	4		2.5	3.0	
	Frame, R-11 Insulation		1.5	1.7	(2)	2.5	3	3054	2	(2.8)	4276
	Frame, R-14 Insulation	1527									
	Other										
	Ceiling under attic	Roof									
	No Insulation	DK LT	18	21	24	27	30		9	7	10 8.5
	R-11 Insulation	DK LT	2.4	2.8	3.2	3.5	3.9		2.5	2	3 2.5
	R-19 Insulation	DK LT	1.5	1.7	1.9	2.2	2.4		1.5	1.5	2 1.5
	R-22 Insulation	DK LT	1.2	1.5	1.7	1.9	2.1		1.5	1.0	1.5 1.5
	R-26 Insulation	DK LT	1.1	1.3	1.4	1.6	1.8		1.3	1	1.5 1.2
	R-30 Insulation	(DK) LT	1	1.1	(1.3)	1.4	1.6	2759	1.1	9	(1.3) 1.0 2159
	Other										
	Floor, Concrete Slab	Perimeter Ft.									
	No Edge Insulation	214	35	40	(40)	45	45	8560	0	0	
	Other										
	Subtotal							40535			
	People @ 300 & Appl. @ 1200										
	Sensible BTUH Gain										
	Duct BTUH Loss & Gain							40535			
	2 In. Flex. or 1 In. Rigid				.10			4054	.10		2831
	1 1/2 In. Rigid				.075				.075		
	Total BTUH Loss							44589			
	Subtotal BTUH Gain										3142
	x 1.3 = Total BTUH Gain										40485

Calculated Heating Requirements 44589
 Size of Unit Chosen 48000
 % Oversized _____
 % Undersized _____

BTUH Calculated Cooling Requirements 40485
 BTUH Size of Unit Chosen 48,000
 % Oversized _____
 % Undersized _____

From: The Columbia County Building Department
Plans Review
135 NE Hernando Av.
P. O Box 1529
Lake City Florida, 32056-1529

Reference to: Build permit application Number: **0512-41**
Joel Law Owner/ 28-1S-17-04591-002

On the date of December 19, 2005 application 0512-41 and plans for construction of a single family dwelling were reviewed and the following information or alteration to the plans will be required to continue processing this application. If you should have any question please contact the above address, or contact phone number (386) 758-1163 or fax any information to (386) 754-7088.

Please include application number 0512-41 when making reference to this application.

1. Application 0512-41 which was filed with the building department on the date of December 19, 2005 and will be reviewed under the Florida Building Code 2004.

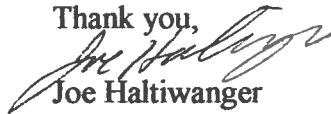
The Wind Load design by Mr. Mark Disosway was design under the Florida Building Code 2001. The wind Load design should reflect the code sections of the Florida Building Code 2004 that relate to wind Load design code requirements.

2. Please have Mr. Mark Disosway supply the following information, show all required connectors with uplift rating and required number and size of fasteners for continuous tie

from roof to foundation shall be designed by a Windload engineer using the engineered roof truss plans.

- ✓ 3. Please submit two set of plans which have Mr. Disosway raised engineering seal along with his signature.
- ✓ 4. In the master bath area over the tub please verify that the glass area will comply with the FRC-2004 section R308.4 Hazardous locations: Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any part of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface.

Thank you,



Joe Haltiwanger

Plan Examiner

Columbia County Building Department

Mark Disosway, P.E.

POB 868, Lake City, FL 32056, Ph (386) 754-5419, Fax (386) 269-4871

December 20, 2005

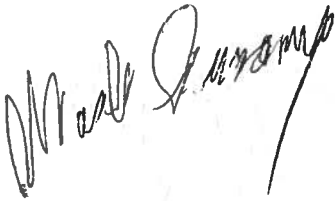
Building Department

Re: Permit 0512-41, Woodman Park Builders, Law, Susan & Joel Residence, Deep Creek S/D Columbia County, FL

Dear Building Official:

Please accept this letter as addendum to the plans for the above referenced house to change all references to FBC 2001 to FBC 2004.

- The plan was drawn prior to the effective date for FBC 2004, 01 October 2005.
- Since the wind load requirements of FBC 2004 remain basically unchanged from FBC 2001 there are no structural changes required to this plan.



Mark Disosway, PE
Florida Registered Professional Engineer

Cc Woodman Park Builders