S/N RSR24586 RIGHT-J SHORT FORM 01/21/04

File name: STEPHE~1.RSR
Job #: 031207
For: Shawn & Sarah Stephens
Lot 16, The Woodlands
Lake City Fl 32055

By: Aaron Simque Homes, Inc.
Rt. 9 Box 785-33
Lake City FL 32024
(386) 397-3785

	Htg	Clg
Outside db	31	93
Inside db	70	75
Design TD	39	18
Daily Range	-	M
Inside Humid.	-	50
Grains Water	-	51
Method	Simplified	
Const. qlty	Average	
Fireplaces	1	

HEATING EQUIPMENT

Make
Trade

Efficiency	7.4 HSPF	
Heating Input	0	Btuh
Heating Output	0	Btuh
Heating Temp Rise	0	Deg F
Actual Heating Fan	3357	CFM
Htg Air Flow Factor	0.046	CFM/Btuh

Space Thermostat

COOLING EQUIPMENT

Make
Trade

Efficiency	12.0 EER	
Sensible Cooling	0	Btuh
Latent Cooling	0	Btuh
Total Cooling	0	Btuh
Actual Cooling Fan	3357	CFM
Clg Air Flow Factor	0.053	CFM/Btuh

Load Sensible Heat Ratio 88

ROOM NAME	AREA SQ.FT.	HTG BTUH	CLG BTUH	HTG CFM	CLG CFM
Great Room	342	12635	12486	581	668
Breakfast	141	9864	9505	454	508
Kitchen	234	2280	2833	105	152
Laundy Room	118	1592	1338	73	72
Dining Room	238	8919	9011	410	482
Foyer	54	6708	4397	309	235
Study	188	6555	5400	302	289
PDR Bath	37	1483	666	68	36
Owner's Suite	237	8070	8091	371	433
Master Bath	160	2289	1128	105	60
Master W.I.C.	85	1788	769	82	41
Main Floor Core	150	212	239	10	13
Bedroom #3	216	4222	3118	194	167
Bedroom #2	167	2110	956	97	51
Upstairs Bath	76	494	345	23	18
Loft / Stairs	481	3723	2491	171	133
Core	0	0	0	0	0
Entire House d	2924	72945	62773	3357	3357
Ventilation Air		0	0		
Equip. @ 0.98 RSM			61517		
Latent Cooling			8361		
TOTALS	2924	72945	69878	3357	3357

FORM 600A-2001

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	**Stephens Residence**	Builder:	**Aaron Simque Construc io**
Address:	**Lot: 16, Sub: The Woodlands, Plat:**	Permitting Office:	**Columbia County**
City, State:	**Lake City, FL 32055-**	Permit Number:	
Owner:	**Shawn & Sarah Stephens**	Jurisdiction Number:	
Climate Zone:	**North**		

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 70.2 kBtu/hr
3. Number of units, if multi-family	1		SEER: 12.00
4. Number of Bedrooms	4	b. N/A	
5. Is this a worst case?	No		
6. Conditioned floor area (ft²)	2924 ft²	c. N/A	
7. Glass area & type			
a. Clear - single pane	0.0 ft²	13. Heating systems	
b. Clear - double pane	0.0 ft²	a. Electric Heat Pump	Cap: 70.2 kBtu/hr
c. Tint/other SHGC - single pane	0.0 ft²		HSPF: 7.40
d. Tint/other SHGC - double pane	936.0 ft²	b. N/A	
8. Floor types			
a. Raised Wood	R=19.0, 493.0 ft²	c. N/A	
b. Raised Wood, Adjacent	R=19.0, 447.0 ft²		
c. 1 Others	300.0 ft²	14. Hot water systems	
9. Wall types		a. Electric Resistance	Cap: 80.0 gallons
a. Frame, Wood, Exterior	R=19.0, 2678.6 ft²		EF: 0.90
b. Frame, Wood, Adjacent	R=13.0, 297.0 ft²	b. N/A	
c. N/A			
d. N/A		c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)	
e. N/A			
10. Ceiling types with (RBS)		15. HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)	PT,
a. Under Attic	R=30.0, 2571.7 ft²		
b. N/A			
c. N/A			
11. Ducts(RBS)			
a. Sup: Unc. Ret: Con. AH: Garage	Sup. R=6.0, 60.0 ft		
b. N/A			

Glass/Floor Area: 0.32

Total as-built points: 40662

Total base points: 41540

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: 1·21·04

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

FORM 600A-2001

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-** PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BSPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	SPM X	SOF	= Points	
.18	2924.0	20.04	10547.5	Double, Tint	S	1.5	8.3	76.0	28.87	0.93	2043.0	
				Double, Tint	W	1.5	13.0	66.0	30.99	0.99	2034.0	
				Double, Tint	W	1.5	16.0	36.0	30.99	1.00	1110.6	
				Double, Tint	W	1.5	13.0	66.0	30.99	0.99	2034.0	
				Double, Tint	NE	1.5	16.7	18.0	23.92	1.00	429.2	
				Double, Tint	N	1.5	13.0	66.0	15.78	0.99	1034.3	
				Double, Tint	NW	1.5	14.0	16.0	21.12	1.00	336.8	
				Double, Tint	N	1.5	13.0	9.0	15.78	0.99	141.0	
				Double, Tint	S	1.5	13.0	9.0	28.87	0.99	257.0	
				Double, Tint	NW	10.0	7.5	20.0	21.12	0.59	250.0	
				Double, Tint	E	1.5	8.3	48.0	33.76	0.96	1559.5	
				Double, Tint	NE	4.0	8.3	48.0	23.92	0.77	882.4	
				Double, Tint	E	10.0	2.3	12.0	33.76	0.36	144.5	
				Double, Tint	E	10.0	10.3	48.0	33.76	0.53	852.0	
				Double, Tint	W	10.0	9.0	48.0	30.99	0.50	749.2	
				Double, Tint	E	5.5	8.3	48.0	33.76	0.63	1025.2	
				Double, Tint	S	8.0	8.3	48.0	28.87	0.53	728.5	
				Double, Tint	S	4.0	9.0	17.0	28.87	0.69	339.8	
				Double, Tint	S	1.5	6.3	12.0	28.87	0.87	301.0	
				Double, Tint	W	1.5	8.0	40.0	30.99	0.96	1186.8	
				Double, Tint	SW	1.5	6.3	18.0	32.25	0.90	520.6	
				Double, Tint	NW	1.5	6.3	18.0	21.12	0.93	354.6	
				Double, Tint	N	1.5	6.3	24.0	15.78	0.94	357.5	
				Double, Tint	N	1.5	2.3	4.0	15.78	0.78	49.4	
				Double, Tint	N	1.5	4.3	16.0	15.78	0.89	225.4	
				Double, Tint	N	1.5	1.3	4.0	15.78	0.69	43.3	
				Double, Tint	E	1.5	1.6	8.0	33.76	0.54	145.2	
				Double, Tint	E	1.5	5.3	15.0	33.76	0.89	449.7	
				Double, Tint	S	1.5	5.6	16.0	28.87	0.84	387.3	
				Double, Tint	S	1.5	5.6	16.0	28.87	0.84	387.3	
				Double, Tint	N	1.5	5.3	30.0	15.78	0.92	437.1	
				Double, Tint	S	1.5	5.3	16.0	28.87	0.82	379.9	
				As-Built Total:				**936.0**			**21176.5**	

WALL TYPES	Area X	BSPM	= Points	Type	R-Value	Area X	SPM	= Points
Adjacent	297.0	0.70	207.9	Frame, Wood, Exterior	19.0	2678.6	0.90	2410.7
Exterior	2678.6	1.70	4553.6	Frame, Wood, Adjacent	13.0	297.0	0.60	178.2
Base Total:	**2975.6**		**4761.5**	**As-Built Total:**		**2975.6**		**2588.9**

FORM 600A-2001

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-** PERMIT #:

BASE				AS-BUILT					
DOOR TYPES	Area X	BSPM	= Points	Type	Area X	SPM	=	Points	
Adjacent	20.0	2.40	48.0	Adjacent Insulated	20.0	1.60		32.0	
Exterior	0.0	0.00	0.0						
Base Total:	**20.0**		**48.0**	**As-Built Total:**	**20.0**			**32.0**	
CEILING TYPES	Area X	BSPM	= Points	Type (Rad. Barr.)	R-Value	Area X	SPM X SCM	=	Points
Under Attic	2571.7	1.73	4449.0	Under Attic	30.0	2571.7	1.73 X 0.70		3114.3
Base Total:	**2571.7**		**4449.0**	**As-Built Total:**		**2571.7**			**3114.3**
FLOOR TYPES	Area X	BSPM	= Points	Type	R-Value	Area X	SPM	=	Points
Slab	300.0(p)	-37.0	-11100.0	Slab-On-Grade Edge Insulation	0.0	300.0(p	-41.20		-12360.0
Raised	940.0	-3.99	-3750.6	Raised Wood, Adjacent	19.0	493.0	0.40		197.2
				Raised Wood, Adjacent	19.0	447.0	0.40		178.8
Base Total:			**-14850.6**	**As-Built Total:**		**1240.0**			**-11984.0**
INFILTRATION	Area X	BSPM	= Points			Area X	SPM	=	Points
	2924.0	10.21	29854.0			2924.0	10.21		29854.0
Summer Base Points:			**34809.5**	**Summer As-Built Points:**					**44781.8**
Total Summer Points	X System Multiplier	=	Cooling Points	Total Component	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Cooling Points
34809.5	**0.4266**		**14849.7**	44781.8 **44781.8**	1.000 **1.00**	(1.047 x 1.147 x 1.00) **1.201**	0.284 **0.284**	0.950 **0.950**	14530.8 **14530.8**

FORM 600A-2001

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-** PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BWPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	WPM X	WOF	= Points	
.18	2924.0	12.74	6705.3	Double, Tint	S	1.5	8.3	76.0	6.05	1.03	474.5	
				Double, Tint	W	1.5	13.0	66.0	11.87	1.00	784.9	
				Double, Tint	W	1.5	16.0	36.0	11.87	1.00	428.0	
				Double, Tint	W	1.5	13.0	66.0	11.87	1.00	784.9	
				Double, Tint	NE	1.5	16.7	18.0	14.13	1.00	254.1	
				Double, Tint	N	1.5	13.0	66.0	14.91	1.00	983.9	
				Double, Tint	NW	1.5	14.0	16.0	14.68	1.00	234.6	
				Double, Tint	N	1.5	13.0	9.0	14.91	1.00	134.2	
				Double, Tint	S	1.5	13.0	9.0	6.05	0.99	54.1	
				Double, Tint	NW	10.0	7.5	20.0	14.68	1.03	302.0	
				Double, Tint	E	1.5	8.3	48.0	10.43	1.02	509.6	
				Double, Tint	NE	4.0	8.3	48.0	14.13	1.02	694.1	
				Double, Tint	E	10.0	2.3	12.0	10.43	1.51	188.5	
				Double, Tint	E	10.0	10.3	48.0	10.43	1.28	639.1	
				Double, Tint	W	10.0	9.0	48.0	11.87	1.18	671.8	
				Double, Tint	E	5.5	8.3	48.0	10.43	1.18	590.8	
				Double, Tint	S	8.0	8.3	48.0	6.05	2.67	776.1	
				Double, Tint	S	4.0	9.0	17.0	6.05	1.50	154.6	
				Double, Tint	S	1.5	6.3	12.0	6.05	1.10	80.1	
				Double, Tint	W	1.5	8.0	40.0	11.87	1.01	480.2	
				Double, Tint	SW	1.5	6.3	18.0	8.77	1.05	166.5	
				Double, Tint	NW	1.5	6.3	18.0	14.68	1.00	264.9	
				Double, Tint	N	1.5	6.3	24.0	14.91	1.00	358.6	
				Double, Tint	N	1.5	2.3	4.0	14.91	1.01	60.4	
				Double, Tint	N	1.5	4.3	16.0	14.91	1.01	239.8	
				Double, Tint	N	1.5	1.3	4.0	14.91	1.02	60.8	
				Double, Tint	E	1.5	1.6	8.0	10.43	1.26	105.4	
				Double, Tint	E	1.5	5.3	15.0	10.43	1.04	163.4	
				Double, Tint	S	1.5	5.6	16.0	6.05	1.14	110.1	
				Double, Tint	S	1.5	5.6	16.0	6.05	1.14	110.1	
				Double, Tint	N	1.5	5.3	30.0	14.91	1.00	448.8	
				Double, Tint	S	1.5	5.3	16.0	6.05	1.17	112.9	
				As-Built Total:				**936.0**			**11421.7**	

WALL TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM	= Points
Adjacent	297.0	3.60	1069.2	Frame, Wood, Exterior	19.0	2678.6	2.20	5892.9
Exterior	2678.6	3.70	9910.8	Frame, Wood, Adjacent	13.0	297.0	3.30	980.1
Base Total:	**2975.6**		**10980.0**	**As-Built Total:**		**2975.6**		**6873.0**

FORM 600A-2001

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-** PERMIT #:

BASE				AS-BUILT						
DOOR TYPES	Area X	BWPM	= Points	Type		Area X	WPM	=	Points	
Adjacent	20.0	11.50	230.0	Adjacent Insulated		20.0	8.00		160.0	
Exterior	0.0	0.00	0.0							
Base Total:	**20.0**		**230.0**	**As-Built Total:**		**20.0**			**160.0**	
CEILING TYPES	Area X	BWPM	= Points	Type (Rad. Barr.)	R-Value	Area X	WPM X WCM	=	Points	
Under Attic	2571.7	2.05	5272.0	Under Attic	30.0	2571.7	2.05 X 0.85		4481.2	
Base Total:	**2571.7**		**5272.0**	**As-Built Total:**		**2571.7**			**4481.2**	
FLOOR TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM	=	Points	
Slab	300.0(p)	8.9	2670.0	Slab-On-Grade Edge Insulation	0.0	300.0(p	18.80		5640.0	
Raised	940.0	0.96	902.4	Raised Wood, Adjacent	19.0	493.0	2.20		1084.6	
				Raised Wood, Adjacent	19.0	447.0	2.20		983.4	
Base Total:			**3572.4**	**As-Built Total:**		**1240.0**			**7708.0**	
INFILTRATION	Area X	BWPM	= Points			Area X	WPM	=	Points	
	2924.0	-0.59	-1725.2			2924.0	-0.59		-1725.2	
Winter Base Points:			**25034.6**	**Winter As-Built Points:**					**28918.8**	

Total Winter Points	X	System Multiplier	=	Heating Points	Total Component	X	Cap Ratio	X	Duct Multiplier (DM x DSM x AHU)	X	System Multiplier	X	Credit Multiplier	=	Heating Points
25034.6		**0.6274**		**15706.7**	28918.8 **28918.8**		1.000 **1.00**		(1.040 x 1.169 x 1.00) **1.216**		0.461 **0.461**		0.950 **0.950**		15391.3 **15391.3**

FORM 600A-2001

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-** PERMIT #:

BASE				AS-BUILT							
WATER HEATING											
Number of Bedrooms	X	Multiplier	= Total	Tank Volume	EF	Number of Bedrooms	X	Tank Ratio	X Multiplier	X Credit Multiplier	= Total
4		2746.00	10984.0	80.0	0.90	4		1.00	2684.98	1.00	10739.9
				As-Built Total:							**10739.9**

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points +	Heating Points +	Hot Water Points =	Total Points	Cooling Points +	Heating Points +	Hot Water Points =	Total Points
14850	**15707**	**10984**	**41540**	**14531**	**15391**	**10740**	**40662**

PASS

FORM 600A-2001

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-** PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	606.1.ABC.1.1	Maximum:.3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	
Exterior & Adjacent Walls	606.1.ABC.1.2.1	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	
Floors	606.1.ABC.1.2.2	Penetrations/openings >1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	
Ceilings	606.1.ABC.1.2.3	Between walls & ceilings; penetrations of ceiling plane of top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	
Recessed Lighting Fixtures	606.1.ABC.1.2.4	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC rated with < 2.0 cfm from conditioned space, tested.	
Multi-story Houses	606.1.ABC.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Additional Infiltration reqts	606.1.ABC.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	

6A-22 OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	612.1	Comply with efficiency requirements in Table 6-12. Switch or clearly marked circuit breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	
Swimming Pools & Spas	612.1	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%.	
Shower heads	612.1	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	
Air Distribution Systems	610.1	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated, and installed in accordance with the criteria of Section 610. Ducts in unconditioned attics: R-6 min. insulation.	
HVAC Controls	607.1	Separate readily accessible manual or automatic thermostat for each system.	
Insulation	604.1, 602.1	Ceilings-Min. R-19. Common walls-Frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 83.4

The higher the score, the more efficient the home.

Shawn & Sarah Stephens, Lot: 16, Sub: The Woodlands, Plat: , Lake City, FL, 32055-

1. New construction or existing	New	
2. Single family or multi-family	Single family	
3. Number of units, if multi-family	1	
4. Number of Bedrooms	4	
5. Is this a worst case?	No	
6. Conditioned floor area (ft²)	2924 ft²	
7. Glass area & type		
a. Clear - single pane	0.0 ft²	
b. Clear - double pane	0.0 ft²	
c. Tint/other SHGC - single pane	0.0 ft²	
d. Tint/other SHGC - double pane	936.0 ft²	
8. Floor types		
a. Raised Wood	R=19.0, 493.0 ft²	
b. Raised Wood, Adjacent	R=19.0, 447.0 ft²	
c. 1 Others	300.0 ft²	
9. Wall types		
a. Frame, Wood, Exterior	R=19.0, 2678.6 ft²	
b. Frame, Wood, Adjacent	R=13.0, 297.0 ft²	
c. N/A		
d. N/A		
e. N/A		
10. Ceiling types with (RBS)		
a. Under Attic	R=30.0, 2571.7 ft²	
b. N/A		
c. N/A		
11. Ducts(RBS)		
a. Sup: Unc. Ret: Con. AH: Garage	Sup. R=6.0, 60.0 ft	
b. N/A		

12. Cooling systems		
a. Central Unit	Cap: 70.2 kBtu/hr	
	SEER: 12.00	
b. N/A		
c. N/A		
13. Heating systems		
a. Electric Heat Pump	Cap: 70.2 kBtu/hr	
	HSPF: 7.40	
b. N/A		
c. N/A		
14. Hot water systems		
a. Electric Resistance	Cap: 80.0 gallons	
	EF: 0.90	
b. N/A		
c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)		
15. HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, RB-Attic radiant barrier, MZ-C-Multizone cooling, MZ-H-Multizone heating)	PT,	

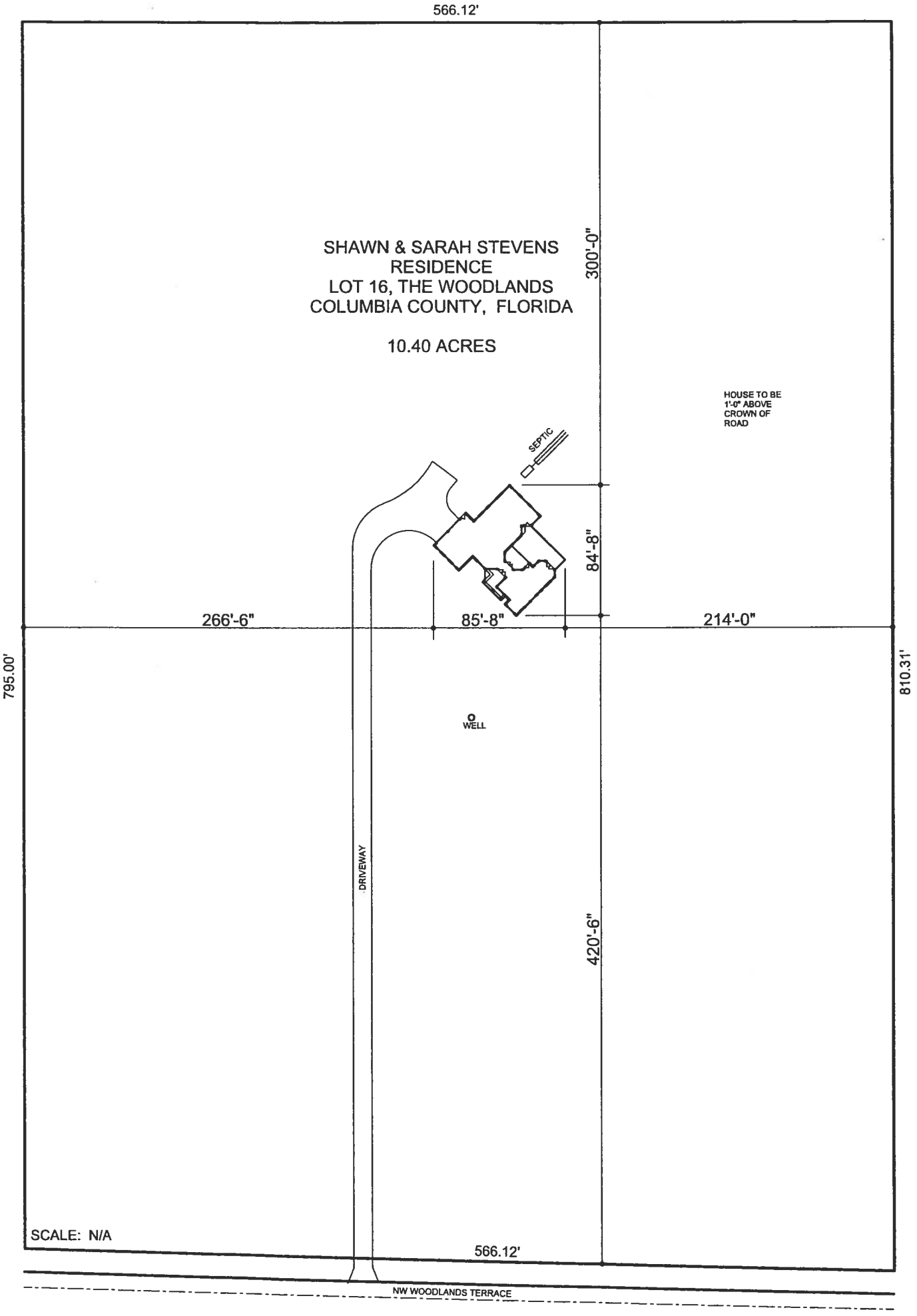
I certify that this home has complied with the Florida Energy Efficiency Code For Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____

**NOTE: The home's estimated energy performance score is only available through the FLA/RES computer program. This is not a Building Energy Rating. If your score is 80 or greater (or 86 for a US EPA/DOE EnergyStar™ designation), your home may qualify for energy efficiency mortgage (EEM) incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at 321/638-1492 or see the Energy Gauge web site at www.fsec.ucf.edu for information and a list of certified Raters. For information about Florida's Energy Efficiency Code For Building Construction, contact the Department of Community Affairs at 850/487-1824.*

EnergyGauge® (Version: FLRCSB v3.21)


566.12'
SHAWN & SARAH STEVENS
RESIDENCE
LOT 16, THE WOODLANDS
COLUMBIA COUNTY, FLORIDA
10.40 ACRES
300'-0"
HOUSE TO BE
1'-0" ABOVE
CROWN OF
ROAD
SEPTIC
84'-8"
266'-6"
85'-8"
214'-0"
795.00'
810.31'
WELL
DRIVEWAY
420'-6"
SCALE: N/A
566.12'
NW WOODLANDS TERRACE

MI HOME PRODUCTS

- PRIME ALUMINUM WINDOWS -

INSTALLATION INSTRUCTIONS FOR "NAIL FIN" PRODUCTS

MI Home Products appreciates your recent purchase of a maintenance free prime window, which will not rust, rot, mildew, or warp. This is a quality product that left our factory in good condition – proper handling and installation are just as important as good design and workmanship. Please follow these recommendations to allow this product to complete its function.

1 Handle units one at a time in the closed and locked position and take care not to scratch frame or glass or to bend the nailing fin.

2. Set unit plumb and square into opening and make sure that there is 3/16" ± 1/16" clearance around the frame. Fasten unit into opening in the closed and locked position, making sure that fasteners are screwed in straight in order to avoid twisting or bowing of the frame. Make sure that sill is straight and level. Check operation of unit before any and all fasteners are set.

3. Use # 8 sheet metal or wood screws with a minimum of 1" penetration into the framing (stud). Place first screws (two at each corner) 3" from end of fin. For positive and negative DPs (design pressures) up to **35**, do not exceed **24"** spacing of additional screws. For DPs from **35.1** to **50**, do not exceed **18"**. Install load bearing shim adjacent to each anchor. Use shim where space exceeds 1/16".

4. Flash over head and caulk outside perimeter in accordance with code requirements and good installation practices.

5. Fill voids between frame and construction with loose batten type insulation or non-expanding aerosol foam specifically formulated for windows and doors to eliminate drafts. The use of expanding aerosol type insulating foam, which can bow the frame, waives all stated warranties.

6. Remove plaster, mortar, paint and any other debris that may have collected on the unit and make sure that sash/vent tracks and interlocks are also clear. Do not use abrasives, solvents, ammonia, vinegar, alkaline, or acid solutions for clean-up, especially with insulated glass units as their use could cause chemical breakdown of the glass seal. Take care not to scratch glass; scratches severely weaken glass and it could eventually break from thermal expansion and contraction. Clean units with water and mild detergent as you would you automobile.

CAUTION -

MI Home Products or its representatives are unable to control and cannot assume responsibility for the selection and placement of their products in a building or structure in a manner required by laws, statutes, and/or building codes. The purchaser is solely responsible for knowledge of and adherence to the same. MI Home Products window products are not provided with safety glazing unless specifically ordered with such. Many laws and codes require safety glazing near doors, bathtubs, and shower enclosures. Also be aware of emergency egress code requirements.

Corporate Headquarters:
650 West Market St.
Gratz, PA 17030-0370
(717) 365-3300

Test Results

The results are tabulated as follows:

Title of Test - Test Method	Results	Allowed
Air Infiltration per ASTM E 283-91		
@ 0.56 psf (15 mph)	0.15 cfm/ft^2	0.30 cfm/ft^2
@ 1.57 psf (25 mph)	0.29 cfm/ft^2	0.30 cfm/ft^2
Water Resistance per ASTM E 547-96 (with and without screen)		
WTP = 5.25 psf	No leakage	No leakage
Uniform Load Structural per ASTM E 330-97 (Measurements reported were taken on the meeting rail) (load held for 33 seconds)		
@ 47.0 psf (exterior)	0.010"	0.24" max.
@ 47.0 psf (interior)	0.015"	0.24" max.

Note: No end measurements were taken on the member measured. The measurements stated above include displacement as well as bending. Only permanent sets were recorded, not deflection measurements. This statement applies to all uniform load tests performed.

Uniform Load Structural per ASTM E 330-97 (Measurements reported were taken on the meeting rail) (load held for 10 seconds)		
@ 70.5 psf (exterior)	0.060"	0.24" max
@ 70.5 psf (interior)	0.040"	0.24" max

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:

Scott D. Kramer
Technician

SDK:nlb/baw
01-36060.02

Allen N. Reeves, P.E.
Director – Engineering Services

28 MARCH 2002

ALLEN N. REEVES
CERTIFICATE
NO. 12
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Hardware:

Description	Quantity	Location
Plastic tilt latches	4	Ends of interior meeting rail
Metal pivot bars	4	Ends of the bottom rails
Metal sweep lock	2	Midspan of interior meeting rail
Metal keeper	2	Midspan of fixed meeting rail
Sash stops	4	One per jamb
Block and tackle balance system	4	One per jamb
Spring loaded latch pins	2	6" from ends of screen top rail

Drainage:

Description	Quantity	Location
Sloped sill		Sill
1/4" wide by 3/16" high weepslot	4	Ends of exterior vertical sill leg

Installation: The test unit was installed into the 2" x 8" nominal Spruce-Pine-Fir #2 wood test buck utilizing the integral nailing fin and 1" roofing nails. Five per top, bottom, and sides of the nail fin were evenly spaced. The nail fin was bedded in a silicone sealant.

ALLEN N. REEVES
CERTIFICATE
NO. 18376
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Allen N. Reeves
28 MARCH 2002

Test Specimen Description: (Continued)

Finish: All aluminum was painted white.

Glazing Details: Both the active sash and fixed lites utilized 5/8" thick insulating glass fabricated from two sheets of 3/32" thick clear annealed glass and a desiccant filled metal spacer system. The active sash were channel glazed with a flexible wedge gasket. The fixed lites were interior glazed, back bedded with single sided adhesive foam tape and held-in-place with PVC snap-in glazing beads.

Weatherstripping:

Description	Quantity	Location
0.270" backed by 0.190" high polypile with center fin	1 Row	Fixed meeting stile
3/8" high vinyl wrapped foam bulb	1 Row	Bottom rail
0.187" backed by 0.250" high polypile with center fin	2 Rows	Stiles
1/4" high polypile dust plug	2 Rows	Ends of bottom rail, top of each stile

Frame Construction: Frame was constructed of extruded aluminum members and all corners were coped, butted, sealed, and fastened with two screws per corner. The fixed meeting rail was attached to the jambs with a plastic clip and two screws per end.

Mullion Construction: The mullion was constructed of an extruded aluminum member. It was fastened to the head and sill with four screws per end. All screw heads were sealed as well as the butt joint at the sill.

Sash Construction: The sash were constructed of extruded aluminum members and all corners were coped, butted, and fastened with one screw per corner.

Screen Construction: The screen was constructed of rolled aluminum members and the corners were keyed. The screen mesh was held-in-place with a flexible spline.

Allen M. Reeves
28 MARCH 2002

ALLEN M. REEVES
CERTIFICATE NO. 1[illegible]
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Architectural Testing

STRUCTURAL TEST REPORT

Rendered to:

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

Report No: 01-36060.02
Test Date: 11/04/99
Report Date: 03/26/02
Expiration Date: 11/04/03

Project Summary: Architectural Testing, Inc. (ATI) was contracted to perform tests on a Series/Model 650, twin aluminum single hung window at MI Home Products' test facility in Elizabethville, Pennsylvania. Test specimen description and results are reported herein.

Test Specification The test specimen was evaluated in accordance with the following:

ASTM E 283-91, *Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*

ASTM E 330-97, *Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference*

ASTM E 547-96, *Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential*

Test Specimen Description:

Series/Model: 650

Type: Twin Aluminum Single Hung Window

Overall Size: 5' 10-1/4" wide by 5' 0" high

Active Size (2): 2' 8-3/4" wide by 2' 6-1/4" high

Fixed Daylight Opening Size (2): 2' 6- 1/4" wide by 2' 3" high

Screen Size (2): 2' 7-3/4" wide by 2' 4-1/4" high

ALLEN H. REEVES
CERTIFICATE
NO. 19554
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Allen H. Reeves
28 MARCH 2002

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

STRUCTURAL TEST REPORT SUMMARY

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 650
TYPE: Twin Aluminum Single Hung Window

Title of Test	Results
Overall Design Pressure	35.0 psf
Operating Force	18 lb max.
Air Infiltration	0.29 cfm/ft^2
Water Resistance	5.25 psf
Structural Test Pressure	70.5 psf

Reference should be made to Report No. 01-36060.02 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

Scott D. Kramer
Scott D. Kramer, Technician

SDK:nlb/baw

ALLEN H. REEVES · CERTIFICATE NO. · STATE OF FLORIDA · PROFESSIONAL ENGINEER

Allen N. Reeves
28 MARCH 2002

DOCUMENT CONTROL ADDENDUM #01-37589.00

Current Issue Date: 06/06/02

Report No.: 01-37589.01

Requested by: Scott Gill, MI Home Products, Inc.
Purpose: AAMA/NWWDA 101/I.S.2-97 testing on Series/Model 450, aluminum single hung window.
Issued Date: 09/11/00
Comments: Certification copy to John Smith at Associated Laboratories, Inc.

Report No.: 01-37589.02

Requested by: William Emley, MI Home Products, Inc.
Purpose: Revised Report No. 01-37589.01.
Issued Date: 06/06/02
Comments: Added Series/Model 650/850. Florida P.E. seal required on report Certification copy to John Smith at Associated Laboratories, Inc.

Allen N. Reuss
26 JUNE 2002

Test Results:

Paragraph	Title of Test - Test Method	Results	Allowed
Test Specimen #1: Gateway Performance Specimen H-C30 54 x 90 (Continued)			
Optional Performance			
4.3	Water Resistance (ASTM E 547) (with and without screen) WTP = 5.25 psf	No leakage	No leakage
Test Specimen #2: H-C40 52 x 72*			
Optional Performance			
4.3	Water Resistance (ASTM E 547 and ASTM E 331) (with and without screen) WTP = 6.0 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330) (Measurements reported were taken on the fixed meeting rail) (Loads were held for 33 seconds)		
	@ 47.0 psf (positive)	0.04"	0.30" max.
	@ 47.0 psf (negative)	0.03"	0.30" max.
	Uniform Load Structural (ASTM E 330) (Measurements reported were taken on the fixed meeting rail) (Loads were held for 10 seconds)		
	@ 70.5 psf (positive)	0.07"	0.21" max.
	@ 70.5 psf (negative)	0.04"	0.21" max.

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

Allen N. Reeves, P.E.
Director - Engineering Services
24 JUNE 2002

MAH:baw
01-37589.02

Test Results:

Paragraph	Title of Test - Test Method	Results	Allowed
Test Specimen #1: Gateway Performance Specimen H-C30 54 x 90 (Continued)			
2.1.4.2	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the fixed meeting rail) (Loads were held for 10 seconds)		
	@ 45.0 psf (positive)	0.03"	0.21" max
	@ 45.0 psf (negative)	0.04"	0.21" max
2.2.1.6.2	Deglazing Test (ASTM E 987-88) In operating direction at 70 lbs		
	Meeting rail	0.06"/12%	0.50"/100%
	Bottom rail	0.06"/12%	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%
2.1.8	Forced Entry Resistance (ASTM F 588-97)		
	Type: A Grade: 10		
	Lock Manipulation Test	No entry	No entry
	Test A1 thru A5	No entry	No entry
	Test A7	No entry	No entry
	Lock Manipulation Test	No entry	No entry

Allen N. Reuss
28 JULY 2003

Test Specimen Description: (Continued)

Hardware:

Description	Quantity	Location
Plastic snap latch	1	Midspan of bottom rail
Block and tackle balance system	2	One per jamb
Plastic tilt latch	2	One on each end of sash meeting rail
Metal pivot bar	2	One on each end of bottom rail

Drainage: Sloped sill

Reinforcement: No reinforcement.

Installation: The test unit was installed into the nominal 2" x 8" Spruce-Pine-Fir #2 wood test buck utilizing the nailing fin secured with 1" long galvanized roofing nails, 6" from each corner and every 18" on center. The nailing fin was also bedded in polyurethane. The exterior perimeter was blind stopped with wood members and secured with #8 x 3" screws every 24" on center.

Test Results:

The results are tabulated as follows:

Paragraph	Title of Test - Test Method	Results	Allowed
Test Specimen #1: Gateway Performance Specimen H-C30 54 x 90			
2.2.1.6.1	Operating Force	20 lbs	45 lbs max.
	Air Infiltration (ASTM E 283) @ 1.57 psf (25 mph)	0.27 cfm/ft^2	0.30 cfm/ft^2 max.
	Water Resistance (ASTM E 547) (with and without screen) WTP = 4.5 psf	No leakage	No leakage
2.1.4.1	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the fixed meeting rail) (Loads were held for 33 seconds)		
	@ 35.0 psf (positive)	0.27"	0.30" max.
	@ 35.0 psf (negative)	0.73"*	0.30" max.

Note #1: The tested specimen meets the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.

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

Allen M. Reuss
28 JUNE 2002

Test Specimen Description: (Continued)

Test Specimen #2: H-C40 52 x 72*

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

Active Sash Size: 4' 2" wide by 3' 0-1/2" high

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

Screen Size: 4' 0" wide by 2' 11" high

The following descriptions apply to all specimens.

Finish: All aluminum was painted.

Glazing Details: The lites utilized 5/8" thick sealed insulating glass units fabricated from two sheets of 3/32" clear annealed glass and an intercept™ spacer system. The sash was channel glazed with a flexible gasket. The fixed lite was interior glazed onto single-sided adhesive foam tape and secured with extruded PVC glazing beads.

Weatherstripping:

Description	Quantity	Location
0.210" 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	Stiles
0.300" diameter by 0.187" backed foam filled vinyl bulb gasket	1 Row	Bottom rail
0.400" high by 1/2" square polypile dust plug	4	One on each sash corner

Frame Construction: Series/Model 450 frame was constructed of thermally broken extruded aluminum with coped, butted and sealed corners. The fixed meeting rail was constructed of an extruded aluminum member with coped, butted and sealed ends fastened with two #8 x 1/4" screws. Series/Model 650 frame was constructed of extruded aluminum. Series/Model 850 frame was constructed of thermally broken extruded aluminum members.

Sash Construction: The Series/Model 450 sash members were constructed of thermally broken extruded aluminum members with coped, butted and sealed corners fastened with one #8 x 1-1/4" screw. Series/Model 650 sash was constructed of extruded aluminum. Series/Model 850 sash was constructed of extruded aluminum.

Screen Construction: The screen was constructed of rolled-aluminum members with plastic keyed corners. The fiberglass mesh was secured with a flexible spline.

Allen M Reeves
28 JUNE 2002

Architectural Testing

TEST REPORT

Rendered to:

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

Report No: 01-37589.02
Test Date: 06/15/00
Thru: 06/29/00
Report Date: 06/06/02
Expiration Date: 06/29/04

Project Summary: Architectural Testing, Inc. (ATI) was contracted by MI Home Products, Inc. to witness performance testing on two Series/Model 450/650/850, aluminum single hung windows at their facility in Elizabethville, Pennsylvania. The samples tested successfully met the performance requirements for the following ratings: Test Specimen #1: H-C30 54 x 90; Test Specimen #2: H-C40 52 x 72*.

General Note: An asterisk (*) next to the performance grade indicates that the size tested for optional performance was smaller than the Gateway test size for the product type and class.

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: 450/650/850

Type: Aluminum Single Hung Window

Test Specimen #1: Gateway Performance Specimen H-C30 54 x 90 rating

Overall Size: 4' 6-1/2" wide by 7' 6-1/2" high

Active Sash Size: 4' 4" wide by 3' 9-3/4" high

Fixed Daylight Opening Size: 4' 1-1/2" wide by 3' 6-1/2" high

Screen Size: 4' 2-1/4" wide by 3' 8-1/2" high

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

Allen N. Reuss
28 JUNE 2002

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

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 450/650/850
TYPE: H-C30 54 x 90; H-C40 52 x 72*

	Summary of Results	
Title of Test	**Test Specimen #1**	**Test Specimen #2**
AAMA Rating	H-C30 54 x 90	H-C40 52 x 72*
Uniform Load Deflection Test Pressure	35.0 psf	47.0 psf
Operating Force	20 lb max.	N/A
Air Infiltration	0.27 cfm/ft^2	N/A
Water Resistance Test Pressure	5.25 psf	6.0 psf
Uniform Structural Load Test Pressure	45.0 psf	70.5 psf
Deglazing	Passed	N/A
Forced Entry Resistance	Grade 10	N/A

Reference should be made to ATI Report No. 01-37589.02 for complete test specimen description and data.

Allen N. Reno
24 JUNE 2002

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
Optional Performance			
4.3	Water Resistance (ASTM E 547-00) (with and without screen) WTP = 5.25 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the mullion) (Loads were held for 52 seconds)		
	@ 35.3 psf (positive)	0.46"*	0.41" max
	@ 47.2 psf (negative)	0.67"*	0.41" max

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

Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the mullion) (Loads were held for 10 seconds)		
@ 53.0 psf (positive)	0.03"	0.29" max
@ 52.5 psf (negative)	0.02"	0.29" max

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

Allen N. Reeves, P.E.
Director - Engineering Services
7 JUNE 2002

ALLEN N. REEVES
CERTIFICATE NO. 19354
STATE OF FLORIDA
PROFESSIONAL ENGINEER

MAH:nlb
01-41641.01

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
2.1.4.1	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the mullion) (Loads were held for 52 seconds)		
	@ 15.0 psf (positive)	0.15"	0.41" max.
	@ 15.0 psf (negative)	0.29"	0.41" max.
2.1.4.2	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the mullion) (Loads were held for 10 seconds)		
	@ 22.5 psf (positive)	0.01"	0.29" max.
	@ 22.5 psf (negative)	0.01"	0.29" max.
2.2. .6.2	Deglazing Test (ASTM E 987-88) In operating direction at 70 lbs		
	Right sash, meeting rail	0.12"/25%	0.50"/100%
	Right sash, bottom rail	0.12"/25%	0.50"/100%
	Middle sash, meeting rail	0.12"/25%	0.50"/100%
	Middle sash, bottom rail	0.12"/25%	0.50"/100%
	Left sash, meeting rail	0.12"/25%	0.50"/100%
	Left sash, bottom rail	0.12"/25%	0.50"/100%
	In remaining direction at 50 lbs		
	Right sash, right stile	0.06"/12%	0.50"/100%
	Right sash, left stile	0.06"/12%	0.50"/100%
	Middle sash, right stile	0.06"/12%	0.50"/100%
	Middle sash, left stile	0.06"/12%	0.50"/100%
	Left sash, right stile	0.06"/12%	0.50"/100%
	Left sash, left stile	0.06"/12%	0.50"/100%
2 .8	Forced Entry Resistance (ASTM F 588-97)		
	Type: A Grade: 10		
	Lock Manipulation Test	No entry	No entry
	Test A1 through A5	No entry	No entry
	Test A7	No entry	No entry
	Lock Manipulation Test	No entry	No entry

Allen N. Reeves
7 JUNE 2002

ALLEN N. REEVES CERTIFICATE NO. 19354 STATE OF FLORIDA PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Hardware:

Description	Quantity	Location
Metal cam lock with keeper	1	Midspan of each active meeting rail with adjacent keepers
Plastic tilt latch	2	Each active sash meeting rail ends
Metal tilt pin	2	Each active sash bottom rail ends
Balance assembly	2	Each active sash contained one in each jamb
Screen plunger	2	Each screen contained two 4" from rail ends on top rail

Drainage: Sloped sill

Reinforcement: No reinforcement was utilized.

Installation: The test specimen was installed into a 2 x 8 #2 Spruce-Pine-Fir wood 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:

Paragraph	Title of Test - Test Method	Results	Allowed
2.2.1.6.1	Operating Force	25 lbs	30 lbs max.
	Air Infiltration (ASTM E 283-91) @ 1.57 psf (25 mph)	0.16 cfm/ft^2	0.3 cfm/ft^2 max.

Note #1: *The tested specimen meets the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.*

Water Resistance (ASTM E 547-00) (with and without screen) WTP = 2.86 psf	No leakage	No leakage

Allen N. Reeves
7 JUNE 2002

ALLEN N. REEVES
CERTIFICATE NO. 33254
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

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.

Weatherstripping:

Description	Quantity	Location
0.230" high by 0.270" backed polypile with center fin	Row	Fixed meeting rail
0.250" high by 0.187" backed polypile with center fin	2 Rows	Active sash stiles
1/2" by 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. The meeting rail was secured to the frame utilizing two 1-1/4" screws. The mullions were secured utilizing four #8 x 1-1/4" screws through the head and sill into the mullion screw boss.

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 stiles' screw boss.

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

Architectural Testing

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

Rendered to

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

Report No: 01-41641.01
Test Date: 05/13/02
And: 05/16/02
Report Date: 06/05/02
Expiration Date: 05/16/06

Project Summary: Architectural Testing, Inc. (ATI) was contracted by MI Home Products, Inc. to witness testing on a Series/Model 650, aluminum triple single hung window at their facility located in Elizabethville, Pennsylvania. The sample tested successfully met the performance requirements for a H-R35 112 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

Type: Aluminum Triple Single Hung Window

Overall Size: 9' 3-1/2" wide by 5' 11-11/16" high

Active Sash Size (3): 3' 0-1/4" wide by 2' 10-3/4" high

Fixed Daylight Opening Size (3): 2' 8-1/4" wide by 2' 9-1/8" high

Screen Size (3): 2' 9-1/8" wide by 2' 11" high

Finish: All aluminum was painted white.

ALLEN N. REEVES
CERTIFICATE
NO. 19254
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Allen N. Reeves
7 JUNE 2002

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

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 650
TYPE: Aluminum Triple Single Hung Window

Title of Test	Summary of Results
AAMA Rating	H-R35 112 x 72
Uniform Load Deflection Test Pressure	+35.3 psf -47.2 psf
Operating Force	25 lb max.
Air Infiltration	0.16 cfm/ft^2
Water Resistance Test Pressure	5.25 psf
Uniform Load Structural Test Pressure	+53.0 psf -52.5 psf
Deglazing	Passed
Forced Entry Resistance	Grade 10

Reference should be made to ATI Report No. 01-41641.01 for complete test specimen description and data.

Allen N. Reeves
7 JUNE 2002

ALLEN N. REEVES
NO. 18354
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
	Forced Entry Resistance (ASTM F 588-97)		
	Type: D Grade: 10		
	Hand and Tool Manipulation Test	No entry	No entry
Optional Performance			
4.3	Water Resistance (ASTM E 547-00) WTP = 8.25 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the jamb) (Loads were held for 33 seconds)		
	@ 45.0 psf (positive)	0.02"	0.41" max.
	@ 47.2 psf (negative)	0.02"	0.41" max.
	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the jamb) (Loads were held for 10 seconds)		
	@ 67.5 psf (positive)	0.01"	0.29" max.
	@ 70.8 psf (negative)	0.02"	0.29" max.

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
01-41135.01

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

ALLEN N. REEVES
CERTIFICATE
NO. 12254
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

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.

Reinforcement: No reinforcement was utilized.

Installation: The test specimen was installed into a 2 x 8 #2 Spruce-Pine-Fir wood test buck. #8 x 2-1/2" installation screws were utilized 18" on center around the interior perimeter. Polyurethane was utilized to seal the exterior.

Test Results:

The results are tabulated as follows:

Paragraph	Title of Test - Test Method	Results	Allowed
	Air Infiltration (ASTM E 283-91)		
	@ 1.57 psf (25 mph)	0.04 cfm/ft^2	0.3 cfm/ft^2 max.
	Water Resistance (ASTM E 547-00)		
	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 jamb)		
	(Loads were held for 33 seconds)		
	@ 25.9 psf (positive)	0.01"	0.41" max.
	@ 34.7 psf (negative)	0.01"	0.41" max.
2.1.4.2	Uniform Load Structural (ASTM E 330-97)		
	(Measurements reported were taken on the jamb)		
	(Loads were held for 10 seconds)		
	@ 38.9 psf (positive)	0.0"	0.29" max.
	@ 52.1 psf (negative)	0.01"	0.29" max.

Note #1: The tested specimen meets the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.

ALLEN H. REEVES
CERTIFICATE
NO. 13554
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Allen H. Reeves
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: 01-41135.01
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, aluminum picture window at their facility located in Elizabethville, Pennsylvania. The samples tested successfully met the performance requirements for a F-R45 60 x 80 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

Type: Aluminum Picture Window

Overall Size: 5' 0" wide by 6' 8" high

Daylight Opening Size: 4' 9-1/4" wide by 6' 5-1/4" high

Finish All aluminum was white.

Glazing Details: The test specimen utilized 7/8" thick, sealed insulating glass constructed from two sheets of 3/16" thick, clear annealed glass and a metal reinforced butyl spacer system. The glass was interior glazed against double-sided adhesive foam tape and secured with aluminum snap-in glazing beads.

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Allen N. Reeves
1 APR 12 2002

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

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 650
TYPE: Aluminum Picture Window

Title of Test	Results
Rating	F-R45 60 x 80
Overall Design Pressure	+45.0 psf -47.2 psf
Air Infiltration	0.04 cfm/ft^2
Water Resistance	8.25 psf
Structural Test Pressure	+67.5 psf -70.8 psf
Forced Entry Resistance	Grade 10

Reference should be made to Report No. 01-41135.01 dated 03/26/02 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

Mark A. Hess, Technician

MAH:nlb

Allen N. Reeves
1 APRIL 2002

ALLEN N. REEVES CERTIFICATE NO. [illegible] STATE OF FLORIDA PROFESSIONAL ENGINEER

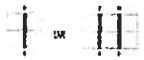
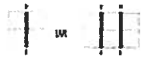
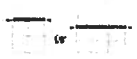
650 SH & PW Series - Mile Per Hour (MPH) maximum Size Chart

Series/Type	MPH Zone(s)	Required Mullion		Maximum Sizes Allowed		
				Single Unit	Twin Unit	Triple Unit
650 SH or PW Flange Frame Sng Glz or Ins	up to 120 MPH	Horizontal Mull #5765		N/A	53-1/8" x 72" w/Transom*	32" x 72" w/Transom*
650 SH or PW Flange Frame Sng Glz or Ins	up to 140 MPH	Horizontal Mull #5765		N/A	45" x 72" w/Transom*	30" x 72" w/Transom*
650 SH or PW Fin Frame Sng Glz or Ins	up to 110 MPH	Self-Stacking Sill #CM-45026		53-1/8" x 72" w/Transom*	N/A	N/A
650 SH or PW Fin Frame Sng Glz or Ins	up to 120 MPH	Self-Stacking Sill #CM-45026		48" x 72" w/Transom*	N/A	N/A
650 SH or PW Fin Frame Sng Glz or Ins	up to 140 MPH	Self-Stacking Sill #CM-45026		37" x 72" w/Transom*	N/A	N/A
650 SH or PW Continuous Hdr & Sill Sng Glz or Ins	up to 140 MPH	(No Mullion)		N/A	36" x 72"	36" x 72"

*1 All Transoms (1, 2, & 3-Lites) must be continuous frame.
*2 Transom units must be a minimum of 1/0 tall. The maximum transom height is one half the width of the transom.
Both Single Hung & Picture Windows can be used in combination up to the maximum sizes listed above.

Rev. 7-22-02

650 SH & PW Series - Mile Per Hour (MPH) maximum Size Chart

Series/Type	MPH Zone(s)	Required Mullion		Maximum Sizes Allowed		
				Single Unit	Twin Unit	Triple Unit
650 SH or PW Fin or Flange Frame Sng Glz or Ins	up to 140 MPH	N/A	N/A	53-1/8" x 72"	N/A	N/A
650 SH or PW Fin Frame Sng Glz or Ins	up to 130 MPH	Vertical Mull #CM-65130		N/A	53-1/8" x 72"	53-1/8" x 72"
650 SH or PW Fin Frame Sng Glz or Ins	up to 140 MPH	Vertical Mull #CM-65130		N/A	53-1/8" x 63" or 42" x 72"	53-1/8" x 63" or 42" x 72"
650 SH or PW Flange Frame Sng Glz or Ins	up to 130 MPH	Vertical Mull #CM-65129		N/A	53-1/8" x 72"	53-1/8" x 72"
650 SH or PW Flange Frame Sng Glz or Ins	up to 140 MPH	Vertical Mull #CM-65129		N/A	53-1/8" x 63" or 42" x 72"	53-1/8" x 63" or 42" x 72"
650 SH or PW Fin Frame Sng Glz or Ins	up to 120 MPH	Horizontal Mull #CM-65131		N/A	53-1/8" x 72" w/Transom*	32" x 72" w/Transom*
650 SH or PW Fin Frame Sng Glz or Ins	up to 140 MPH	Horizontal Mull #CM-65131		N/A	45" x 72" w/Transom*	30" x 72" w/Transom*
650 SH or PW Flange Frame Sng Glz or Ins	up to 120 MPH	Horizontal Mull #CM-65129		N/A	37" x 72" w/Transom*	N/A
650 SH or PW Flange Frame Sng Glz or Ins	up to 140 MPH	Horizontal Mull #CM-65129		N/A	30" x 72" w/Transom*	N/A
650 SH or PW Fin Frame Sng Glz or Ins	up to 120 MPH	Horizontal Mull #5767		N/A	53-1/8" x 72" w/Transom*	32" x 72" w/Transom*
650 SH or PW Fin Frame Sng Glz or Ins	up to 140 MPH	Horizontal Mull #5767		N/A	45" x 72" w/Transom*	30" x 72" w/Transom*

*1 All Transoms (1, 2, & 3-Lites) must be continuous frame.
*2 Transom units must be a minimum of 1/0 tall. The maximum transom height is one half the width of the transom.
Both Single Hung & Picture Windows can be used in combination up to the maximum sizes listed above.

Rev. 7-22-02

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

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

MAH:nlb
01-41134.01

Test Specimen Description: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
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"	0.18" max.
@ 70.8 psf (negative)	0.05"	0.18" max.

Allen N. Reeves
1 APRIL 2002

LEN N. REEVES
CERTIFICATE NO. 19534
STATE OF FLORIDA
PROFESSIONAL ENGINEER

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:

Paragraph	Title of Test - Test Method	Results	Allowed
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

***Note #1:** The tested specimen meets the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.*

	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)	0.42"*	0.26" max.
	@ 34.7 psf (negative)	0.43"*	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)	0.02"	0.18" max.
	@ 52.1 psf (negative)	0.02"	0.18" max.

Allen N. Reeves
1 APRIL 2002

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Test Specimen Description: (Continued)

Weatherstripping:

Description	Quantity	Location
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:

Description	Quantity	Location
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 N. Reeves
1 APRIL 2002

ALLEN N. REEVES
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STATE OF FLORIDA
PROFESSIONAL ENGINEER

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.

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Allen N. Reeves
1 APRIL 2002

REEVES LICENSE NO. 19354 STATE OF FLORIDA PROFESSIONAL ENGINEER

AAMA/NWWDA 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

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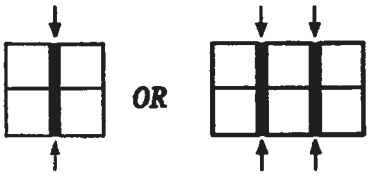
Allen H. Reeves
1 APRIL 2002



MI HOME PRODUCTS

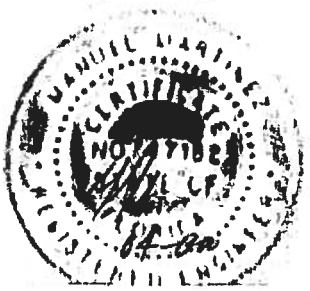
VERTICAL MULLION DESIGN LOAD CAPACITIES
FOR ALUMINUM TUBE MULLION (DIE # CM-65130)

WDW. WIDTH > MULLION SPAN V	19.125	24.000	26.500	36.000	37.000	48.000	53.125
36.000	576	506	483	450	450	450	450
37.375	528	461	439	402	402	402	402
48.000	291	248	233	198	196	186	186
50.625	245	208	194	164	162	151	150
60.000	142	119	111	91	89	79	77
63.000	122	102	94	77	75	66	64
72.000	80	66	61	49	48	41	39
72.250	79	65	60	48	48	41	39

CHART APPLIES ONLY TO EXTRUDED ALUMINUM MULLION (DIE NO: CM-65130)
READ WINDOW WIDTH AND HEIGHT IN INCHES.
DESIGN PRESSURE VALUES ON THIS CHART ARE IN PSF.
WINDOW WIDTH DIMENSIONS REPRESENT THE WIDTH OF EACH WINDOW IN A SINGLE OPENING, NOT THE OVERALL WID THE OPENING.
DESIGN PRESSURE VALUES SHOWN ON THE ABOVE CHART IS NOT LIMITED TO ONLY TWO WINDOWS IN A SINGLE OPENI CAPACITIES APPLY TO ANY NUMBER OF WINDOWS IN A SINGLE OPENING, PROVIDED WINDOW WIDTH AND MULLION SPA ARE NOT EXCEEDED.
Dmax = L / 175
INSTALLATION OF MULLION: MULLION MUST BE ANCHORED TO SUBSTRATE. CONNECTION MUST BE DESIGNED TO ADEQUATELY TRANSFER LOAD TO THE STRUCTURE. SEE MANUFACTURER'S MULLION INSTALLATION DETAILS.

PREPARED BY:
PRODUCT TECHNOLOGY CORPORATION
250 INTERNATIONAL PARKWAY
SUITE 250
HEATHROW, FLORIDA 32746
PHONE 407 805-0365 / FAX 407 805-0366

MAR. 21, 02
02-0450



STRUCTURAL VERTICAL MULLION - NAIL FIN type 650 SH / PW

MULLION PART # CM-65130

NOTE: If adding a transom, roundhead, etc., saw 1/4" off the top of the mull before joining units and refer to horizontal mull instruction sheet.

Step 1. Strip fins from windows where mulls are to be used.

Step 2. Apply a bead of caulk in the mull to seal against window jambs.

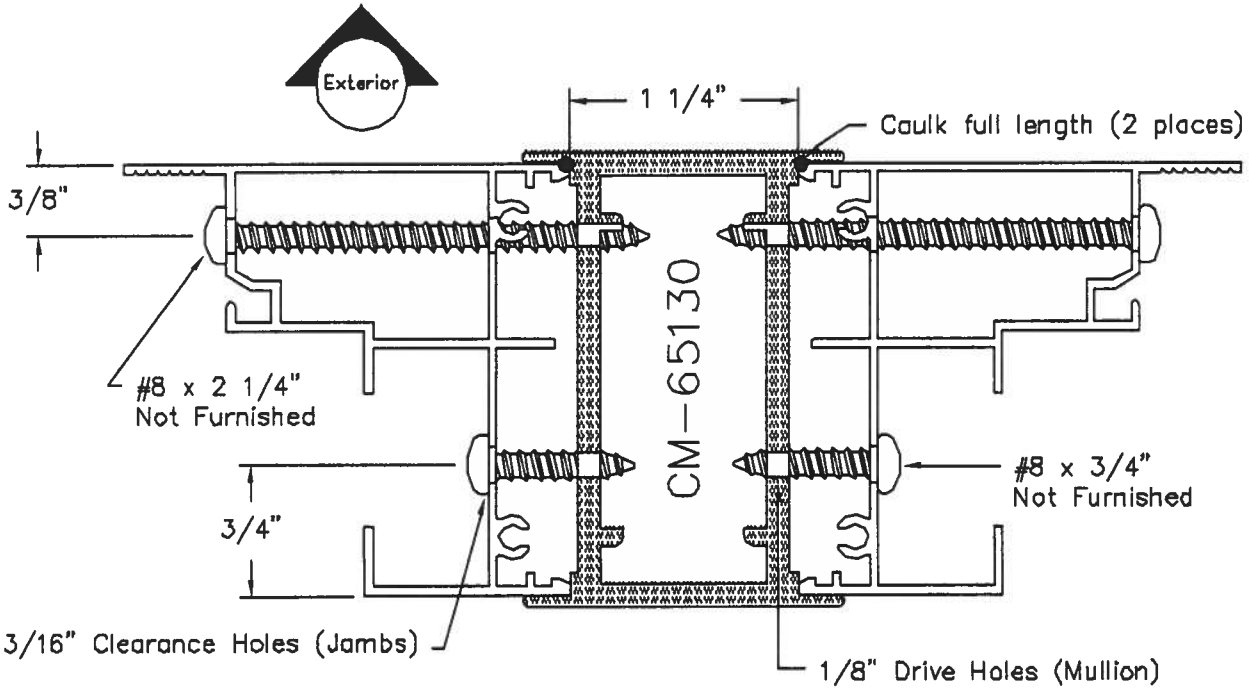
Step 3. Place windows and mullions together as shown below.

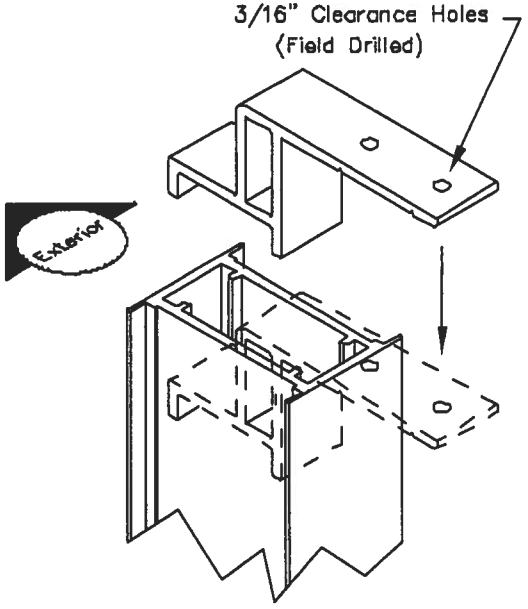
Step 4. The single hung jamb has an exterior track (screen area – bottom half of window) and an interior track (operating sash – upper half of window). In these areas only, drill 1/8" pilot holes through the jambs into the mullion, then re-drill the jambs only with 3/16" clearance holes. Holes should be spaced evenly on approximately 12" to 16" centers.

Step 5. Attach windows to mullion using #8 x 2 1/4" sheet metal screws (not included) through drilled holes in bottom half below. Attach using # 8 x 3/4" screws in top half as shown. To avoid jamb distortion, do not overtighten screws.

Step 6. The gap between window jambs at the top must be flashed and caulked and preferably be covered by construction / overhang to prevent water leakage.

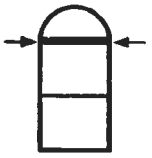
Step 7. Before lifting into rough opening, drill two holes in each clip and insert into each end of mull as shown below with tab pointing to inside. Fasten each clip tab to construction with two #10 x 1 1/2" screws for structural integrity.





NOTE: SEE REVERSE SIDE FOR FASTENING REQUIREMENTS.

M.I. Home Products



MI HOME PRODUCTS

HORIZONTAL MULLION DESIGN LOAD CAPACITIES

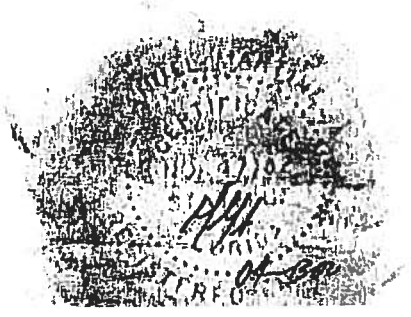
FOR EXTRUDED ALUMINUM STACKING MULLION (CM-45026)
WHEN USED FOR MULLING TRANSOM OVER A SINGLE WINDOW

MULL SPAN > WDW. HGT. V	19.125	24.000	26.500	36.000	37.000	48.000	53.125
26.000	608	308	229	95	88	44	33
36.000	608	308	229	91	84	40	30
38.375	608	308	229	91	84	39	30
48.000	608	308	229	91	84	38	29
50.625	608	308	229	91	84	38	28
60.000	608	308	229	91	84	38	28
63.000	608	308	229	91	84	38	28
72.000	608	308	229	91	84	38	28
72.250	608	308	229	91	84	38	28

NOTES:

- CHART APPLIES ONLY TO EXTRUDED ALUMINUM MULLION (CM-45026) USED HORIZONTALLY.
- CHART ASSUMES TRANSOM HEIGHT TO BE ONE HALF MULLION SPAN.
- WINDOW HEIGHTS SHOWN ON "Y" AXIS OF CHART DESIGNATE HEIGHT OF WINDOWS BELOW MULLION AND DO NOT INCLUDE TRAMSOM HEIGHT.
- READ MULLION SPAN AND WINDOW HEIGHT IN INCHES.
- DESIGN PRESSURE VALUES ON THIS CHART ARE IN PSF.
- DESIGN LOAD CAPACITIES SHOWN ON THIS CHART DO NOT CONSIDER ANY STRENGTH WHICH MAY BE OBTAINED FROM FRAME MEMBERS OF ADJACENT WINDOWS.
- Dmax = L / 175
- INSTALLATION OF MULLION: MULLION MUST BE ANCHORED TO SUBSTRATE. CONNECTION MUST BE DESIGNED TO ADEQUATELY TRANSFER LOAD TO THE STRUCTURE. SEE MANUFACTURER'S MULLION INSTALLATION DETAILS.

PREPARED BY:
PRODUCT TECHNOLOGY CORPORATION
250 INTERNATIONAL PARKWAY
SUITE 250
HEATHROW, FLORIDA 32746
PHONE 407 805-0365 / FAX 407 805-0366



SELF STACKING SILL - NAIL FIN type

SILL PART No. CM–45026

650 SH / PW

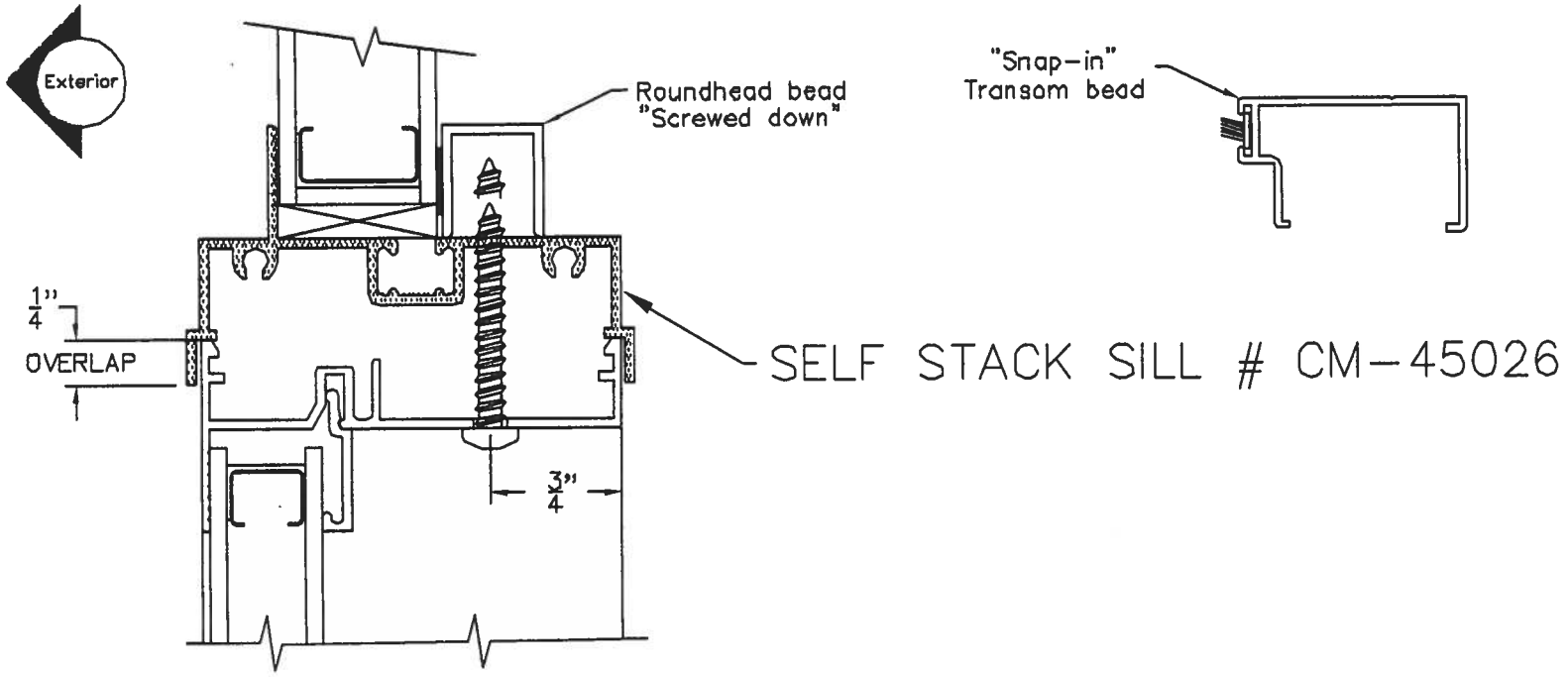
Step 1. Strip fin from head of window to be mounted below the transom / roundhead.

Step 2. Place windows together as shown below.

Note: Place attachment screws 3/4" in from the inside face of the window so the screw points come out under the glazing bead and are concealed.

PLACE SCREWS 3" FROM EACH END AND DO NOT EXCEED 18" SPACING OF REMAINING SCREWS.

Step 3. With the 1/8" drill, drill up through the head of the lower unit into the sill of the transom. Re–drill head of lower unit with 3/16" drill and fasten with #8 x 1 1/4" or 1 1/2" sheet metal screws. Do not over tighten screws as distortion could occur.

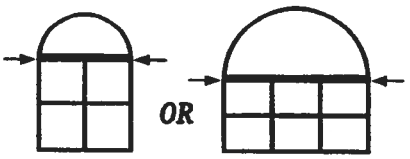


M.I. Home Products

MI HOME PRODUCTS

HORIZONTAL MULLION DESIGN LOAD CAPACITIES

FOR EXTRUDED ALUMINUM TUBE MULLION (CM-65131)
WHEN USED FOR MULLING TRANSOM



MULL SPAN > WDW. HGT. V	48.000	53.000	72.000	74.000	96.000	106.250	108.000
26.000	338	260	115	107	53	37	35
36.000	309	235	103	96	48	33	31
38.375	305	231	101	94	47	33	31
48.000	298	222	94	87	43	30	28
50.625	298	221	93	86	43	30	28
60.000	298	221	90	83	40	28	26
63.000	298	221	89	82	40	28	26
72.000	298	221	88	81	39	27	25
72.250	298	221	88	81	39	27	25

NOTES:

- CHART APPLIES ONLY TO EXTRUDED ALUMINUM MULLION (CM-65131) USED HORIZONTALLY.
- CHART ASSUMES TRANSOM HEIGHT TO BE ONE HALF MULLION SPAN.
- WINDOW HEIGHTS SHOWN ON "Y" AXIS OF CHART DESIGNATE HEIGHT OF WINDOWS BELOW MULLION AND DO NOT INCLUDE TRAMSOM HEIGHT.
- READ MULLION SPAN AND WINDOW HEIGHT IN INCHES.
- DESIGN PRESSURE VALUES ON THIS CHART ARE IN PSF.
- DESIGN LOAD CAPACITIES SHOWN ON THIS CHART DO NOT CONSIDER ANY STRENGTH WHICH MAY BE OBTAINED FROM FRAME MEMBERS OF ADJACENT WINDOWS.
- Dmax = L / 175
- INSTALLATION OF MULLION: MULLION MUST BE ANCHORED TO SUBSTRATE. CONNECTION MUST BE DESIGNED TO ADEQUATELY TRANSFER LOAD TO THE STRUCTURE. SEE MANUFACTURER'S MULLION INSTALLATION DETAILS.

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250 INTERNATIONAL PARKWAY
SUITE 250
HEATHROW, FLORIDA 32746
PHONE 407 805-0365 / FAX 407 805-0366

STRUCTURAL HORIZONTAL MULLION - NAIL FIN type 650 SH / PW

NOTE: If you are stacking a single unit over another single unit, such as a roundhead over a single hung, NO HORIZONTAL MULL IS REQUIRED.

IMPORTANT ! Before you begin, 1/4" must be sawed off the top end of the vertical mullion before the lower windows are twinned. Follow all steps on vertical mull instruction sheet first.

Note: • Overall length of mull is to be the same as the overall frame to frame dimension of the mulled units below, including the vertical mull. EXAMPLE: For twin 3'-0", mull length will be 35 1/8" window + 1 1/4" mull + 35 1/8" window = 71 1/2".

Step 1. Strip fins from head of windows to be mounted below transom.

Step 2. Place windows and mulls together as shown below.

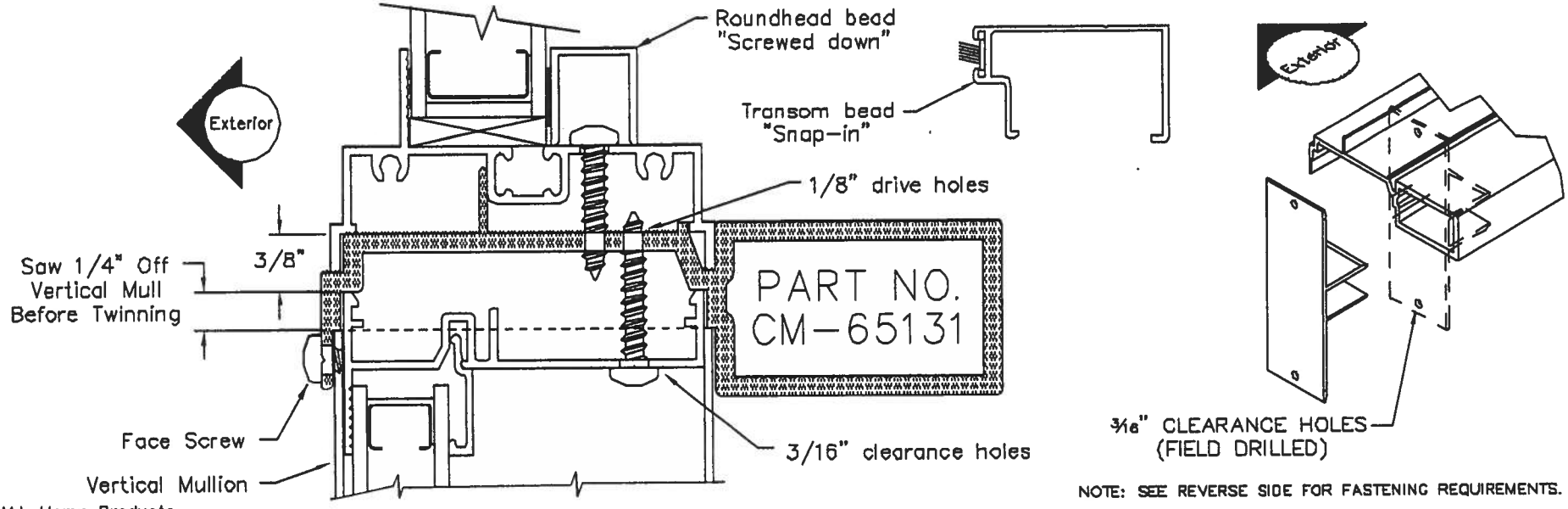
Step 3. Remove bottom glazing bead from transom / roundhead. With a 1/8" drill bit, pre-drill down through the sill and into the mullion. Re-drill sill hole only to 3/16". Fasten with #8 X 1" sheet metal screws (not included).

Step 4. Again with the 1/8" drill, drill up through the heads of the lower units into the mull. Re-drill heads of lower unit with 3/16" drill and fasten with #8 x 1" sheet metal screws.

PLACE SCREWS 3" FROM EACH END AND DO NOT EXCEED 18" SPACING OF REMAINING SCREWS.

Step 5. The vertical mull "telescopes" 3/8" into the underside of the horizontal mull to lock it in place structurally. To fasten, drill a 1/8" hole, as shown below, through the horizontal mull and vertical mull. Re-drill the horizontal mull only with 3/16" bit and fasten with a "face" screw. For best appearance, countersink and use a flathead screw.

Step 6. Before lifting into rough opening, drill two holes in each clip and insert into each end of mull as shown below with tabs pointing up and down. Fasten each clip tab to construction with two #10 X 1 1/2" screws for structural integrity.



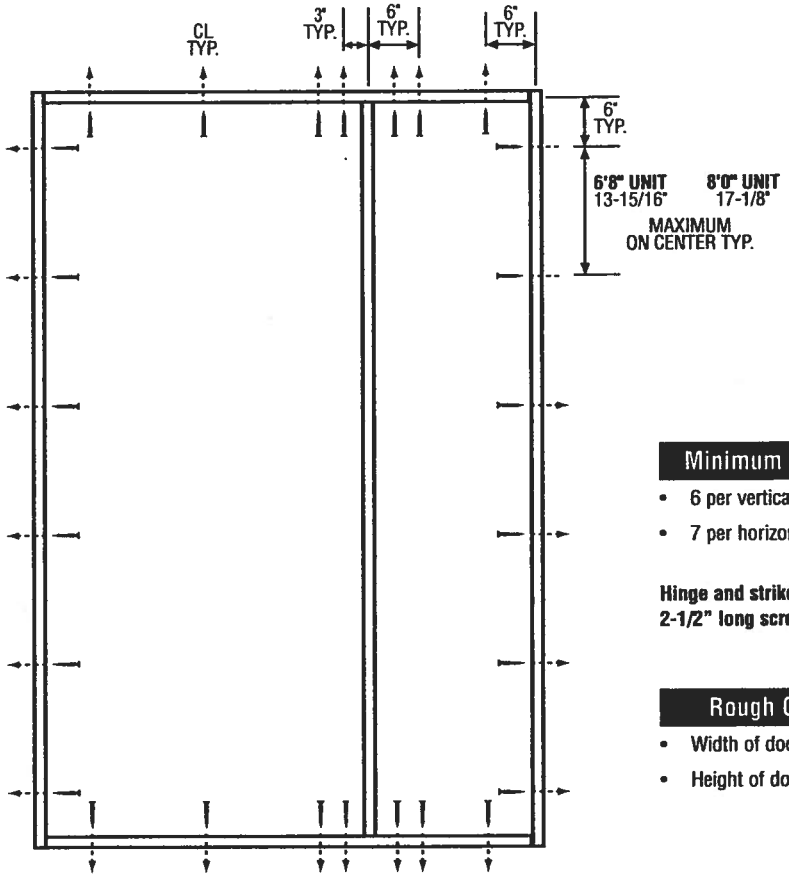
NOTE: SEE REVERSE SIDE FOR FASTENING REQUIREMENTS.

M.I. Home Products

XO or **OX**
Unit

MID-WL-MA0003-02

SINGLE DOOR WITH 1 SIDELITE



Minimum Fastener Count

- 6 per vertical framing member
- 7 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

Rough Opening (RO)

- Width of door unit plus 1/2"
- Height of door unit plus 1/4"

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.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Latching Hardware:

- Compliance requires that GRADE 3 or better (ANSI/BHMA A156.2) cylindrical and deadlock hardware be installed.
- **UNITS COVERED BY COP DOCUMENT 3243*, 3248, 3263* or 3268**
  Compliance requires that 8" GRADE 1 (ANSI/BHMA A156.16) surface bolts be installed on latch side of active door panel – (1) at top and (1) at bottom.

*Based on required Design Pressure – see COP sheet for details.

Notes:

1. Anchor calculations have been carried out with the lowest (least) fastener rating from the different fasteners being considered for use. Fasteners analyzed for this unit include #8 and #10 wood screws or 3/16" Tapcons.
2. The wood screw single shear design values come from Table 11.3A of ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment. The 3/16" Tapcon single shear design values come from the ITW and ELCO Dade Country approvals respectively, each with minimum 1-1/4" embedment.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

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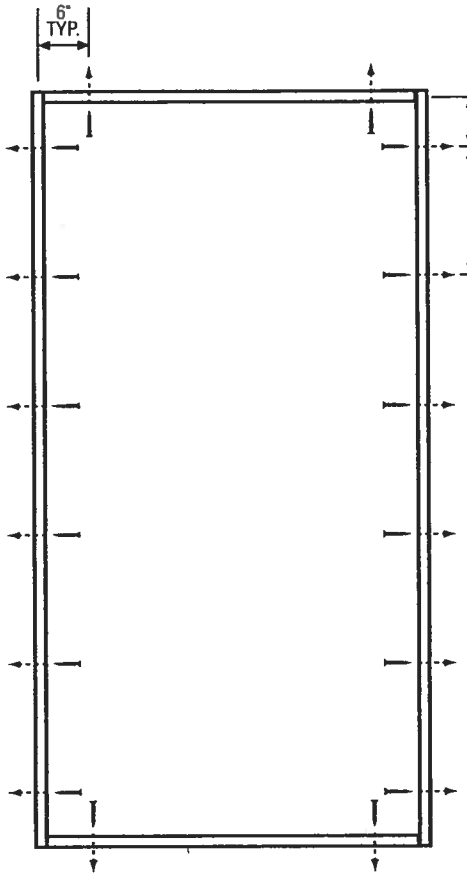
June 17, 2002

X
Unit

MID-WL-MA0001-02

SINGLE DOOR



Minimum Fastener Count

- 6 per vertical framing member
- 2 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

Rough Opening (RO)

- Width of door unit plus 1/2"
- Height of door unit plus 1/4"

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Latching Hardware:

- Compliance requires that GRADE 3 or better (ANSI/BHMA A156.2) cylindrical and deadlock hardware be installed.
- **UNITS COVERED BY COP DOCUMENT 3146, 3166, 3241*, 3246, 3261* or 3266**
  Compliance requires that 8" GRADE 1 (ANSI/BHMA A156.16) surface bolts be installed on latch side of active door panel – (1) at top and (1) at bottom.

*Based on required Design Pressure – see COP sheet for details.

Notes:

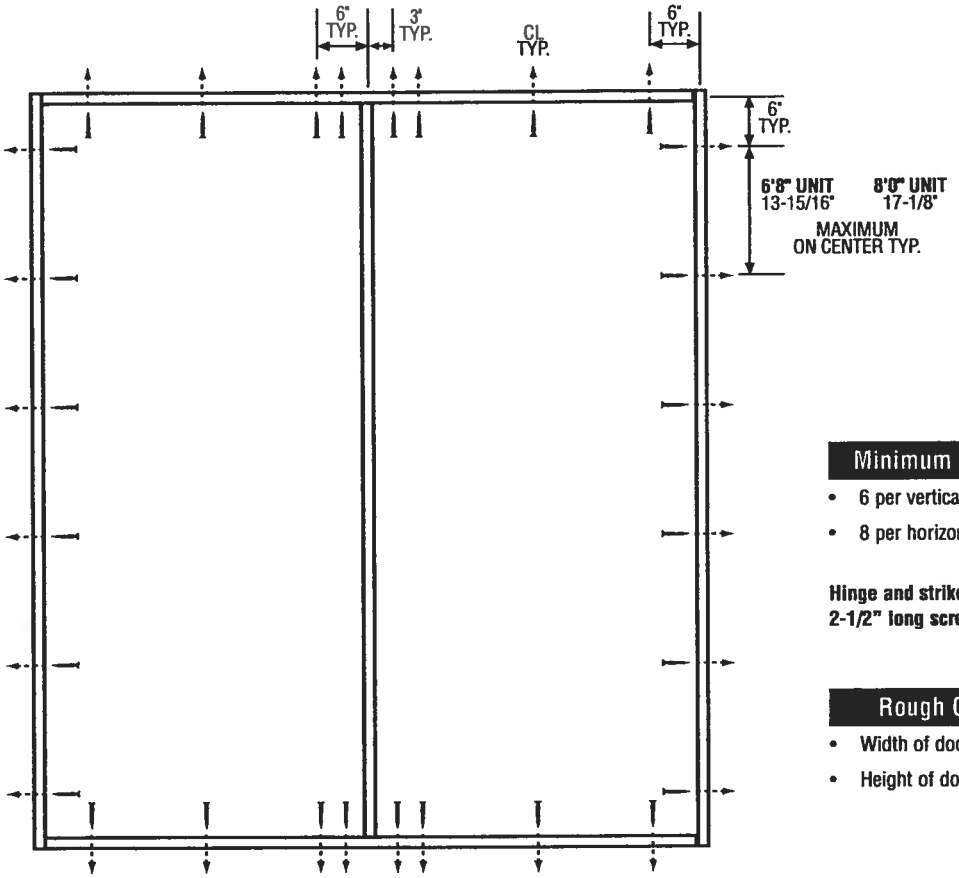
1. Anchor calculations have been carried out with the lowest (least) fastener rating from the different fasteners being considered for use. Fasteners analyzed for this unit include #8 and #10 wood screws or 3/16" Tapcons.
2. The wood screw single shear design values come from Table 11.3A of ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment. The 3/16" Tapcon single shear design values come from the ITW and ELCO Dade Country approvals respectively, each with minimum 1-1/4" embedment.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

June 17, 2002

XX
Unit

MID-WL-MA0002-02

DOUBLE DOOR



Minimum Fastener Count

- 6 per vertical framing member
- 8 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

Rough Opening (RO)

- Width of door unit plus 1/2"
- Height of door unit plus 1/4"

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Latching Hardware:

- Compliance requires that GRADE 3 or better (ANSI/BHMA A156.2) cylindrical and deadlock hardware be installed.
- **UNITS COVERED BY COP DOCUMENT 3147, 3167, 3242*, 3247, 3262* or 3267**
  Compliance requires that 8" GRADE 1 (ANSI/BHMA A156.16) surface bolts be installed on latch side of active door panel – (1) at top and (1) at bottom.

*Based on required Design Pressure – see COP sheet for details.

Notes:

1. Anchor calculations have been carried out with the lowest (least) fastener rating from the different fasteners being considered for use. Fasteners analyzed for this unit include #8 and #10 wood screws or 3/16" Tapcons.
2. The wood screw single shear design values come from Table 11.3A of ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment. The 3/16" Tapcon single shear design values come from the ITW and ELCO Dade Country approvals respectively, each with minimum 1-1/4" embedment.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

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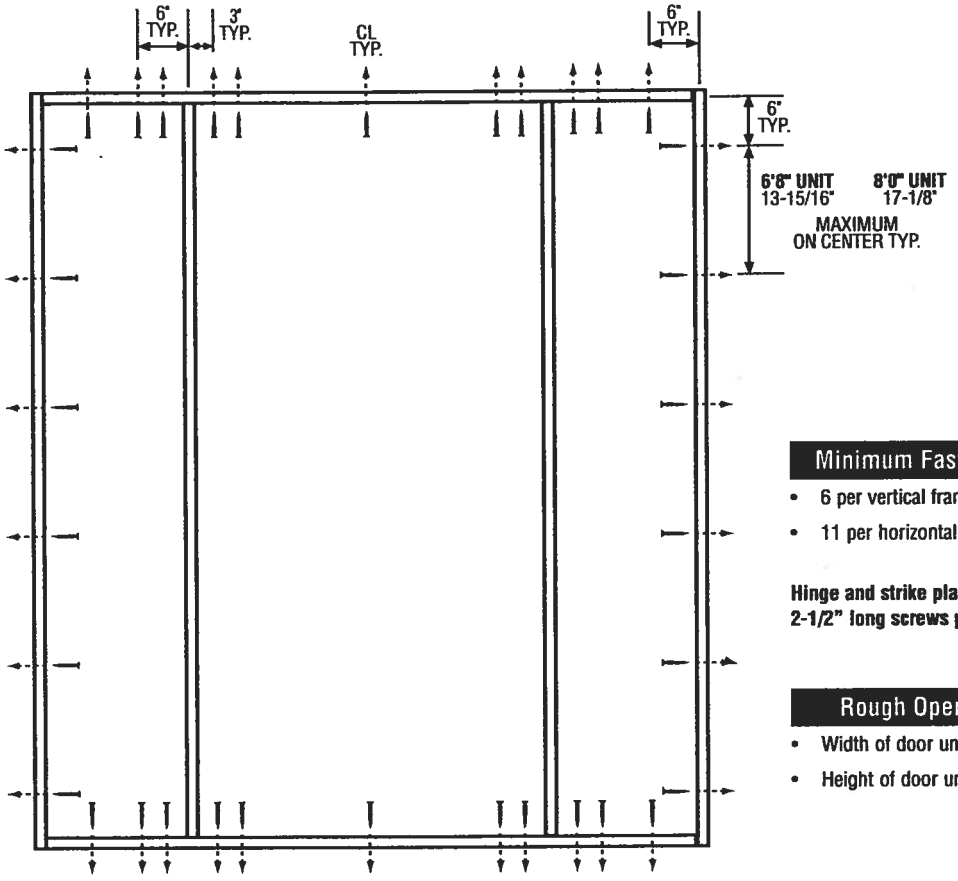
OXO
Unit

MID-WL-MA0004-02

SINGLE DOOR WITH 2 SIDELITES



Minimum Fastener Count

- 6 per vertical framing member
- 11 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

Rough Opening (RO)

- Width of door unit plus 1/2"
- Height of door unit plus 1/4"

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.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Latching Hardware:

- Compliance requires that GRADE 3 or better (ANSI/BHMA A156.2) cylindrical and deadlock hardware be installed.
- **UNITS COVERED BY COP DOCUMENT 3244*, 3249, 3264* or 3269**
  Compliance requires that 8" GRADE 1 (ANSI/BHMA A156.16) surface bolts be installed on latch side of active door panel – (1) at top and (1) at bottom.

*Based on required Design Pressure – see COP sheet for details.

Notes:

1. Anchor calculations have been carried out with the lowest (least) fastener rating from the different fasteners being considered for use. Fasteners analyzed for this unit include #8 and #10 wood screws or 3/16" Tapcons.
2. The wood screw single shear design values come from Table 11.3A of ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment. The 3/16" Tapcon single shear design values come from the ITW and ELCO Dade Country approvals respectively, each with minimum 1-1/4" embedment.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

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FIBERGLASS DOORS

Opaque Units

8'0" Height – Outswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0126-02	02-0109.07 (Application Filed)	70.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0128-02	02-0109.07 (Application Filed)	55.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0129-02	02-0109.07 (Application Filed)	55.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"	Not Listed	Not Listed	–	–
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0127-02	02-0109.07 (Application Filed)	55.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	1'2" + 2'6" + 2'6" + 1'2"	COP-WL-MA0130-02	02-0109.07 (Application Filed)	55.0	NO
	1'2" + 2'8" + 2'8" + 1'2"				
	1'2" + 2'10" + 2'10" + 1'2"				
	1'2" + 3'0" + 3'0" + 1'2"				

Notes:

1. Door arrangements using fewer panels than what is shown in the above chart also comply under the product approvals shown.
2. Assembly details are available from the Masonite International website (www.masonite.com) or from the technical center.
3. Installation instructions are available from the Masonite International website (www.masonite.com) or from the technical center.
4. Actual design pressure requirement for a specific building design & geographic location is determined by ASCE 7 (Minimum design loads for buildings and other structures). National, state or local building codes specify the edition required.
5. Masonite International structural, cyclic, air, water, forced entry/or impact testing is done in accordance with Miami-Dade BCCO protocol PA201, PA202 & PA203.

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Oakcraft Wood-grain Textured FIBERGLASS ENTRY DOORS

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FIBERGLASS DOORS

Opaque Units

8'0" Height – Inswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0106-02	02-0109.08 (Application Filed)	70.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0108-02	02-0109.08 (Application Filed)	55.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0109-02	02-0109.08 (Application Filed)	55.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"	Not Listed	Not Listed	–	–
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0107-02	02-0109.08 (Application Filed)	55.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	1'2" + 2'6" + 2'6" + 1'2"	COP-WL-MA0110-02	02-0109.08 (Application Filed)	55.0	NO
	1'2" + 2'8" + 2'8" + 1'2"				
	1'2" + 2'10" + 2'10" + 1'2"				
	1'2" + 3'0" + 3'0" + 1'2"				

Notes:

1. Door arrangements using fewer panels than what is shown in the above chart also comply under the product approvals shown.
2. Assembly details are available from the Masonite International website (www.masonite.com) or from the technical center.
3. Installation instructions are available from the Masonite International website (www.masonite.com) or from the technical center.
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FIBERGLASS DOORS

Opaque Units

6'8" Height – Outswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0121-02	01-1031.02	76.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0123-02	02-0109.09 (Application Filed)	55.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0124-02	02-0109.09 (Application Filed)	55.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"	Not Listed	Not Listed	–	–
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0122-02	02-0109.09 (Application Filed)	55.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	1'2" + 2'6" + 2'6" + 1'2"	COP-WL-MA0125-02	02-0109.09 (Application Filed)	55.0	NO
	1'2" + 2'8" + 2'8" + 1'2"				
	1'2" + 2'10" + 2'10" + 1'2"				
	1'2" + 3'0" + 3'0" + 1'2"				

Notes:

1. Door arrangements using fewer panels than what is shown in the above chart also comply under the product approvals shown.
2. Assembly details are available from the Masonite International website (www.masonite.com) or from the technical center.
3. Installation instructions are available from the Masonite International website (www.masonite.com) or from the technical center.
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Oakcraft Wood-grain Textured FIBERGLASS ENTRY DOORS

ARTEK™ Non-Textured Fiberglass Entry Doors

PREMDOOR Collection Premium Quality Doors

Exclusively from Masonite®

Masonite International Corporation

FIBERGLASS DOORS

Opaque Units

6'8" Height – Inswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0101-02	01-1031.01	76.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0103-02	02-0109.10 (Application Filed)	55.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0104-02	02-0109.10 (Application Filed)	55.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"	Not Listed	Not Listed	–	–
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0102-02	02-0109.10 (Application Filed)	55.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	1'2" + 2'6" + 2'6" + 1'2"	COP-WL-MA0105-02	02-0109.10 (Application Filed)	55.0	NO
	1'2" + 2'8" + 2'8" + 1'2"				
	1'2" + 2'10" + 2'10" + 1'2"				
	1'2" + 3'0" + 3'0" + 1'2"				

Notes:

1. Door arrangements using fewer panels than what is shown in the above chart also comply under the product approvals shown.
2. Assembly details are available from the Masonite International website (www.masonite.com) or from the technical center.
3. Installation instructions are available from the Masonite International website (www.masonite.com) or from the technical center.
4. Actual design pressure requirement for a specific building design & geographic location is determined by ASCE 7 (Minimum design loads for buildings and other structures). National, state or local building codes specify the edition required.
5. Masonite International structural, cyclic, air, water, forced entry/or impact testing is done in accordance with Miami-Dade BCCO protocol PA201, PA202 & PA203.

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.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Oakcraft Wood-grain Textured FIBERGLASS ENTRY DOORS

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PREMDOR Collection Premium Quality Doors

Exclusively from Masonite® Masonite International Corporation

June 17, 2002

FIBERGLASS DOORS

Glazed Units

8'0" Height – Outswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0166-02	02-0423.03 (Application Filed)	47.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0168-02	02-0423.03 (Application Filed)	47.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0169-02	02-0423.03 (Application Filed)	47.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"				
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0167-02	02-0423.03 (Application Filed)	47.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	2'6" + 2'6" + 2'6" + 2'6"	COP-WL-MA0170-02	02-0423.03 (Application Filed)	47.0	NO
	2'8" + 2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0" + 3'0"				

Notes:

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3. Installation instructions are available from the Masonite International website (www.masonite.com) or from the technical center.
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Warnock Hersey

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Glazed Units

8'0" Height – Inswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0146-02	02-0423.01 (Application Filed)	40.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0148-02	02-0423.01 (Application Filed)	40.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0149-02	02-0423.01 (Application Filed)	40.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"				
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0147-02	02-0423.01 (Application Filed)	40.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	2'6" + 2'6" + 2'6" + 2'6"	COP-WL-MA0150-02	02-0423.01 (Application Filed)	40.0	NO
	2'8" + 2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0" + 3'0"				

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Glazed Units

6'8" Height – Inswing

Arrangement	Singles (width)	Masonite International	Miami-Dade BCCO	DP Rating	Impact Rated
X	2'0"	COP-WL-MA0141-02	02-0419.08 (Application Filed)	52.0	NO
	2'6"				
	2'8"				
	2'10"				
	3'0"				
	3'6"	Not Listed	Not Listed	–	–
Arrangement	**Multiples (width)**	**Masonite International**	**Miami-Dade BCCO**	**DP Rating**	**Impact Rated**
XO, OX, OXO	2'8" + 1'0"	COP-WL-MA0143-02	02-0419.08 (Application Filed)	52.0	NO
	2'8" + 1'2"				
	2'10" + 1'0"				
	2'10" + 1'2"				
	3'0" + 1'0"				
	3'0" + 1'2"				
	1'0" + 2'8" + 1'0"	COP-WL-MA0144-02	02-0419.08 (Application Filed)	52.0	NO
	1'0" + 2'10" + 1'0"				
	1'2" + 2'8" + 1'2"				
	1'0" + 2'8" + 1'0"				
	1'0" + 3'0" + 1'0"				
	1'2" + 2'10" + 1'2"				
	1'2" + 3'0" + 1'2"				
	2'6" + 2'6" + 2'6"				
	2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0"				
XX, OXXO	2'6" + 2'6"	COP-WL-MA0142-02	02-0419.08 (Application Filed)	52.0	NO
	2'8" + 2'8"				
	2'10" + 2'10"				
	3'0" + 3'0"				
	2'6" + 2'6" + 2'6" + 2'6"	COP-WL-MA0145-02	02-0419.08 (Application Filed)	52.0	NO
	2'8" + 2'8" + 2'8" + 2'8"				
	2'10" + 2'10" + 2'10" + 2'10"				
	3'0" + 3'0" + 3'0" + 3'0"				

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PREMDOOR Collection Premium Quality Doors

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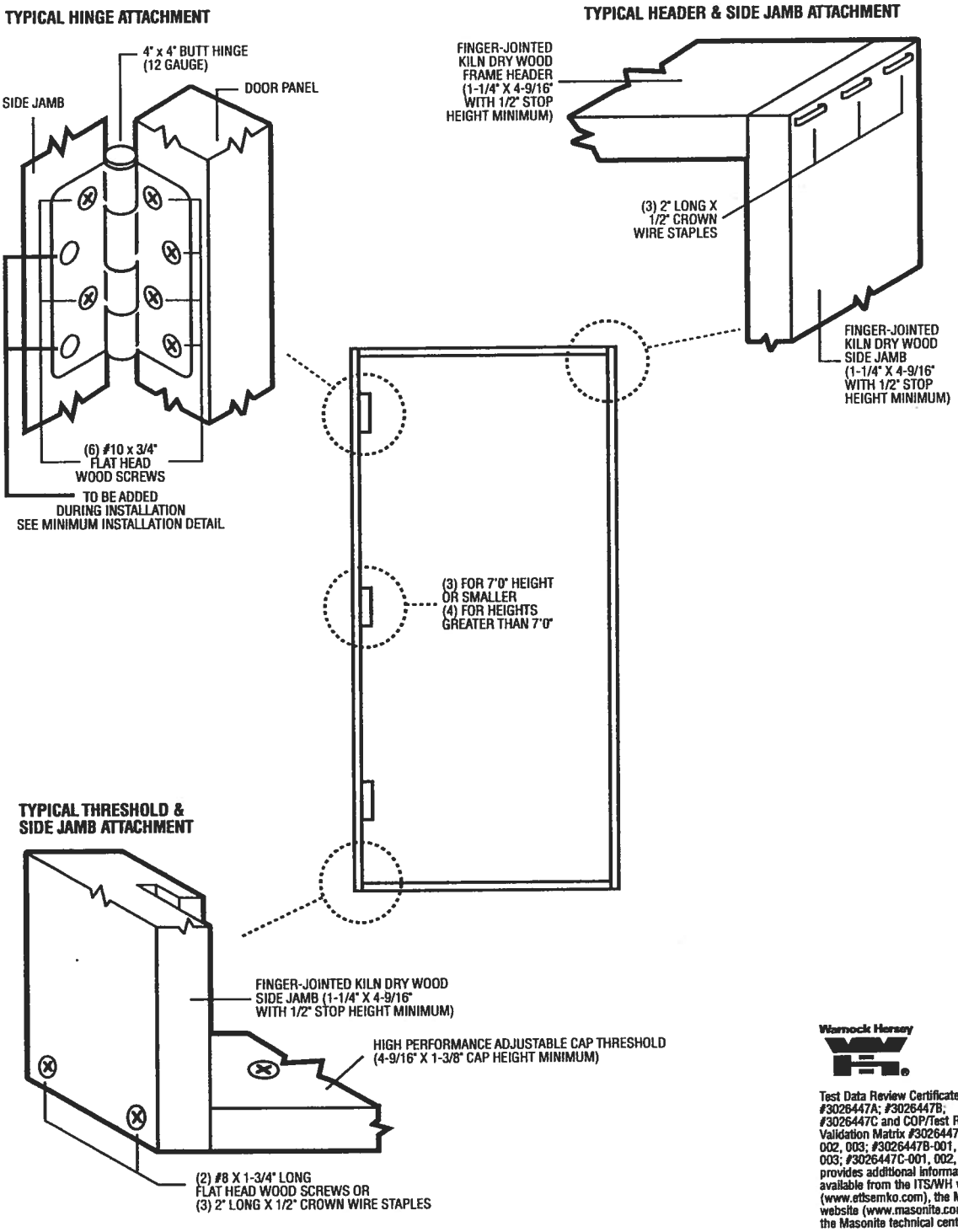
X
Unit

MAD-WL-MA0001-02

INSWING UNIT WITH SINGLE DOOR



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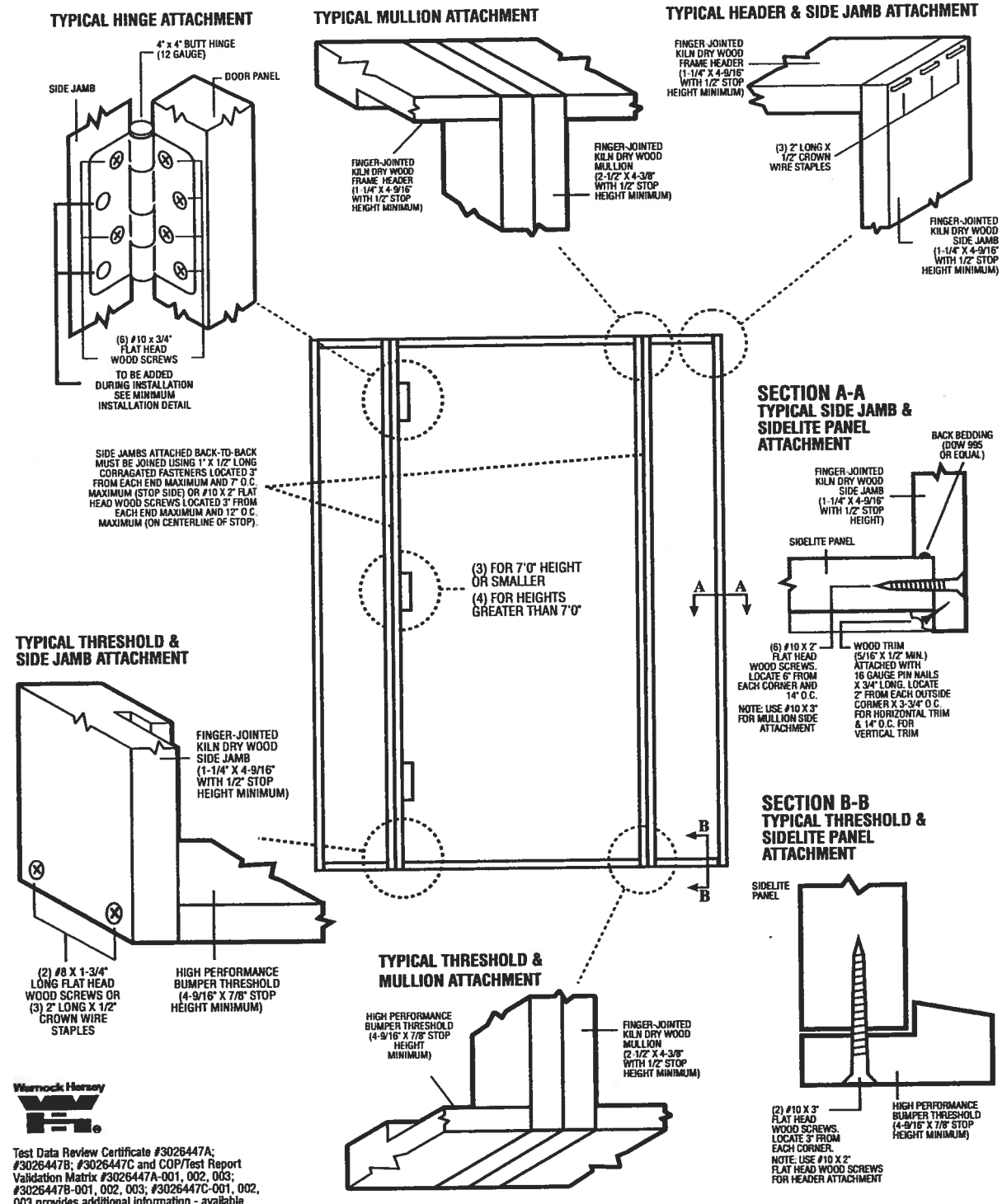
OXO
Unit

MAD-WL-MA0017-02

OUTSWING UNIT WITH SINGLE DOOR & TWO SIDELITES (BOXED CONSTRUCTION)



Warnock Hersey

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PREMDOR Collection Premium Quality Doors

Exclusively from Masonite®
Masonite International Corporation

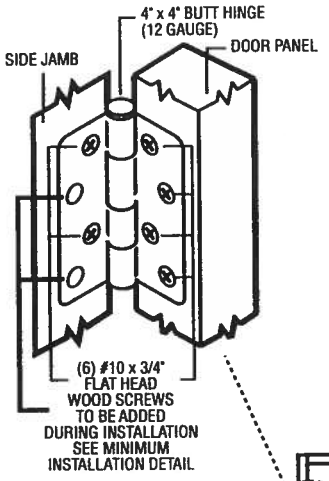
June 17, 2002

XX
Unit

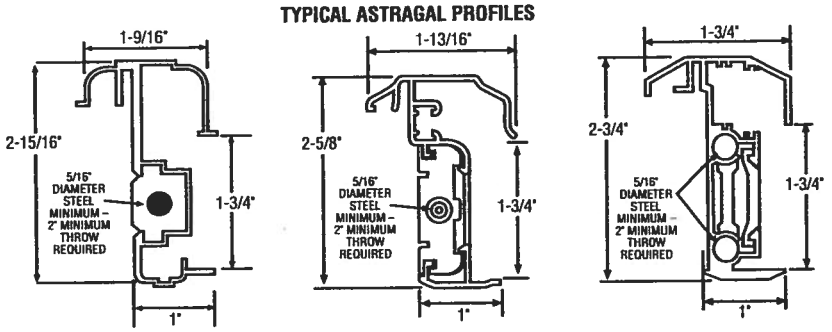
MAD-WL-MA0012-02

OUTSWING UNITS WITH DOUBLE DOOR

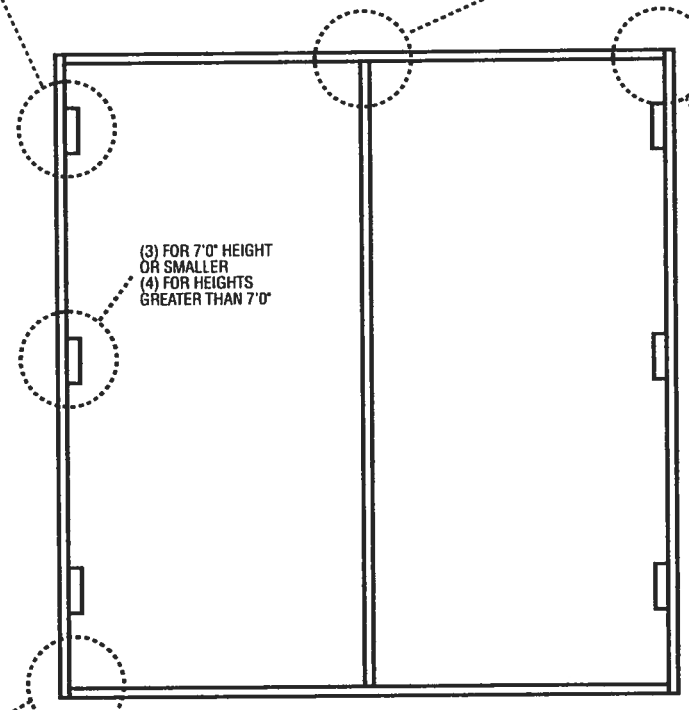
TYPICAL HINGE ATTACHMENT



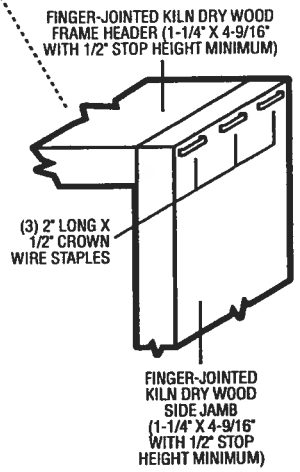
TYPICAL ASTRAGAL PROFILES



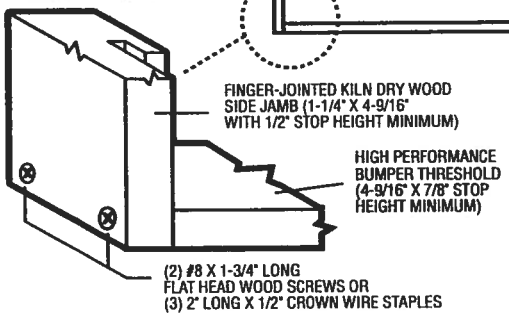
ALUMINUM EXTRUDED ASTRAGAL (0.06" MINIMUM WALL THICKNESS) WITH ADDED REINFORCEMENT INSERTS AT TOP EXTENSION BOLT, BOTTOM EXTENSION BOLT AND CYLINDERICAL/DEADBOLT LATCHING LOCATIONS. ATTACH WITH #8 X 1" PAN HEAD SCREWS – LOCATE 1" FROM EACH END MINIMUM AND 22" O.C. MAXIMUM.



TYPICAL HEADER & SIDE JAMB ATTACHMENT



TYPICAL THRESHOLD & SIDE JAMB ATTACHMENT



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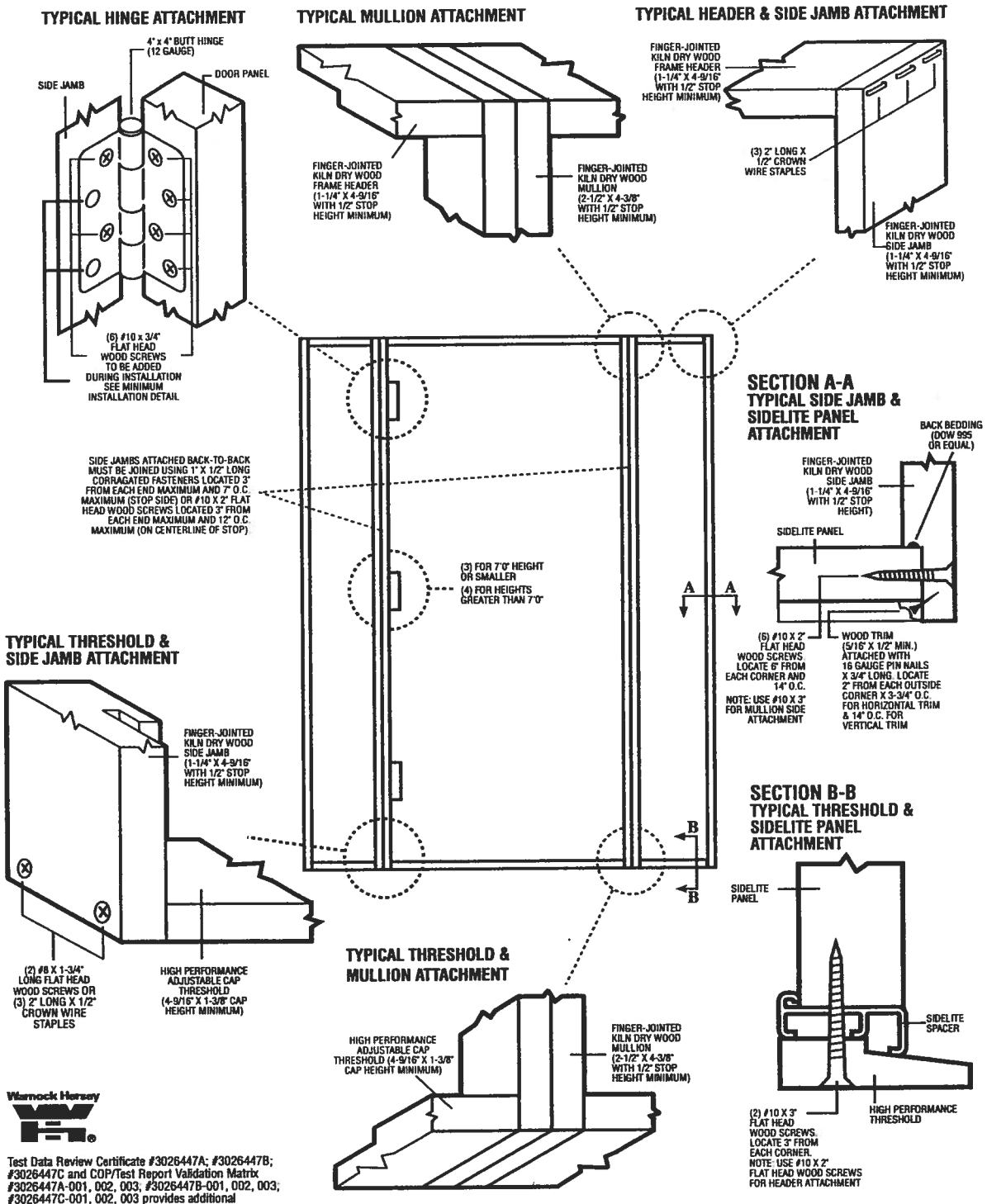
OXO
Unit

MAD-WL-MA0007-02

INSWING UNIT WITH SINGLE DOOR & TWO SIDELITES (BOXED CONSTRUCTION)



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

PREMDOR Collection Premium Quality Doors

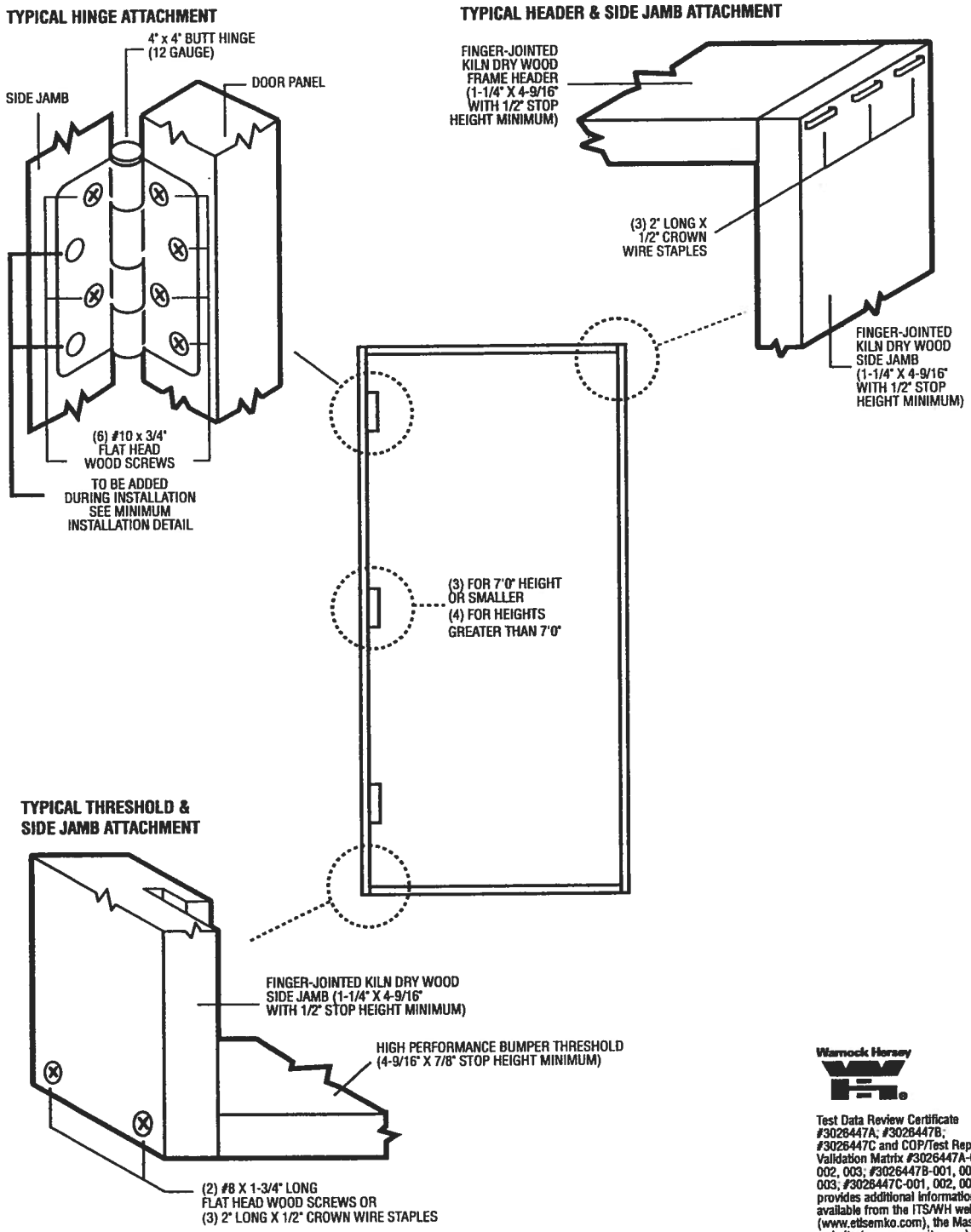
Exclusively from Masonite

Masonite International Corporation

X
Unit

MAD-WL-MA0011-02

OUTSWING UNITS WITH SINGLE DOOR



Warnock Hersey

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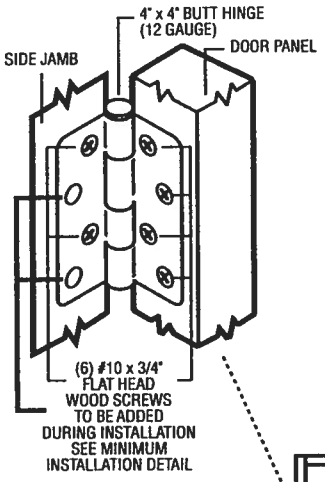
XX
Unit

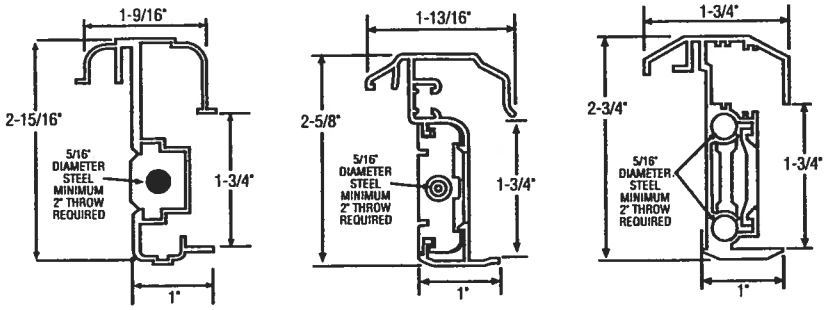
MAD-WL-MA0002-02

INSWING UNIT WITH DOUBLE DOOR

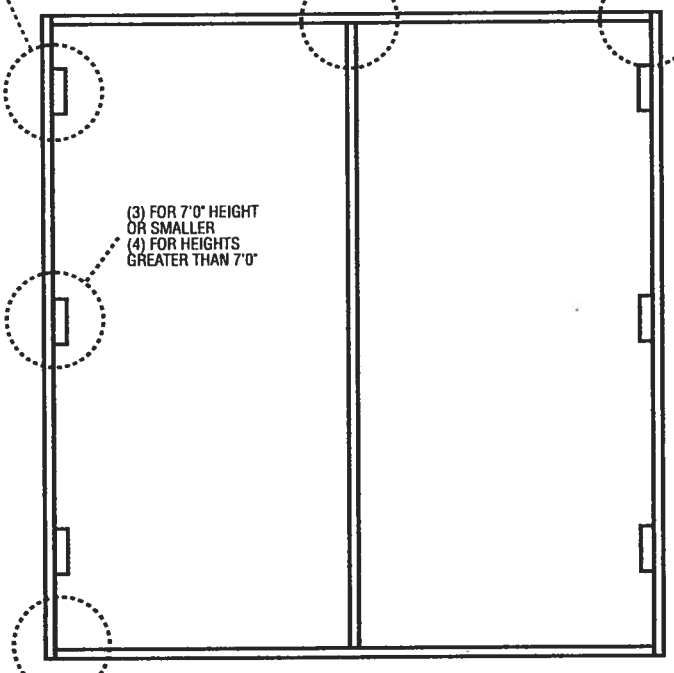
TYPICAL HINGE ATTACHMENT



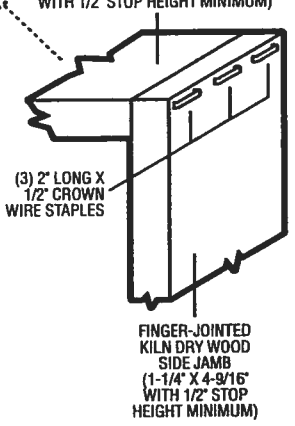
TYPICAL ASTRAGAL PROFILES



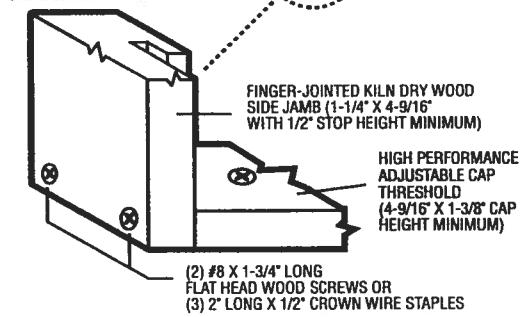
ALUMINUM EXTRUDED ASTRAGAL (0.06" MINIMUM WALL THICKNESS) WITH ADDED REINFORCEMENT INSERTS AT TOP EXTENSION BOLT, BOTTOM EXTENSION BOLT AND CYLINDERICAL/DEADBOLT LATCHING LOCATIONS. ATTACH WITH #8 X 1" PAN HEAD SCREWS – LOCATE 1" FROM EACH END MINIMUM AND 22" O.C. MAXIMUM.



TYPICAL HEADER & SIDE JAMB ATTACHMENT



TYPICAL THRESHOLD & SIDE JAMB ATTACHMENT



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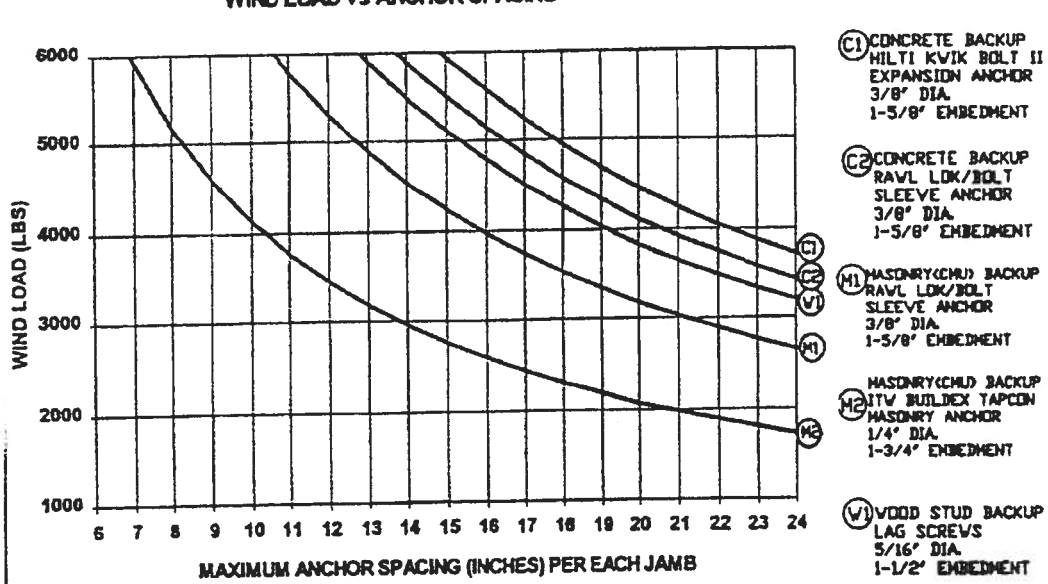


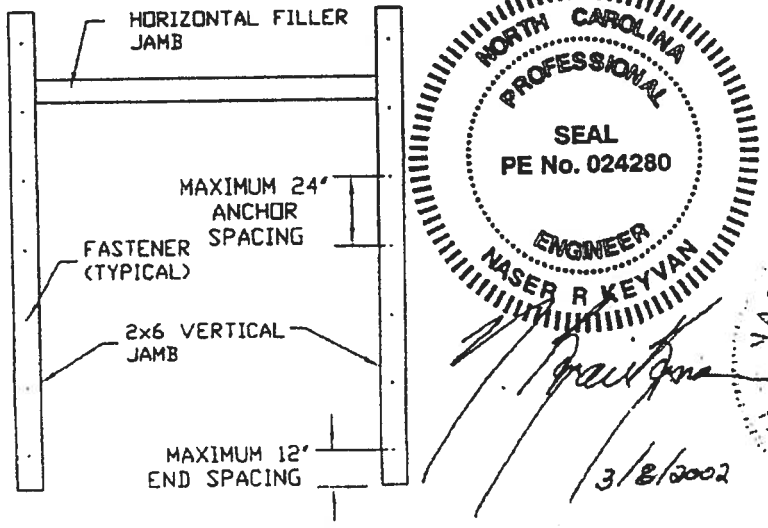
DESIGN LOAD $\frac{\text{(LBS)}}{\text{FT}^2}$ X GARAGE DOOR AREA(WIDTH-FT X HEIGHT-FT) = WIND LOAD(LBS)

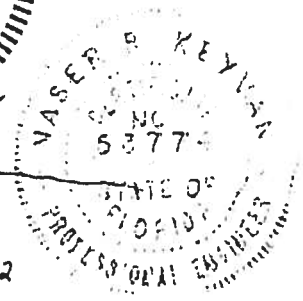
EXAMPLE

$\frac{30 \text{ LBS}}{\text{FT}^2}$ X (16 FT WIDE X 8 FT HIGH) = 3840 LBS

- (C1) USE 22" SPACING
- (C2) USE 21" SPACING
- (V1) USE 19" SPACING
- (M1) USE 16" SPACING
- (M2) USE 10" SPACING

SEE NOTE 11 FOR ADDITIONAL REQUIRED 2X6 WOOD JAMB ANCHORS





2x6 JAMB TO SUPPORTING STRUCTURE ATTACHMENT

2x6 PRESSURE TREATED (GRADE #2 OR BETTER SOUTHERN PINE) WOOD JAMB SHALL BE ANCHORED TO BUILDING WOOD FRAME, GROUTED AND REINFORCED CONCRETE MASONRY UNIT (CMU) WALLS OR COLUMNS, OR REINFORCED CONCRETE COLUMNS.

NOTES:

1) ALL DOOR OPENING SURROUNDING STRUCTURE TO BE DESIGNED BY REGISTERED ENGINEER OR ARCHITECT WITH DUE CONSIDERATION GIVEN TO INSTALLATIONS USING CENTER "HURRICANE" POSTS.

2) ALL DOOR OPENING STRUCTURE AND FASTENERS TO COMPLY WITH ALL APPLICABLE CODES INCLUDING SBCCI "STANDARD FOR HURRICANE RESISTANT RESIDENTIAL CONSTRUCTION" SSTD 10," CURRENT EDITION.

3) ALL FASTENERS TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, INSTRUCTIONS AND RECOMMENDATIONS.

4) WOOD FRAME BUILDINGS: STUDS AT EACH SIDE OF DOOR OPENING SHALL BE PROPERLY DESIGNED, CONNECTED, ANCHORED AND SHALL CONSIST OF A MINIMUM OF THREE (3) LAMINATIONS OF 2X6 PRESSURE TREATED SOUTHERN PINE (#2 GRADE OR BETTER) WALL STUDS CONTINUOUS FROM FOOTING TO DOUBLE TOP PLATE.

5) REINFORCED CMU OR CONCRETE: 2X6 WOOD JAMB SHALL BE ANCHORED TO SOLIDLY GROUTED AND REINFORCED CONCRETE MASONRY UNIT (CMU) WALLS OR COLUMNS, OR REINFORCED CONCRETE COLUMNS. ANCHOR SPACING AND EMBEDMENT IS BASED ON CONCRETE MASONRY UNITS COMPLYING WITH ASTM C90 WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 2150 PSI; GROUT WITH A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI; REINFORCED CONCRETE COLUMNS WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.

6) EMBEDMENTS LISTED ARE THE MINIMUM ALLOWABLE EMBEDMENTS.

7) ANCHORS FOR CONCRETE AND CONCRETE MASONRY UNITS (CMU) SHALL HAVE A MINIMUM 3" EDGE DISTANCE FROM ALL EDGES OF CONCRETE OR CONCRETE MASONRY UNITS. ANCHORS FOR CONCRETE AND CMU SHALL HAVE A MINIMUM SPACING OF 3-3/4"

8) LAG SCREWS SHALL BE CENTERED IN ONE OF THE 1-1/2" DIMENSION FACES OF THE TRIPLE 2X6 WALL STUDS.

9) WASHERS ARE REQUIRED ON ALL FASTENERS.

10) THE WIND LOAD VS. ANCHOR SPACING CHART IS FOR A MAXIMUM DOOR SIZE OF 18' X 8' AT A MAXIMUM 42 PSF DESIGN WIND LOAD.

11) FOR THE UPPER THREE INDIVIDUAL STEEL JAMB BRACKETS, BRACKETS SHALL BE CENTERED BETWEEN THE TWO CLOSEST 2X6 WOOD JAMB ANCHORS. IF THE STEEL JAMB BRACKET IS NOT CENTERED BETWEEN THE TWO CLOSEST 2X6 WOOD JAMB ANCHORS, ADD AN ADDITIONAL 2X6 WOOD JAMB ANCHOR NEAR THAT STEEL BRACKET TO INSURE THAT THE LOAD FROM THE STEEL BRACKET IS EQUALLY TRANSFERRED TO TWO WOOD JAMB ANCHORS.

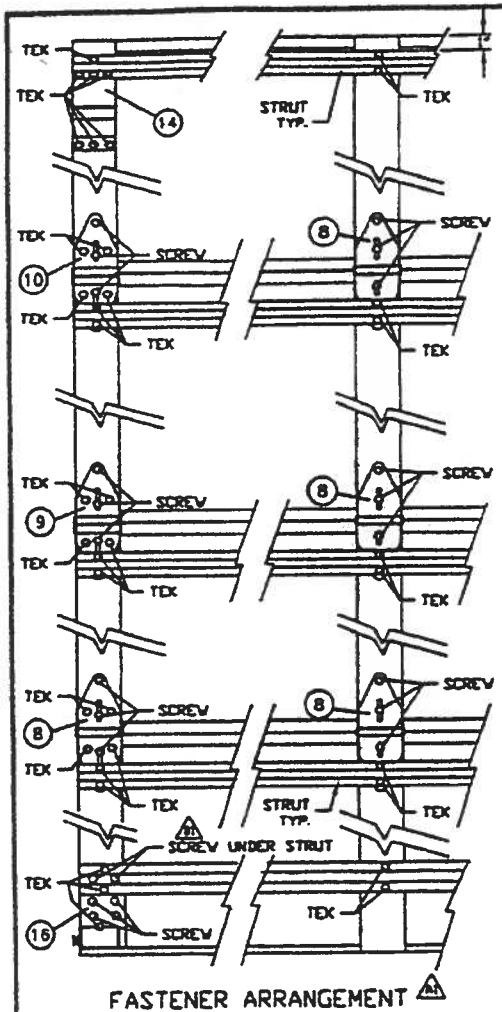
GADCO®

GENERAL AMERICAN DOOR COMPANY
5050 BASELINE ROAD
MONTGOMERY, IL 60538

SCALE NONE	APPROVED BY:	DRAWN BY: DV
DATE 8-30-99		REVISED

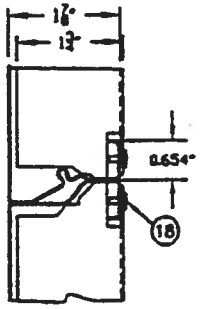
DESCRIPTION: JAMB TO STRUCTURE ATTACHMENT FOR WIND LOADED GARAGE DOORS

MASTER DRAWING NUMBER: A10560
DRAWING NUMBER:

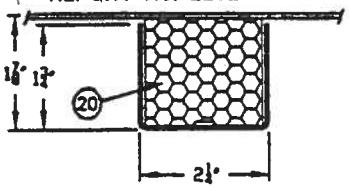


FASTENER ARRANGEMENT

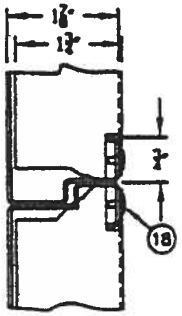
LISTED
SBCCI PST & ESI
REPORT No. 2202



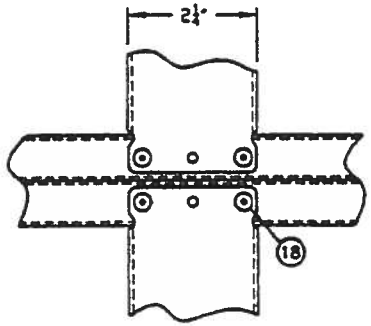
SEC D-D
PAN ATTACHMENT TO STILE (OPTIONAL)



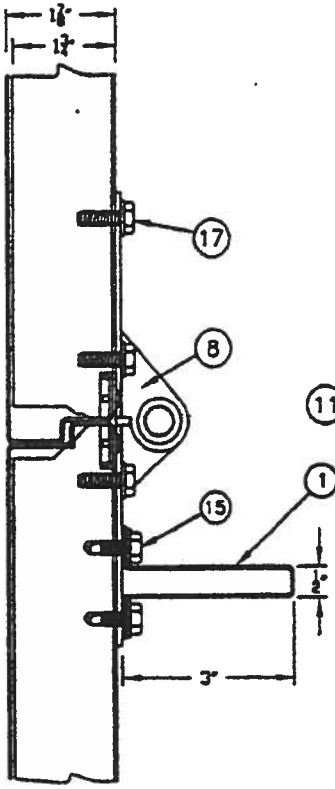
SEC G-G
CENTER STILE
20 GA. GALVANIZED



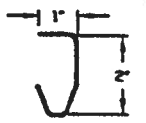
SEC D-D
PAN ATTACHMENT TO STILE (AS TESTED)



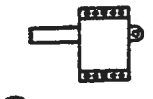
PAN ATTACHMENT TO STILE



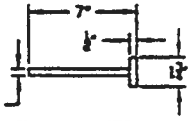
SEC A-A



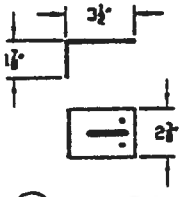
TRACK
16 GA. (.055 MIN.)



(12) SIDE LOCK



(11) ROLLER 10 BALLS

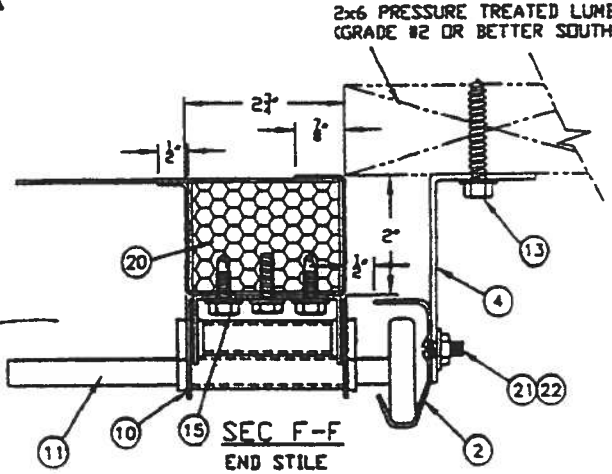


(4) #6 JAMB BRACKET

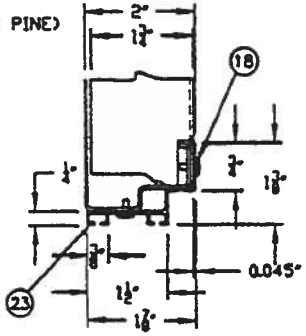
(1) 3-3"x20 GA. 80 KSI YIELD STRENGTH HEMMED STRUT APPLIED WITH 2 TEK SCREWS PER HINGE OR STILE LOCATION (14 PER STRUT, MINIMUM)

(17) SCREW
¼-20 X ¾" HEX WASHERHEAD SCREW

(15) TEK
¼-20 X ¾" HVH TEK SCREW WITH #2 REDUCED POINT



SEC F-F
END STILE
20 GA. PAINTED STEEL



SEC E-E

ITEM	PART NO.	DESCRIPTION
23	3485	BOTTOM RAIL, 6063 T6 ALUM EXT.
22	1391	1/4"-20 X 5/8" RIBBED NECK SCREW
21	4944	1/4"-20 SERRATED FLANGE NUT
20		1 LB. DENSITY FILLER BLOCK EPS
19		
18	4385	POP RIVET, 5/32" STEEL
17	4229	HEX WASHERHEAD SCREW 1/4"-20 X 3/4"
16	1399,LR	BOTTOM ROLLER BRACKET
15	0138	HVH TEK SCREW 1/4-20 X 3/4 W/ REDUCED PT.
14	3875	TOP SUPPORT BRACKET
13	4843	5/16" X 1-5/8" LAG SCREW
12	4710	SIDE LOCK
11	4306	LONG STEM ROLLER 2"
10	4203	ROLLER CARRIER HINGE #3 (14 GA)
9	4202	ROLLER CARRIER HINGE #2 (14 GA)
8	4201	ROLLER CARRIER HINGE #1 (14 GA)
7		COUNTER BALANCE (TORSION BAR & SPRINGS)
6		HORIZONTAL TRACK & ANGLE (16 GA)
5		VERTICAL FLAG ANGLE
4	4585-6	TRACK BRACKET #6 (12 GA)
3		
2		VERTICAL TRACK (16 GA)
1		3" HEMMED STRUT(20 GA) MIN. YIELD STR. 80KSI

GADCO
GENERAL AMERICAN DOOR COMPANY
5050 BASELINE ROAD
MONTGOMERY, IL 60538

SCALE: NONE | APPROVED BY: | DRAWN BY: D. VIEHMAN
DATE: 11-7-00 | REVISED (B) 12-1-00

DESCRIPTION:
16' X 7' MAX. RAISED PANEL STEEL DOOR-WINDLOAD ±20 PSF

PAGE 2 OF 2 | DRAWING NUMBER: W13220-2

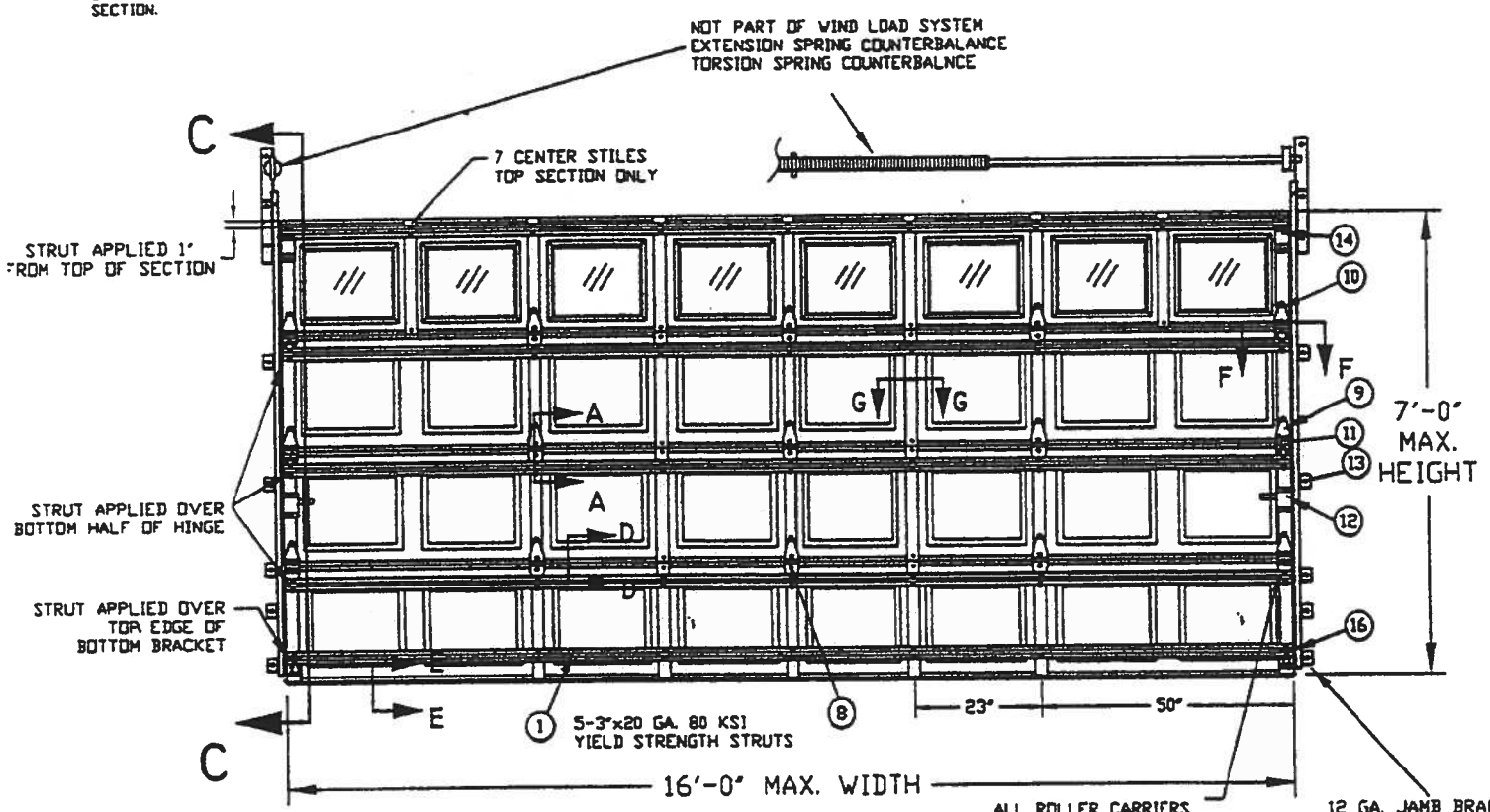
NORTH CAROLINA PROFESSIONAL SEAL PE No. 024280 ENGINEER NASER A. KEYVAN

The seal on this drawing only certifies that the product(s) illustrated and described herein represent the configuration(s), dimensions and installation(s) of the door as tested.

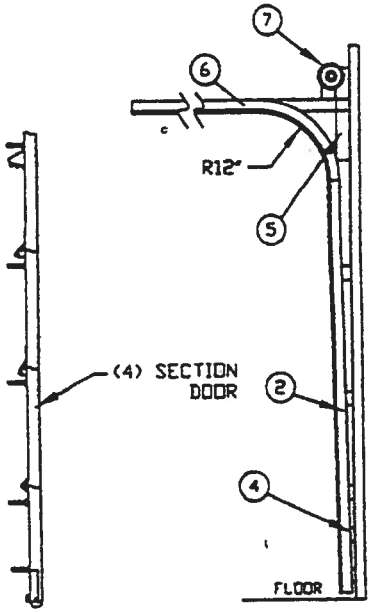
REV.	DATE	BY	DESCRIPTION
A-A	11-10-00	DW	SEE E.C.N. 831

NOTES:

1. TESTED TO POSITIVE AND NEGATIVE 20 PSF DESIGN AND POSITIVE AND NEGATIVE 30 PSF TEST PRESSURES PER ASTM E-330
2. MAXIMUM SECTION HEIGHT= 21"
3. SECTION HEIGHTS OF 21.00" AND 19.50" ARE AVAILABLE AND MAY BE USED IN ANY COMBINATION TO ACHIEVE VARIOUS DOOR HEIGHTS.
4. WINDOWS MAY BE INSTALLED IN THE TOP SECTION (AS TESTED WITH 1/8" DSB GLASS OR EQUIVALENT) OR IN THE SECTION IMMEDIATELY BELOW THE TOP SECTION.
5. MINIMUM LENGTH OF ROLLER STEM IS 5¼" (7" AS TESTED)
6. THE STRUT PLACEMENT ON DOOR MUST BE CONSISTENT WITH THE DOOR SHOWN.
7. STRUTS SECURED AT ALL LOCATIONS WITH TEK SCREWS.
8. QUANTITY OF SIDE LOCKS CAN BE 0,1, OR (2 AS TESTED).
9. (A) DROP IN TYPE OF INSULATION IS OPTIONAL



INSIDE ELEVATION



SEC C-C

VERTICAL TRACK, (16 GA.)

The seal on this drawing only certifies that the product(s) illustrated and described herein represent the configuration(s), dimensions and installation(s) of the door as tested.

SEAL
PE No. 024280
CHESTER R. DEVAN
ENGINEER
NORTH CAROLINA PROFESSIONAL

LISTED
SBCI PST & ESI
REPORT No. 2202

TEST REPORTS ON FILE: VIDEO 10/19/00 (00293)

DESIGN LOAD +20.0 PSF & -20.0 PSF
TEST LOAD +30.0 PSF & -30.0 PSF

GADCO DOORS
SERIES 7400, EXTERIOR STEEL =.017 MIN (AS TESTED)
SERIES 7825, EXTERIOR STEEL =.019" MIN (A)
SERIES 7524, EXTERIOR STEEL =.024" MIN (A)
(TESTED) WITH WINDOWS

MAXIMUM DOOR WIDTH	MAXIMUM DOOR HEIGHT	TYPICAL CTR. STILE SPACING	STRUTS 80 KSI SIZE	STRUTS 80 KSI QTY.	VERTICAL TRACK
16'	7'	23"	3"	5	2 IN.

GADCO®
GENERAL AMERICAN DOOR COMPANY
5050 BASELINE ROAD
MONTGOMERY, IL 60538

SCALE: 1:25	APPROVED BY:	DRAWN BY: D. WIDMAN
DATE: 10-20-00		REVISED (A) 11-10-00

DESCRIPTION: 16' X 7' MAX. RAISED PANEL STEEL DOOR -WINDLOAD ±20 PSF

PART NUMBER: PAGE 1 OF 2 — DRAWING NUMBER: W13220-1