29172

Hogle's
Heat & Air

1/14/11
William Hogle
(352)-332-1508

To Whom it May Concern,

The addition at the Payne residence is only 312 square feet, the bathroom and closet can be supplied by the existing system, where as the bedroom will require a 9000 BTU heat pump mini split system.

Bill Hogle

Hogle's Heating and Air

AHRI CERTIFIED
www.ahridirectory.org

This combination qualifies for a Federal Energy Efficiency Tax Credit when placed in service between Feb 17, 2009 and Dec 31, 2011.

Certificate of Product Ratings

AHRI Certified Reference Number: 3577499 Date: 1/14/2011

Product: Variable Speed Mini-Split Heat Pump, with Remote Outdoor Unit Air-Source, Free Delivery

Outdoor Unit Model Number: MUZ-GE09NA

Indoor Unit Model Number: MSZ-GE09NA

Manufacturer: MITSUBISHI ELECTRIC AND ELECTRONICS USA, INC.

Trade/Brand name: MR. SLIM

Manufacturer responsible for the rating of this system combination is MITSUBISHI ELECTRIC AND ELECTRONICS USA, INC.

Rated as follows in accordance with AHRI Standard 210/240-2006 for Unitary Air-Conditioning and Air-Source Heat Pump Equipment and subject to verification of rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (Btuh):	9000
EER Rating (Cooling):	13.60
SEER Rating (Cooling):	21.00
Heating Capacity(Btuh) @ 47 F:	10900
Region IV HSPF Rating (Heating):	10.00
Heating Capacity(Btuh) @ 17 F:	6600

CERTIFIED RATINGS FOR VARIABLE-SPEED, MINI- AND MULTI-SPLIT SYSTEMS ARE VALID FOR ALL COMBINATIONS OF INDOOR UNITS (BASED ON COMBINATION TYPES) WITH THE SPECIFIC OUTDOOR UNIT LISTED ABOVE AND IN THE AHRI DIRECTORY OF CERTIFIED EQUIPMENT. VISIT WWW.AHRIDIRECTORY.ORG TO VERIFY THAT THIS COMBINATION IS AN ACTIVE LISTING AND THE DATA LISTED ON THIS CERTIFICATE IS ACCURATE. SEARCH ON THE AHRI REFERENCE # TO QUICKLY LOCATE THIS COMBINATION IN THE DIRECTORY.

* Ratings followed by an asterisk (*) indicate a voluntary rerate of previously published data, unless accompanied with a VMAS, which indicates an involuntary rerate.

CERTIFICATE VERIFICATION

The information for the model cited on this certificate can be verified at www.ahridirectory.org, click on "Verify Certificate" link and enter the AHRI Certified Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed below.

AHRI Air-Conditioning, Heating, and Refrigeration Institute

CERTIFICATE NO.: 1203948306340219O1

Hogle's Heating & Air

Project Summary
Entire House
HOGLE'S HEATING & AIR

Job: PAYNE ADDITION
Date: Jan 17, 2011
By: W.D.HOGLE

13815 NW 39TH AVE, GAINESVILLE, FL 32606 Phone: 352-332-1508 Fax: 352-332-1601

Project Information

For: BILL CASON BUILDERS

Notes:

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	70 °F
Design TD	37 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	52 gr/lb

Heating Summary

Structure	1833 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	1833 Btuh

Sensible Cooling Equipment Load Sizing

Structure	1072 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's date	n
Rate/swing multiplier	0.97
Equipment sensible load	1040 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	144	144
Volume (ft³)	1152	1152
Air changes/hour	0.61	0.32
Equiv. AVF (cfm)	12	6

Latent Cooling Equipment Load Sizing

Structure	616 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	616 Btuh
Equipment total load	1656 Btuh
Req. total capacity at 0.70 SHR	0.1 ton

Heating Equipment Summary

Make	MITSUBISHI ELECTRIC
Trade	MR. SLIM
Model	MUZ-GE09NA
ARI ref no.	3577499

Efficiency	10 HSPF
Heating input	
Heating output	10900 Btuh @ 47°F
Temperature rise	31 °F
Actual air flow	321 cfm
Air flow factor	0.175 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	

Cooling Equipment Summary

Make	MITSUBISHI ELECTRIC
Trade	MR. SLIM
Cond	MUZ-GE09NA
Coil	MSZ-GE09NA
ARI ref no.	3577499

Efficiency	21 SEER
Sensible cooling	6300 Btuh
Latent cooling	2700 Btuh
Total cooling	9000 Btuh
Actual air flow	321 cfm
Air flow factor	0.299 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.64

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Hogle's Heating & Air

AED Assessment
Entire House
HOGLE'S HEATING & AIR

Job: PAYNE ADDITION
Date: Jan 17, 2011
By: W.D.HOGLE

13815 NW 39TH AVE, GAINESVILLE, FL 32606 Phone: 352-332-1508 Fax: 352-332-1501

Project Information

For: ***BILL CASON BUILDERS***

Design Conditions

Location:
Gainesville, FL, US
Elevation: 151 ft
Latitude: 30°N

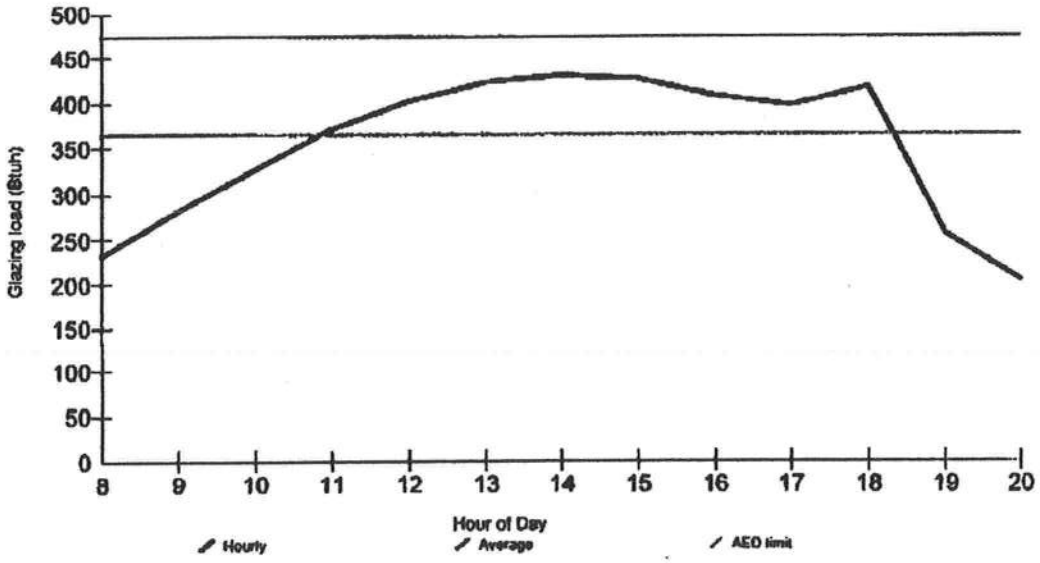
Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	33	92
Daily range (°F)	-	19 (M)
Wet bulb (°F)	-	77
Wind speed (mph)	15.0	7.5

Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	37	17
Relative humidity (%)	50	50
Moisture difference (gr/lb)	32.8	52.0

Infiltration:

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 18.1%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh

Hogle's
Heating & Air

Right-J® Worksheet
Entire House
HOGLE'S HEATING & AIR

Job: PAYNE ADDITION
Date: Jan 17, 2011
By: W.D.HOGLE

13815 NW 39TH AVE, GAINESVILLE, FL 32606 Phone: 352-332-1508 Fax: 352-332-1501

1	Room name					Entire House				BEDROOM				
2	Exposed wall					24.0 ft				24.0 ft				
3	Ceiling height					8.0 ft		d		8.0 ft			heat/cool	
4	Room dimensions									12.0 x 12.0 ft				
5	Room area					144.0 ft²				144.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-0sw	0.091	n	3.37	2.20	0	-15	-51	-33	0	-15	-51	-33
.	G	10-c20b	0.650	n	24.05	19.21	15	0	361	288	15	0	361	288
.	C	16B-30ed	0.032	-	1.18	1.68	144	144	170	243	144	144	170	243
.	F	22A-ipl	0.989	-	36.59	0.00	144	24	678	0	144	24	678	0
11														
6	c) AED excursion									0				0
	Envelope loss/gain								1359	498			1359	498
12	a) Infiltration								474	114			474	114
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @ 230					2			460	2			460
		Appliances/other								0				0
	Subtotal (lines 6 to 13)								1833	1072			1833	1072
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1833	1072			1833	1072
15	Duct loads						0%	0%	0	0	0%	0%	0	0
	Total room load								1833	1072			1833	1072
	Air required (cfm)								321	321			321	321

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Residential Component Prescriptive Method B — **ALL CLIMATE ZONES**

FORM 11B-09

Compliance with Method B of Chapter 11 of the *Florida Building Code, Residential* or Subchapter 13-6 of the *Florida Building Code, Building*, may be demonstrated by the use of Form 11B for single and multiple-family residences of three stories or less in height, and additions to existing residential buildings. To comply, a building must meet or exceed all of the energy efficiency requirements on Table 11B-1 and all applicable mandatory requirements summarized in Table 11B-2 of this form. If a building does not comply with this method, it may still comply under Method A of Chapter 11 or Subchapter 13-6 of the applicable code.

PROJECT NAME: AND ADDRESS:	*Payne Addition*	BUILDER:	*Cason Bldrs.*
		PERMITTING OFFICE:	
		PERMIT NO.:	JURISDICTION NO.:
OWNER:			

1. New construction including additions which incorporate any of the following features cannot comply using this method: steel stud walls, single assembly roof/ceiling construction, or skylights or other nonvertical roof glass.
2. Fill in all the applicable spaces of the "To Be Installed" column on "Table 11B-1 with the information requested. All "To Be Installed" values must be equal to or more efficient than the required levels.
3. Complete page 1 based on the "To Be Installed" column information.
4. Read "Minimum Requirements for All Packages", Table 11B-2 and check each box to indicate your intent to comply with all applicable items.
5. Read, sign and date the "Prepared By" certification statement at the bottom of page 1. The owner or owner's agent must also sign and date the form.

	Please Print	CK
1. New construction or addition	1. *Addition*	
2. Single-family detached or multiple-family attached	2. *Single*	
3. If multiple-family—No. of units covered by this submission	3.	
4. Is this a worst case? (yes/no)	4. *No*	
5. Conditioned floor area (sq. ft.)	5. *312*	
6. Glass type and area: a. U-factor: b. SHGC c. Glass area	6a. ______ 6b. ______ 6c. *21* sq.ft.	
7. Percentage of glass to floor area	7. *7* %	
8. Floor type, area or perimeter, and insulation: a. Slab-on-grade (R-value) b. Wood, raised (R-value) c. Wood, common (R-value) d. Concrete, raised (R-value) e. Concrete, common (R-value)	8a. R= ______ lin.ft. 8b. R= *19* *312* sq.ft. 8c. R= ______ sq.ft. 8d. R= ______ sq.ft. 8e. R= ______ sq.ft.	
9. Wall type, area and insulation: a. Exterior: 1. Masonry (Insulation R-value) 2. Wood frame (Insulation R-value) b. Adjacent: 1. Masonry (Insulation R-value) 2. Wood frame (Insulation R-value)	9a-1. R= ______ sq.ft. 9a-2. R= *13* *352* sq.ft. 9b-1. R= ______ sq.ft. 9b-2. R= ______ sq.ft.	
10. Ceiling type, area and insulation: a. Under attic (Insulation R-value) b. Single assembly (Insulation R-value)	10a. R= *30* sq.ft. *312* 10b. R= ______ sq.ft.	
11. Air distribution system: Duct insulation, location. Test report required if duct in unconditioned space	11a. R= ______ 11b. Test report attached? Yes No	
12. Cooling system: (Types: central, room unit, package terminal A.C., gas, none)	12a. Type: *Mini Split* 12b. SEER/EER: *21* 12c. Capacity: *.9*	
13. Heating system: (Types: heat pump, elec. strip, nat. gas, LP-Gas, gas h.p., room or PTAC, none)	13a. Type: *Mini Split HP* 13b. HSPF/COP/AFUE: *10* 13c. Capacity: *10.9*	
14. Programmable thermostat installed on HVAC systems:	14. Yes No	
15. Hot water system: (Types: elec., nat. gas, LP-gas, solar, heat rec., ded. heat pump, other, none)	15a. Type: ______ 15b. EF: ______	

I hereby certify that the plans and specifications covered by the calculation are in compliance with the Florida Energy Code. PREPARED BY: *[signature] Tidd-Self Inc* DATE: *1/14/10* I hereby certify that this building is in compliance with the Florida Energy Code. OWNER/AGENT: ______ DATE: ______	Review of 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 in accordance with Section 553.908, F.S. BUILDING OFFICIAL: ______ DATE: ______

COLUMBIA COUNTY BUILDING DEPARTMENT Received for FILE COPY Code Compliance PLANS EXAMINER

13-B.28

2007 FLORIDA BUILDING CODE—BUILDING
Effective 3/1/2009

Jan 17 11 01:57p

TABLE 11B-1	MINIMUM REQUIREMENTS (See Note 1)	All Climate Zones
BUILDING COMPONENT	**PERFORMANCE CRITERIA**	**INSTALLED VALUES:**
Windows (see Note 2):	U-factor = 0.65 SHGC = 0.36 % CFA <= 16%	U-factor= SHGC= % of CFA=
Exterior door type	Wood or insulated	Type:
Walls – Ext. and Adj. (See Note 3): Frame Mass Interior of wall: Exterior of wall	R-13 R-6 R-4	R-value = R-value = R-value =
Ceilings (see Notes 3 & 4)	R-30	R-value =
Floors: Slab-on-grade Over unconditioned spaces (see Note 3)	No requirement R-13	R-value =
Hot water systems (storage type) Electric (see Note 5): Gas fired (see Note 6):	40 gal: EF = 0.92 50 gal: EF = 0.90 40 gal: EF = 0.59 50 gal: EF = 0.58	Gallons = EF = Gallons = EF =
Air conditioning systems (see Note 7)	SEER = 13.0	SEER =
Heat pump systems (see Note 8)	SEER = 13.0 HSPF = 7.7	SEER = HSPF =
Gas furnaces	AFUE = 78%	AFUE =
Oil furnaces	AFUE = 78%	AFUE =
Programmable thermostat	Must be installed on all HVAC systems	Installed? Yes No
Ductwork (see Note 9) Unconditioned space[a] Conditioned space Unvented attic assembly per R806.4 with insulation at the roof plane	R-6, Tested NA R-4.2	Location: Unconditioned space R-value= Test report: Conditioned space R-value = (No test report required)
Air Handler location: Unconditioned attic or garage Conditioned space or Unvented attic assembly per R806.4 with insulation at the roof plane	Requires test report No duct test required	Location: Test report:

(1) Each component present in the As-Built home must meet or exceed each of the applicable performance criteria in order to comply with this code using this method; otherwise Method A compliance must be used.
(2) Windows and doors qualifying as glazed fenestration areas must comply with both the maximum U-Factor and the maximum SHGC (Solar Heat Gain Coefficient) criteria and have a maximum total window area equal to or less than 16 % of the conditioned floor area (CFA), otherwise Method A must be used for compliance. Exception: Additions of 600 square feet (56 m²) or less may have maximum CFA of 50 percent.
(3) R-Values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls, the interior (Int) requirement must be met unless at least 50% of the insulation value is on the exterior (Ext) or integral to the wall.
(4) Attic knee walls shall be insulated to same level as ceilings and shall have a positive means of maintaining insulation in place. Such means may include rigid insulation board or air barrier sheet materials adequately fastened to the attic sides of knee wall framing materials.
(5) For other electric storage volumes, minimum EF = 0.97 - (0.00132 * volume)
(6) For other natural gas storage volumes, minimum EF = 0.67 - (0.0019 * volume)
(7) For all conventional units with capacities greater than 30,000 Btu/hr. For Small-Duct, High-Velocity units, Space Constrained units, and units with capacities less than 30,000 Btu/hr see Table 13-607.AB.3.2A of the *Florida Building Code, Building*, or Table N1107.AB.3.2A of the *FBC-Residential*.
(8) For all conventional units with capacities greater than 30,000 Btu/hr. For Small-Duct, High-Velocity units, Space Constrained units, and units with capacities less than 30,000 Btu/hr see Table 13-607.AB.3.2B of the *Florida Building Code, Building*, or Table N1107.AB.3.2B of the *FBC-Residential*.
(9) All ducts and air handlers shall be either located in conditioned space or tested by a Class 1 BERS rater to be "substantially" leak free.
[a]"Substantially leak free" shall mean distribution system air leakage to outdoors no greater than 3 cfm per 100 square feet of conditioned floor area at a pressure differential of 25 Pascal (0.10 in. w.c.) across the entire air distribution system, including the manufacturer's air handler enclosure.

TABLE 11B-2	MINIMUM REQUIREMENTS FOR ALL PACKAGES		
COMPONENTS	**SECTION**	**REQUIREMENTS**	**CHECK**
Exterior joints & cracks	N1106.AB.1.2	To be caulked, gasketed, weather-stripped or otherwise sealed.	
Exterior windows & doors	N1106.AB.1.1	Max. 0.3 cfm/sq.ft. window area; 0.5 cfm/sq.ft. door area.	
Sole & top plates	N1106.AB.2.1	Sole plates and penetrations through top plates of exterior walls must be sealed.	
Recessed lighting	N1106.AB.1.2.4	Type IC rated with no penetrations (two alternatives allowed)	
Multistory houses	N1106.AB.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Exhaust fans	N1106.AB.1.3	Exhaust fans vented to unconditioned space shall have dampers, except for combustion devices with integral exhaust ductwork.	
Water heaters	N1112.AB.3	Comply with efficiency requirements in Table N1112.AB.3. Switch or clearly marked circuit breaker electric or cutoff (gas) must be provided. External or built-in heat trap required for vertical pipe risers.	
Swimming pools & spas	N1112.AB.2.3.4	Spas & heated pools must have covers (except solar heated). Noncommercial pools must have a pump timer. Gas spa & pool heaters must have minimum thermal efficiency of 78%. Heat pump pool heaters shall have a minimum COP of 4.0.	
Hot water pipes	N1112.AB.5	Insulation is required for hot water circulating systems (including heat recovery units).	
Shower heads	N1112.AB.2.4	Water flow must be restricted to no more than 2.5 gallons per minute at 80 psig.	
HVAC duct construction, insulation & installation	N1110.AB	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated and installed in accordance with the criteria of Section N1110.AB. Ducts in attics must be insulated to a minimum of R-6.	
HVAC controls	N1107.AB.2	Separate readily accessible manual or automatic thermostat for each system.	

TABLE 11B-1	MINIMUM REQUIREMENTS (See Note 1)	All Climate Zones
BUILDING COMPONENT	PERFORMANCE CRITERIA	INSTALLED VALUES:
Windows (see Note 2):	U-factor = 0.65 SHGC = 0.35 % CFA <= 16%	U-factor= SHGC= % of CFA=
Exterior door type	Wood or insulated	Type:
Walls – Ext. and Adj. (See Note 3): Frame Mass Interior of wall: Exterior of wall:	R-13 R-6 R-4	R-value = R-value = R-value =
Ceilings (see Notes 3 & 4)	R-30	R-value =
Floors: Slab-on-grade Over unconditioned spaces (see Note 3)	No requirement R-13	R-value =
Hot water systems (storage type) Electric (see Note 5): Gas fired (see Note 6):	40 gal: EF = 0.92 50 gal: EF = 0.90 40 gal: EF = 0.59 50 gal: EF = 0.58	Gallons = EF = Gallons = EF =
Air conditioning systems (see Note 7)	SEER = 13.0	SEER =
Heat pump systems (see Note 8)	SEER = 13.0 HSPF = 7.7	SEER = HSPF =
Gas furnaces	AFUE = 78%	AFUE =
Oil furnaces	AFUE = 78%	AFUE =
Programmable thermostat	Must be installed on all HVAC systems	Installed? Yes No
Ductwork (see Note 9) Unconditioned space[a] Conditioned space Unvented attic assembly per R806.4 with insulation at the roof plane	R-6, Tested NA R-4.2	Location: Unconditioned space R-value= Test report: Conditioned space R-value = (No test report required)
Air Handler location: Unconditioned attic[a] or garage Conditioned space or Unvented attic assembly per R806.4 with insulation at the roof plane	Requires test report No duct test required	Location: Test report:

(1) Each component present in the As-Built home must meet or exceed each of the applicable performance criteria in order to comply with this code using this method; otherwise Method A compliance must be used.
(2) Windows and doors qualifying as glazed fenestration areas must comply with both the maximum U-Factor and the maximum SHGC (Solar Heat Gain Coefficient) criteria and have a maximum total window area equal to or less than 16 % of the conditioned floor area (CFA), otherwise Method A must be used for compliance. Exception: Additions of 600 square feet (55 m²) or less may have maximum CFA of 50 percent.
(3) R-Values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls, the interior (Int) requirement must be met unless at least 50% of the insulation value is on the exterior (Ext) or integral to the wall.
(4) Attic knee walls shall be insulated to same level as ceilings and shall have a positive means of maintaining insulation in place. Such means may include rigid insulation board or air barrier sheet materials adequately fastened to the attic sides of knee wall framing materials.
(5) For other electric storage volumes, minimum EF = 0.97 - (0.00132 * volume)
(6) For other natural gas storage volumes, minimum EF = 0.67 - (0.0019 * volume)
(7) For all conventional units with capacities greater than 30,000 Btu/hr. For Small-Duct, High-Velocity units, Space Constrained units, and units with capacities less than 30,000 Btu/hr see Table 13-607.AB.3.2A of the *Florida Building Code, Building*, or Table N1107.AB.3.2A of the *FBC-Residential*.
(8) For all conventional units with capacities greater than 30,000 Btu/hr. For Small-Duct, High-Velocity units, Space Constrained units, and units with capacities less than 30,000 Btu/hr see Table 13-607.AB.3.2B of the *Florida Building Code, Building*, or Table N1107.AB.3.2B of the *FBC-Residential*.
(9) All ducts and air handlers shall be either located in conditioned space or tested by a Class 1 BERS rater to be "substantially" leak free. "Substantially leak free" shall mean distribution system air leakage to outdoors no greater than 3 cfm per 100 square feet of conditioned floor area at a pressure differential of 25 Pascal (0.10 in. w.c.) across the entire air distribution system, including the manufacturer's air handler enclosure.

TABLE 11B-2	MINIMUM REQUIREMENTS FOR ALL PACKAGES		
COMPONENTS	SECTION	REQUIREMENTS	CHECK
Exterior joints & cracks	N1106.AB.1.2	To be caulked, gasketed, weather-stripped or otherwise sealed.	
Exterior windows & doors	N1106.AB.1.1	Max. 0.3 cfm/sq.ft. window area; 0.5 cfm/sq.ft. door area.	
Sole & top plates	N1106.AB.2.1	Sole plates and penetrations through top plates of exterior walls must be sealed.	
Recessed lighting	N1106.AB.1.2.4	Type IC rated with no penetrations (two alternatives allowed)	
Multistory houses	N1106.AB.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Exhaust fans	N1106.AB.1.3	Exhaust fans vented to unconditioned space shall have dampers, except for combustion devices with integral exhaust ductwork.	
Water heaters	N1112.AB.3	Comply with efficiency requirements in Table N1112.AB.3. Switch or clearly marked circuit breaker electric or cutoff (gas) must be provided. External or built-in heat traps required for vertical pipe risers.	
Swimming pools & spas	N1112.AB.2.3.4	Spas & heated pools must have covers (except solar heated). Noncommercial pools must have a pump timer. Gas spa & pool heaters must have minimum thermal efficiency of 78%. Heat pump pool heaters shall have a minimum COP of 4.0.	
Hot water pipes	N1112.AB.5	Insulation is required for hot water circulating systems (including heat recovery units).	
Shower heads	N1112.AB.2.4	Water flow must be restricted to no more than 2.5 gallons per minute at 80 psig.	
HVAC duct construction, insulation & installation	N1110.AB	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated and installed in accordance with the criteria of Section N1110.AB. Ducts in attics must be insulated to a minimum of R-6.	
HVAC controls	N1107.AB.2	Separate readily accessible manual or automatic thermostat for each system.	

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

FORM 1100R-09 — Residential Component Prescriptive Method B — ALL CLIMATE ZONES

Compliance with Method B of Chapter 11 of the *Florida Building Code, Residential* or Subchapter 13-6 of the *Florida Building Code, Building*, may be demonstrated by the use of Form 1100R for single and multiple-family residences of three stories or less in height, and additions to existing residential buildings. To comply, a building must meet or exceed all of the energy efficiency requirements on Table 110-1 and all applicable mandatory requirements contained in Table 110-2 of this form. If a building does not comply with this method, it may still comply under Method A of Chapter 11 or Subchapter 13-6 of the applicable code.

PROJECT NAME AND ADDRESS:	Proje Addition	BUILDER:	Cason Blders.
		PERMITTING OFFICE:	
COMMENTS:		PERMIT NO.:	JURISDICTION NO.:

1. New construction including additions which incorporate any of the following features cannot comply using this method: steel stud walls, single assembly roofing construction, or skylights or other conventional roof glass.
2. Fill in all the applicable spaces of the "To Be Installed" column on Table 110-1 with the information requested. All "To Be Installed" values must be equal to or more efficient than the required levels.
3. Complete page 1 based on the "To Be Installed" column information.
4. Read "Minimum Requirements for All Packages", Table 110-2 and check each box to indicate your intent to comply with all applicable items.
5. Read, sign and date the "Prepared By" certification statement at the bottom of page 1. The owner or owner's agent must also sign and date the form.

		Please Print	CK
1.	New construction or addition	1. Addition	
2.	Single-family detached or multiple-family attached	2. Single	
3.	If multiple-family—No. of units covered by this submission	3.	
4.	Is this a worst case? (yes/no)	4. No	
5.	Conditioned floor area (sq. ft.)	5. 312	
6.	Glass type and area:		
	a. U-factor	6a.	
	b. SHGC	6b.	
	c. Glass area	6c. 21 sq. ft.	
7.	Percentage of glass to floor area	7. 7 %	
8.	Floor type, area or perimeter, and insulation:		
	a. Slab-on-grade (R-value)	8a. R= ___ ___ sq. ft.	
	b. Wood, raised (R-value)	8b. R= 19 32.2 sq. ft.	
	c. Wood, common (R-value)	8c. R= ___ ___ sq. ft.	
	d. Concrete, raised (R-value)	8d. R= ___ ___ sq. ft.	
	e. Concrete, common (R-value)	8e. R= ___ ___ sq. ft.	
9.	Wall type, area and insulation:		
	a. Exterior: 1. Masonry (insulation R-value)	9a-1. R= ___ ___ sq. ft.	
	2. Wood frame (insulation R-value)	9a-2. R= 13 33 sq. ft.	
	b. Adjacent: 1. Masonry (insulation R-value)	9b-1. R= ___ ___ sq. ft.	
	2. Wood frame (insulation R-value)	9b-2. R= ___ ___ sq. ft.	
10.	Ceiling type, area and insulation:		
	a. Under attic (insulation R-value)	10a. R= 30 sq. ft. 312	
	b. Single assembly (insulation R-value)	10b. R= ___ ___ sq. ft.	
11.	Air distribution system: Duct insulation, location	11a. R= ___	
	Test report required if duct in unconditioned space	11b. Test report attached? Yes No	
12.	Cooling system:	12a. Type: Mini Split	
	(Type: central, room unit, package terminal A.C., gas, none)	12b. SEER/EER: 21	
		12c. Capacity: ___	
13.	Heating system:	13a. Type: Mini Split HP	
	(Type: heat pump, elec. resip. nat. gas, LP-Gas, gas hp., room or PTAC, none)	13b. HSPF/COP/EFF: 9	
		13c. Capacity: 10.9	
14.	Programmable thermostat installed on HVAC systems:	14. Yes No	
15.	Hot water system:	15a. Type: /	
	(Type: elec., nat. gas, LP-gas, solar, heat rec., ded. heat pump, other, none)	15b. EF:	

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

PREPARED BY: [signature] DATE: 2/17/10

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

OWNER AGENT: ___ DATE: ___

Review of plans and calculations covered by this calculation sheet is in compliance with the Florida Energy Code. Before construction is completed, this building will be inspected for compliance in accordance with Section 553.908, F.S.

BUILDING OFFICIAL: ___

DATE: ___

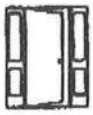
7730
FL #[illegible]

Installation Instructions Pre-Hung Door Systems In High Wind Velocity Areas

These instructions apply to all Therma-Tru wood-framed door systems. Some apply specifically to:

Inswing Doors 

Outswing Doors 

Doors with sidelights 

Double Doors 

Patio Doors 

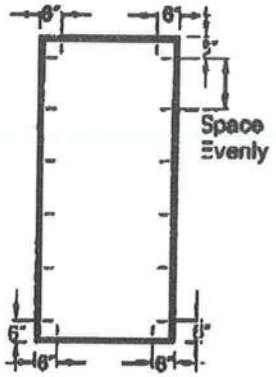
Read all instructions before starting.

THERMA-TRU® DOORS

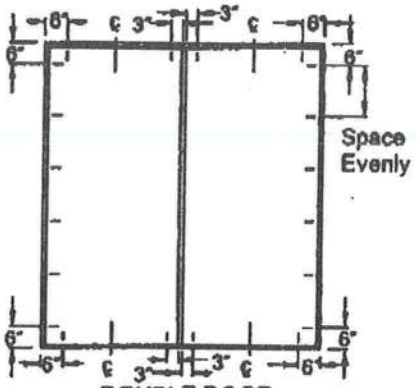
The Most Preferred Brand in the Business™

P.O. Box 8780 Maumee, Ohio 43537

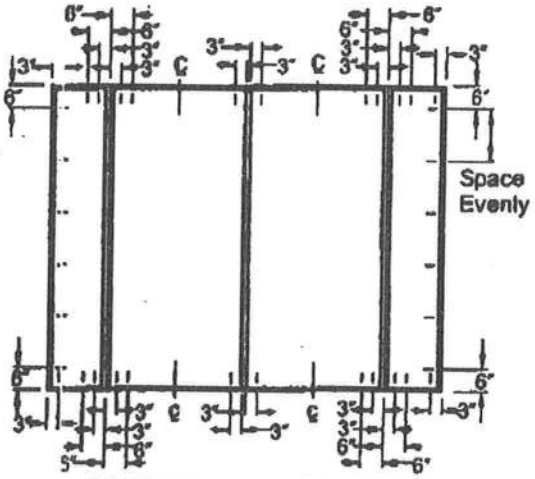
Printed 3/02 Questions? Comments? Call 1-800-THERMATRU (1-800-843-7628) Part No. MSDRISTH



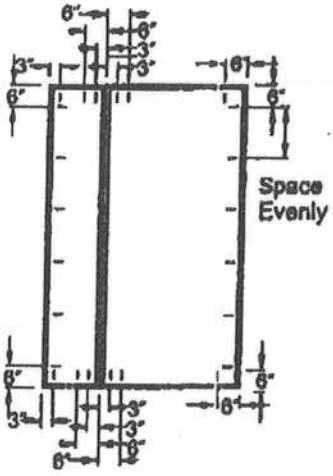
SINGLE DOOR



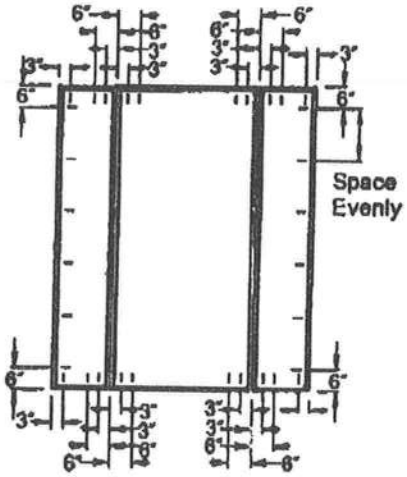
DOUBLE DOOR



DOUBLE DOOR W/SIDELITES



SINGLE DOOR W/SIDELITE



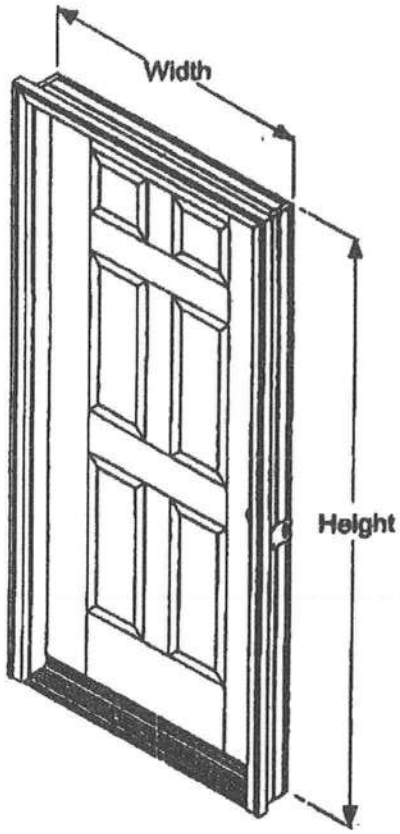
SINGLE DOOR W/SIDELITES

1 CHECK DOOR UNIT.

Check width and height.

Measure size of frame (width and height), not brickmold.

Remove cleats and packaging, but keep door fastened closed with transport clip. Do not remove clip or open door until instructed to do so.



2 CHECK AND PREPARE OPENING.

Is subfloor level and solid? *Provide a flat, level, clean bearing surface so the sill may be caulked and sealed to the opening. Scrape, sand, or fill as required.*

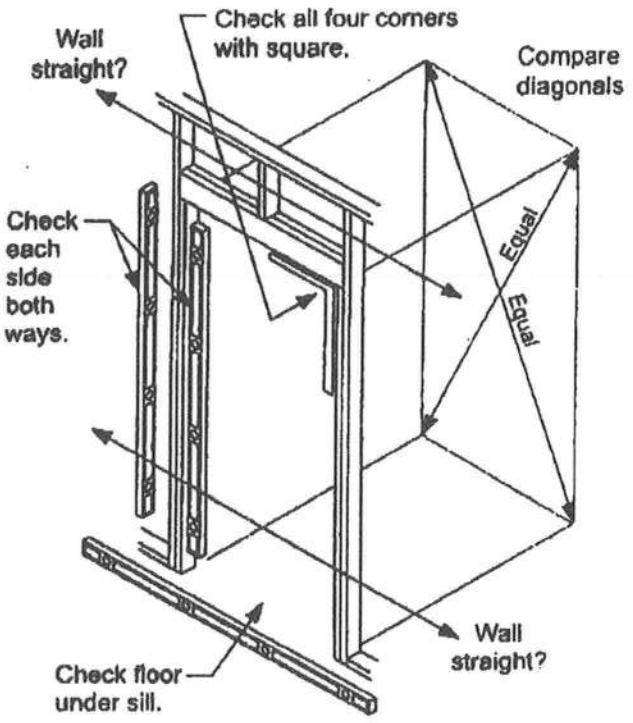
Shim subfloor for floor covering clearance, if required. *If shimming, caulk under shims.*

Is opening square? Check all corners with a framing square. Double-check by comparing diagonal measurements. *Fix any problems now.*

Are framing and walls plumb? Use a 6-foot level and check both sides of opening, both ways. *Fix any problems now.*

Are the wall surfaces around the opening in the same plane? There must be no "warps" or "jogs". *Fix any problems now.*

Is the opening the correct size? Check it against the door frame size now, before installation. Opening should be frame height plus 1/4", and frame width plus 1/2". Remember to use only 1/4" shims.



4 PLACE UNIT IN OPENING AND TEMPORARILY FASTEN HINGE JAMB. DO NOT FASTEN THROUGH BRICKMOULD.

If the jamb and head does not come with pilot holes, drill 1/8" pilot holes before using screws.

For single or double doors, note hinge locations and mark jamb faces near door surface, for fastener placement later.

Lift unit up. With top edge tilted away from opening, center unit and place sill down onto caulk beads. Tilt into place.

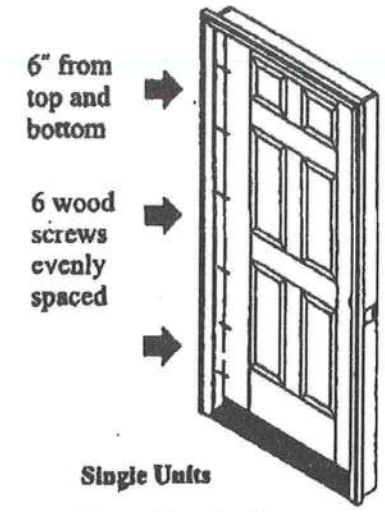
Work from the side of the door that is weather-stripped. (*outside* for **inswing doors,** *inside* for **outswing doors**)

Plumb hinge side jamb both ways. Use a 6-foot level.

Use shims totaling a maximum of 1/4" thickness, not the usual 1/2".

Use 2-1/2" wood screws. Do NOT substitute nails, deck screws, or drywall screws . Place six #8 wood screws through jambs into "two-by" studs, at each location where shown in diagrams. **For single or double doors,** refer to marks on jambs and place fasteners *below* each hinge location, so that shims may be placed behind hinges. Fasteners will keep shims from falling down while adjustments are made.

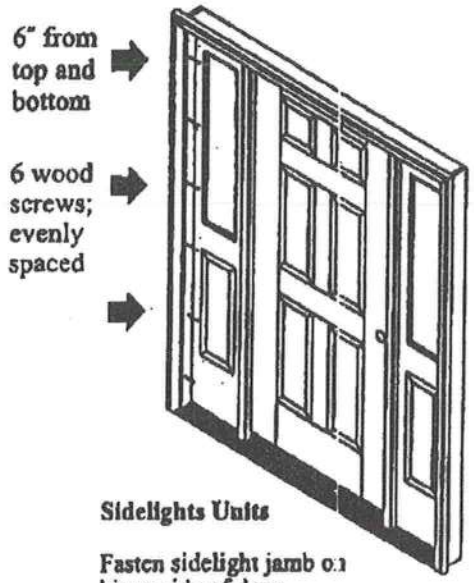
Do not drive screws completely in at this time.



Single Units

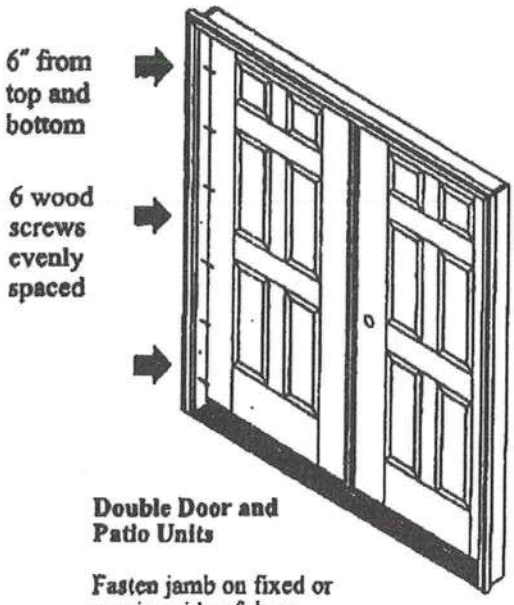
Fasten hinge jamb.

All screws used outside should be coated or galvanized to prevent rusting and staining.



Sidelights Units

Fasten sidelight jamb on hinge side of door.

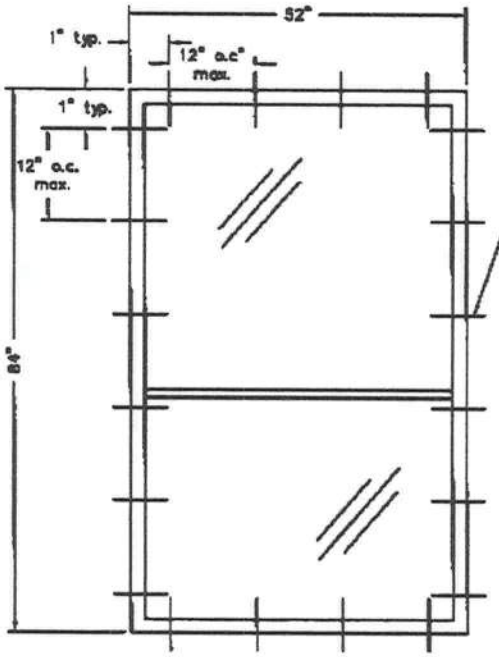


Double Door and Patio Units

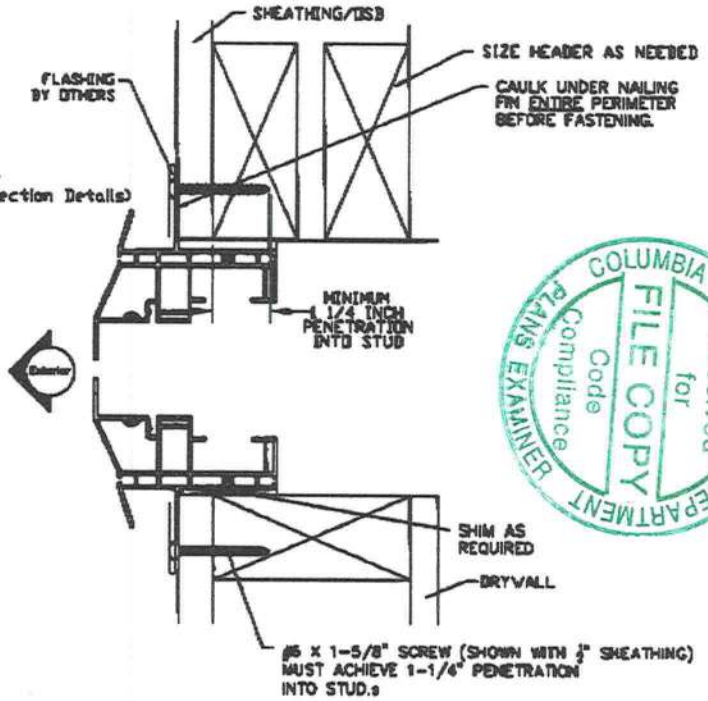
Fasten jamb on fixed or passive side of door.

FL12250-R4

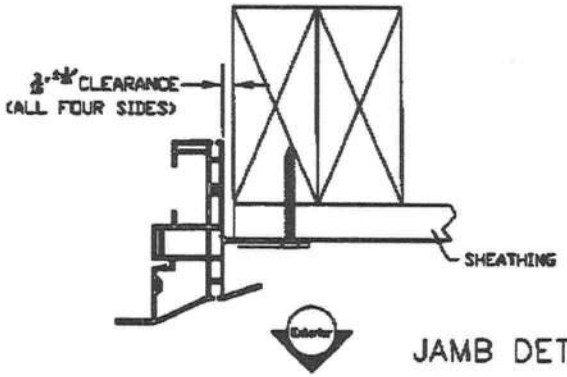
ELEVATION



HEAD DETAIL



SILL DETAIL



JAMB DETAIL

* "NAIL FIN" IS A GENERIC TERN WHICH MEANS "MOUNTING FLANGE". (NOT TO BE CONFUSED WITH "1/2" FRONT FLANGE)

Notes:

1. Installation depicted based off of structural test report # 74189.03.01-109-67, specimen #1.
2. Wood screws shall satisfy the National Design Specification for Wood Construction for material type and dimensional requirements.
3. Wood buck installations are assumed 2x S-P-F (G=0.42) or denser. Buck width shall be greater than the window frame width. Tapered or partial width bucks are not allowed. Wood buck shall be secured to the structure to resist all design loads.
4. Wood screw lengths shall be sufficient to guarantee 1-1/4" penetration into wood buck.
5. Maximum shim thickness of 1/4" permitted at each fastener location. Shims shall be load bearing, non-compressible type.
6. These drawings depict the details necessary to meet structural load requirements. They do not address the air infiltration, water penetration, intrusion or thermal performance requirements of the installation.
7. Installation shown is that of the test window for the size shown and the design pressure claimed. For window sizes smaller than shown, locate fasteners 1" from corners and no more than 12" on center. Design pressures of smaller window sizes are limited to that of the test window.

SIZE AND DESIGN PRESSURE CHART
FASTENER TYPE AND SPACING SHOWN WILL ALLOW DESIGN PRESSURES UP TO +20.06 / -20.06 UNITS UP TO 52" x 84"
(SEE TEST REPORTS FOR INDIVIDUAL UNIT SIZE AND APPLICABLE DESIGN PRESSURE LIMITATIONS)

Windows & Doors
Gratz, PA

TITLE: INSTALLATION INSTRUCTIONS & FASTENER SCHEDULE – FIN–

ASSEMBLY: 3540/3240 Single Hung – Oriel

DRAWN BY	DATE
V.M.R.	3/3/09
CHECKED	DATE
SCALE	SHEET
NONE	1 of 1
DWG. NO.	REV.
3540-3240 SH FIN	–

FLORIDA DEPARTMENT OF Community Affairs

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- OFFICE OF THE SECRETARY

Product Approval

USER: Public User

Product Approval Menu > Product or Application Search > Application List > **Application Detail**

FL #	FL9107-R1
Application Type	Revision
Code Version	2007
Application Status	Approved
Comments	
Archived	☐
Product Manufacturer	Metal Sales Manufacturing Corporation
Address/Phone/Email	545 South 3rd Street, Suite 200 Louisville, KY 40202 (812) 218-7342 dstermer@metalsales.us.com
Authorized Signature	David Stermer dstermer@metalsales.us.com
Technical Representative Address/Phone/Email	
Quality Assurance Representative Address/Phone/Email	
Category	Roofing
Subcategory	Metal Roofing
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☑ Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Bala Sockalingam
Florida License	PE-62240
Quality Assurance Entity	Keystone Certifications, Inc.
Quality Assurance Contract Expiration Date	12/31/2011
Validated By	Yoosef Lavi, P.E. ☑ Validation Checklist - Hardcopy Received
Certificate of Independence	FL9107_R1_COI_CertificateIndependence.pdf

COLUMBIA COUNTY BUILDING DEPARTMENT
Received for FILE COPY
Code Compliance
PLANS EXAMINER

Referenced Standard and Year (of Standard)

Standard	Year
UL 1897	1998
UL 580	1994

Equivalence of Product Standards Certified By

Sections from the Code

Product Approval Method	Method 1 Option D
Date Submitted	05/19/2008
Date Validated	05/21/2008
Date Pending FBC Approval	05/23/2008
Date Approved	06/24/2008

Summary of Products

FL #	Model, Number or Name	Description
9107.1	5V-Crimp	26 ga., 24 wide through fastened roof panel over plywood deck
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-149.6 **Other:** 84.5 psf @ fastener spacing of 2' 0", 131.3 psf @ fastener spacing of 1' 6" and 149.6 psf @ fastener spacing of 1' 0"		**Installation Instructions** FL9107_R1_II_1582_8.pdf Verified By: Bala Sockalingam PE 62240 Created by Independent Third Party: Yes **Evaluation Reports** FL9107_R1_AE_EvaluationReportC1582_8.pdf Created by Independent Third Party: Yes
9107.2	Classic Rib	26 ga., 36" wide through fastened roof panel over plywood deck
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-133.9 **Other:** 92.3 psf @ fastener spacing of 2' 0" and 133.9 psf @ fastener spacing of 1' 6"		**Installation Instructions** FL9107_R1_II_1582_9.pdf Verified By: Bala Sockalingam PE 62240 Created by Independent Third Party: Yes **Evaluation Reports** FL9107_R1_AE_EvaluationReportC1582_9.pdf Created by Independent Third Party: Yes
9107.3	Image II	26 ga., 16" wide standing seam roof panel over plywood deck
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** No **Design Pressure:** +N/A/-139.1 **Other:** 102.7 psf @ fastener spacing of 6" and 139.1 psf @ fastener spacing of 6" with 3/8" bead adhesive in sidelap		**Installation Instructions** FL9107_R1_II_1582_10.pdf Verified By: Bala Sockalingam PE 62240 Created by Independent Third Party: Yes **Evaluation Reports** FL9107_R1_AE_EvaluationReportC1582_10.pdf Created by Independent Third Party: Yes
9107.4	Stile	26 ga., 39.4" wide through fastened roof panel over plywood deck
Limits of Use **Approved for use in HVHZ:** No **Approved for use outside HVHZ:** Yes **Impact Resistant:** N/A **Design Pressure:** +N/A/-149.6 **Other:** 106.8 psf @ fastener spacing of 2' 0" and 149.6 psf @ fastener spacing of 1' 0"		**Installation Instructions** FL9107_R1_II_1582_11.pdf Verified By: Bala Sockalingam PE 62240 Created by Independent Third Party: Yes **Evaluation Reports** FL9107_R1_AE_EvaluationReportC1582_11.pdf Created by Independent Third Party: Yes

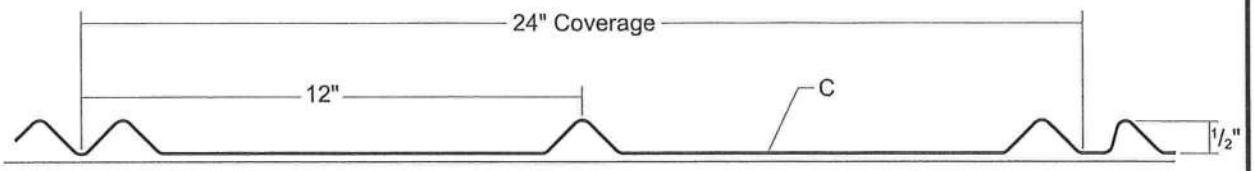
Back Next

Department of Community Affairs
Florida Building Code Online
Codes and Standards
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100
(850) 487-1824, Fax (850) 414-8436

Product Approval Accepts:

5V-CRIMP

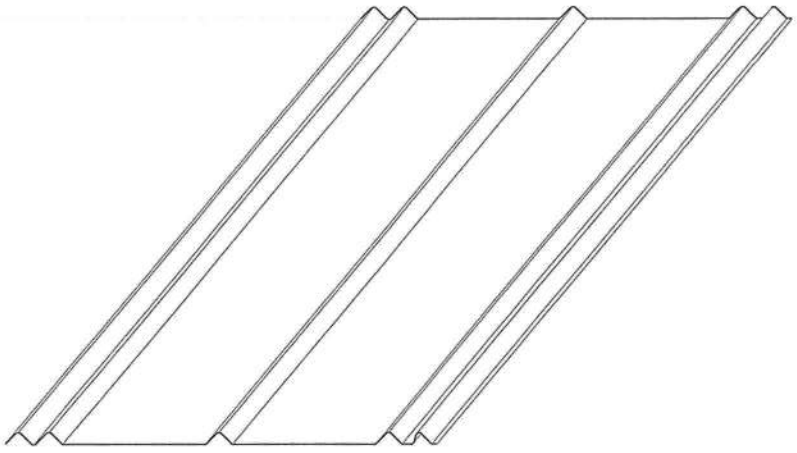
CONDENSED TECHNICAL REFERENCE



ARCHITECTURAL RESIDENTIAL PANEL | **DIRECT FASTEN** | **24" COVERAGE** | **MINIMUM SLOPE 3:12** | **SOLID WOOD SUBSTRATE**

PANEL OVERVIEW

- Finishes: MS Colorfast45® and Acrylic Coated Galvalume®
- Gauges: 26ga standard, 24ga optional
- 24" panel coverage, 1/2" rib height
- Exposed fastened panel, traditional "V" rib
- Applies over plywood substrate with 30 pound felt underlayment
- 3:12 slope minimum



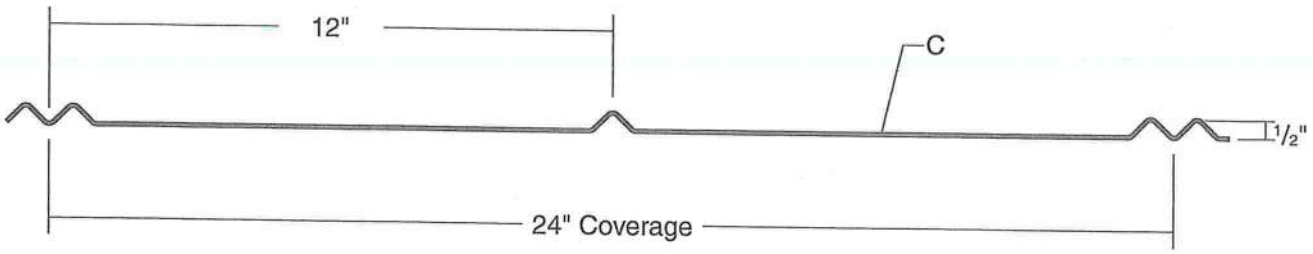
TESTING

- UL 2218, Class 4 Impact Rating
- UL 790, Class A Fire Resistance Rating
- Florida Building Code Approved 9107.1, 8131.1, 10916.2
- Miami-Dade County Approved 08-0229.13
- UL 580, Class 90 Wind Uplift Construction #579 over 1/2" Plywood
- UL 580, Class 90 Wind Uplift Construction #453 over 5/8" Plywood
- Texas Windstorm Evaluation R-160

metal sales
manufacturing corporation

5V-CRIMP PANEL OVERVIEW

PANEL PROFILE



SLOPE

The minimum recommended slope for any 5V-Crimp roofing panel is 3:12.

SUBSTRATE

The recommended substrate is 5/8" plywood with a 30 pound felt moisture barrier. To avoid panel distortion, use a properly aligned and uniform substructure. **Please note that 5V-Crimp panels are not recommended for use over open framing.**

COVERAGE

5V-Crimp is available in 24" width with a 1/2" rib heigth.

LENGTH

Lengths under 5'-0" are avaliable with some cutting restrictions. Maximum recommended panel length is 45'-0". Longer panels require additional consideration in packaging, shipping, and erection. Please consult your Metal Sales branch for recommendations (see PGI-2 and 3 for locations).

AVAILABILITY

26 Gauge

APPLICATION

Architectural and Residential panel.

PERFORMANCE TEST

UL 580, UL 790, UL 263, UL 2218, Miami-Dade County

FASTENING SYSTEM

Direct fastened (exposed).

FASTENERS

The fastener selection guide should be consulted for choosing proper fasteners for specific applications. Quantity and type of fastener must meet necessary loading and code requirements (see PGI-12-14).

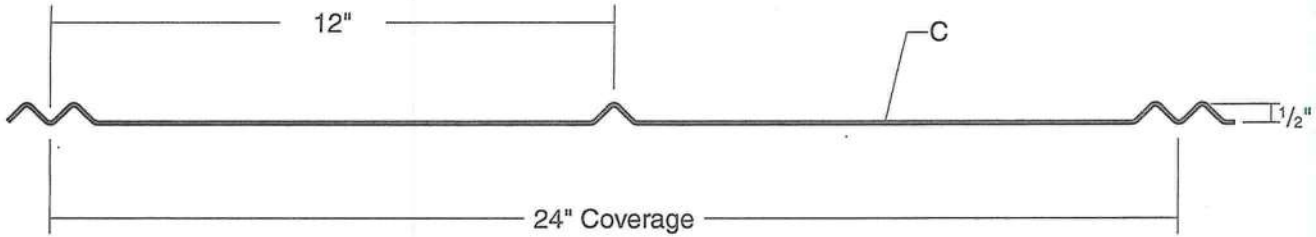
MATERIALS

Steel grade 50, per ASTM A-792

FINISH

- *Acrylic Coated Galvalume® (ACG) / ASTM A-792 - AZ55
- Prepainted Galvalume / ASTM A-792 - AZ50
- **Fluorocarbon (PVDF)

* Differential appearance of Acrylic Coated Galvalume roofing materials is not a cause for rejection.
** Meets both Kynar 500 and Hylar 5000 specifications.



5V-CRIMP SECTION PROPERTIES									
GAUGE	WIDTH (in)	YEILD KSI	WEIGHT PSF	TOP IN COMPRESSION[1.]			BOTTOM IN COMPRESSION[1.]		
				Ixx in^4/ft	Sxx in^3/ft	Ma (k-in)	Ixx in^4/ft	Sxx in^3/ft	Ma (k-in)
26	24	50	0.85	0.0025	0.0069	0.2066	0.0015	0.0054	0.162

5V-CRIMP ALLOWABLE UNIFORM LIVE LOADS PSF[1.2.3.4.]													
1-Span			Inward (Gravity / Deflection) Load[2.4.]						Outward Uplift (Stress) Load[3.]					
GA.	Width	Ksi	0.75'	1'	1.5'	1.75'	2'	2.5'	0.75'	1'	1.5'	1.75'	2'	2.5'
26	24"	50	243	137	61	41	27	14	253	142	63	46	36	23
2-Equal Spans			Inward (Gravity / Deflection) Load[2.4.]						Outward Uplift (Stress) Load[3.]					
GA.	Width	Ksi	0.75'	1'	1.5'	1.75'	2'	2.5'	0.75'	1'	1.5'	1.75'	2'	2.5'
26	24"	50	181	104	47	35	27	17	302	175	79	59	45	29
3 or more-Equal Spans			Inward (Gravity / Deflection) Load[2.4.]						Outward Uplift (Stress) Load[3.]					
GA.	Width	Ksi	0.75'	1'	1.5'	1.75'	2'	2.5'	0.75'	1'	1.5'	1.75'	2'	2.5'
26	24"	50	209	121	55	40	31	20	345	202	92	68	52	34

1. Theoretical section properties have been calculated per AISI 1996. "Specifications for the design of cold formed steel members." Ixx and Sxx are effective section properties for deflection and bending.
2. Tabulated loads are allowable loads calculated in accordance with good engineering practices and with AISI 1996 specifications for bending stresses. Panel weight has not been subtracted from allowable gravity loads. Allowable load does not address web crippling requirement, or fasteners/support connection.
3. Allowable loads are calculated in accordance with AISI 1996 specifications, and have been increased by 33 1/3% for wind uplift. Contact Metal Sales Technical Services Department for more information.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. **Note: 5V-Crimp is not reccommended for open frame construction.**