20

FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	1304097	Builder Name:	Erkinger Construction Group
Street:		Permit Office:	COLUMBIA
City, State, Zip:	, FL ,	Permit Number:	
Owner:	Miller Res	Jurisdiction:	221000
Design Location:	FL, Gainesville		

1. New construction or existing	New (From Plans)			
2. Single family or multiple family	Single-family			
3. Number of units, if multiple family	1			
4. Number of Bedrooms	3			
5. Is this a worst case?	Yes			
6. Conditioned floor area above grade (ft²)	1520			
Conditioned floor area below grade (ft²)	0			
7. Windows (227.4 sqft.)	Description		Area	
a. U-Factor:	Dbl, U=0.35		227.44	ft²
SHGC:	SHGC=0.35			
b. U-Factor:	N/A			ft²
SHGC:				
c. U-Factor:	N/A			ft²
SHGC:				
d. U-Factor:	N/A			ft²
SHGC:				
Area Weighted Average Overhang Depth:			6.620	ft.
Area Weighted Average SHGC:			0.350	
8. Floor Types (1520.0 sqft.)		Insulation	Area	
a. Slab-On-Grade Edge Insulation		R=0.0	1520.00	ft²
b. N/A		R=		ft²
c. N/A		R=		ft²

9. Wall Types (1280.0 sqft.)	Insulation	Area	
a. Frame - Wood, Exterior	R=13.0	1280.00	ft²
b. N/A	R=		ft²
c. N/A	R=		ft²
d. N/A	R=		ft²
10. Ceiling Types (1520.0 sqft.)	Insulation	Area	
a. Under Attic (Vented)	R=30.0	1520.00	ft²
b. N/A	R=		ft²
c. N/A	R=		ft²
11. Ducts		R	ft²
a. Sup: Attic, Ret: Attic, AH: Main		6	304
12. Cooling systems	kBtu/hr	Efficiency	
a. Central Unit	33.0	SEER:13.00	
13. Heating systems	kBtu/hr	Efficiency	
a. Electric Heat Pump	33.0	HSPF:7.70	
14. Hot water systems			
a. Electric		Cap: 50 gallons	
		EF: 0.920	
b. Conservation features			
None			
15. Credits		Pstat	

Glass/Floor Area: 0.150

Total Proposed Modified Loads: 28.58

Total Standard Reference Loads: 35.93

PASS

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

PREPARED BY: EVAN BEAMSLEY

DATE: 2013-05-29

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: _____

- **Compliance requires completion of a Florida Air Barrier and Insulation Inspection Checklist**

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

PROJECT

Title:	1304097	Bedrooms:	3	Address Type:	Lot Information
Building Type:	User	Conditioned Area:	1520	Lot #	29
Owner:	Miller Res	Total Stories:	1	Block/SubDivision:	Indian Ridge
# of Units:	1	Worst Case:	Yes	PlatBook:	
Builder Name:	Erkinger Construction Group	Rotate Angle:	90	Street:	
Permit Office:		Cross Ventilation:		County:	columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	,
Family Type:	Single-family				FL ,
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

√	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	Design Temp 2.5 %	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Gainesville	FL_GAINESVILLE_REGI	2	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	1520	12160

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1520	12160	Yes	6	3	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulation	Main	160 ft	0	1520 ft²	----	0.3	0.3	0.4

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	1827 ft²	0 ft²	Dark	0.96	No	0.9	No	0	33.7

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	1520 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	30	1520 ft²	0.11	Wood

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
____	1	N=>E	Exterior	Frame - Wood	Main	13	50		8		400 ft²		0.23	0.75	0
____	2	E=>S	Exterior	Frame - Wood	Main	13	30		8		240 ft²		0.23	0.75	0
____	3	S=>W	Exterior	Frame - Wood	Main	13	50		8		400 ft²		0.23	0.75	0
____	4	W=>N	Exterior	Frame - Wood	Main	13	30		8		240 ft²		0.23	0.75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N=>E	Insulated	Main	None	0.400000	3		6	8	20 ft²
_____	2	N=>E	Insulated	Main	None	0.400000	3		6	8	6.666666
_____	3	E=>S	Insulated	Main	None	0.400000	3		6	8	13.33333
_____	4	S=>W	Insulated	Main	None	0.400000	3		6	8	6.666666

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Overhang Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N=>E	1	Metal	Low-E Double	Yes	0.35	0.35	11.11111	1 ft 6 in	1 ft 0 in	None	None
_____	2	N=>E	1	Metal	Low-E Double	Yes	0.35	0.35	17.77777	1 ft 6 in	1 ft 0 in	None	None
_____	3	N=>E	1	Metal	Low-E Double	Yes	0.35	0.35	8 ft²	1 ft 6 in	1 ft 0 in	None	None
_____	4	E=>S	2	Metal	Low-E Double	Yes	0.35	0.35	30 ft²	9 ft 6 in	1 ft 0 in	None	None
_____	5	E=>S	2	Metal	Low-E Double	Yes	0.35	0.35	28.88888	9 ft 6 in	1 ft 0 in	None	None
_____	6	S=>W	3	Metal	Low-E Double	Yes	0.35	0.35	60 ft²	9 ft 6 in	1 ft 0 in	None	None
_____	7	S=>W	3	Metal	Low-E Double	Yes	0.35	0.35	26.66666	9 ft 6 in	1 ft 0 in	None	None
_____	8	W=>N	4	Metal	Low-E Double	Yes	0.35	0.35	45 ft²	1 ft 6 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0.000699	2790.88	153.215	288.145	0.53899	13.7708

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump	None	HSPF: 7.7	33 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit	None	SEER: 13	33 kBtu/hr	990 cfm	0.75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	Main	0.92	50 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____	None	None			ft²		

DUCTS

√	#	---- Supply ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	Cool
_____	1	Attic	6	304 ft²	Attic	76 ft²	Default Leakage	Main	(Default) c	(Default) %			1	1

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cooling	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X]	[X]	[ ]	[ ]	[ ]
Heating	[X]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]
Venting	[ ]	[ ]	[X]	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[X]	[X]	[ ]

Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM 405-10

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS:	PERMIT #:
, FL,	

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402.4	To be caulked, gasketed, weatherstripped or otherwise sealed. Recessed lighting IC-rated as meeting ASTM E 283. Windows and doors = 0.30 cfm/sq.ft. Testing or visual inspection required. Fireplaces: gasketed doors & outdoor combustion air. Must complete envelope leakage report or visually verify Table 402.4.2.	
Thermostat & controls	403.1	At least one thermostat shall be provided for each separate heating and cooling system. Where forced-air furnace is primary system, programmable thermostat is required. Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load.	
Ducts	403.2.2 403.3.3	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503.2.7.2 of this code. Building framing cavities shall not be used as supply ducts.	
Water heaters	403.4	Heat trap required for vertical pipe risers. Comply with efficiencies in Table 403.4.3.2. Provide switch or clearly marked circuit breaker (electric) or shutoff (gas). Circulating system pipes insulated to = R-2 + accessible manual OFF switch.	
Mechanical ventilation	403.5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level. No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas.	
Swimming Pools & Spas	403.9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required. Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4.0.	
Cooling/heating equipment	403.6	Sizing calculation performed & attached. Minimum efficiencies per Tables 503.2.3. Equipment efficiency verification required. Special occasion cooling or heating capacity requires separate system or variable capacity system. Electric heat >10kW must be divided into two or more stages.	
Ceilings/knee walls	405.2.1	R-19 space permitting.	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 80

The lower the EnergyPerformance Index, the more efficient the home.

, , FL,

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Single-family
3. Number of units, if multiple family		1
4. Number of Bedrooms		3
5. Is this a worst case?		Yes
6. Conditioned floor area (ft²)		1520
7. Windows**	Description	Area
a. U-Factor: SHGC:	Dbl, U=0.35 SHGC=0.35	227.44 ft²
b. U-Factor: SHGC:	N/A	ft²
c. U-Factor: SHGC:	N/A	ft²
d. U-Factor: SHGC:	N/A	ft²
Area Weighted Average Overhang Depth:		6.620 ft.
Area Weighted Average SHGC:		0.350

8. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	1520.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1280.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types	Insulation	Area
a. Under Attic (Vented)	R=30.0	1520.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts	R	ft²
a. Sup: Attic, Ret: Attic, AH: Main	6	304

12. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	33.0	SEER:13.00

13. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	33.0	HSPF:7.70

14. Hot water systems	
a. Electric	Cap: 50 gallons EF: 0.92
b. Conservation features None	
15. Credits	Pstat

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: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida EnergyGauge Rating. Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section 303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Residential System Sizing Calculation

Summary

Miller Res

Project Title:
1304097

, FL

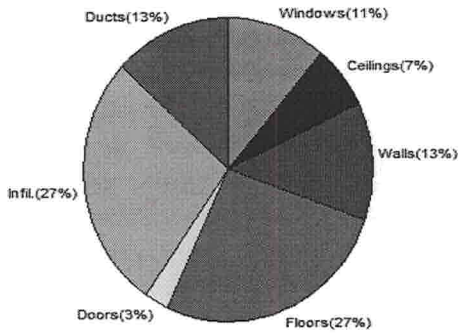
2013-05-29

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)					
Winter design temperature(MJ8 99%)	33	F	Summer design temperature(MJ8 99%)	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation	**26218**	**Btuh**	**Total cooling load calculation**	**27876**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	125.9	33000	Sensible (SHR = 0.75)	118.0	24750
Heat Pump + Auxiliary(0.0kW)	125.9	33000	Latent	119.6	8250
			Total (Electric Heat Pump)	118.4	33000

WINTER CALCULATIONS

Winter Heating Load (for 1520 sqft)

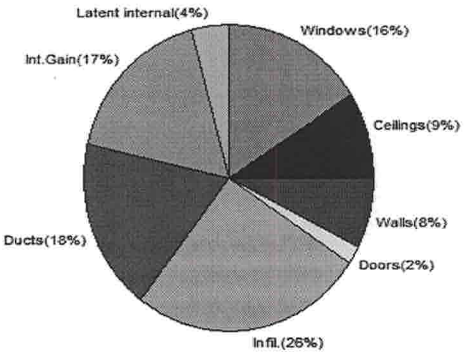
Load component			Load	
Window total	227	sqft	2945	Btuh
Wall total	1006	sqft	3303	Btuh
Door total	47	sqft	691	Btuh
Ceiling total	1520	sqft	1791	Btuh
Floor total	1520	sqft	6986	Btuh
Infiltration	175	cfm	7080	Btuh
Duct loss			3422	Btuh
Subtotal			**26218**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**26218**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 1520 sqft)

Load component			Load	
Window total	227	sqft	4452	Btuh
Wall total	1006	sqft	2098	Btuh
Door total	47	sqft	523	Btuh
Ceiling total	1520	sqft	2517	Btuh
Floor total			0	Btuh
Infiltration	131	cfm	2440	Btuh
Internal gain			4780	Btuh
Duct gain			4167	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			**20977**	**Btuh**
Latent gain(ducts)			909	Btuh
Latent gain(infiltration)			4791	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1200	Btuh
Total latent gain			**6900**	**Btuh**
TOTAL HEAT GAIN			**27876**	**Btuh**



Powered by ACCA MANUAL J 8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 2013-05-29

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Miller Res
, FL

Project Title:
1304097
Building Type: User

2013-05-29

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 F (MJ8 99%)

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft) X	HTM=	Load
1	2, NFRC 0.35	Metal	0.35	E	11.1	12.9	144 Btuh
2	2, NFRC 0.35	Metal	0.35	E	17.8	12.9	230 Btuh
3	2, NFRC 0.35	Metal	0.35	E	8.0	12.9	104 Btuh
4	2, NFRC 0.35	Metal	0.35	S	30.0	12.9	388 Btuh
5	2, NFRC 0.35	Metal	0.35	S	28.9	12.9	374 Btuh
6	2, NFRC 0.35	Metal	0.35	W	60.0	12.9	777 Btuh
7	2, NFRC 0.35	Metal	0.35	W	26.7	12.9	345 Btuh
8	2, NFRC 0.35	Metal	0.35	N	45.0	12.9	583 Btuh
	Window Total				227.4(sqft)		2945 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	336	3.28	1105 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	168	3.28	551 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	307	3.28	1007 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	195	3.28	640 Btuh
	Wall Total				1006(sqft)		3303 Btuh

Doors	Type	Storm	Ueff.	Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.400)	20	14.8	296 Btuh
2	Insulated - Exterior,	n	(0.400)	7	14.8	99 Btuh
3	Insulated - Exterior,	n	(0.400)	13	14.8	197 Btuh
4	Insulated - Exterior,	n	(0.400)	7	14.8	99 Btuh
	Door Total			47(sqft)		691Btuh

Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shing	(0.032)	30.0/0.0	1520	1.2	1791 Btuh
	Ceiling Total			1520(sqft)		1791Btuh

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	160.0 ft(perim.)	43.7	6986 Btuh
	Floor Total			1520 sqft		6986 Btuh

	Envelope Subtotal:	15716 Btuh

Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural	0.86	12160	1.00	174.8	7080 Btuh

Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.150)	3422 Btuh
All Zones	**Sensible Subtotal All Zones**	**26218 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

Miller Res
, FL

Project Title:
1304097
Building Type: User

2013-05-29

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	26218 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	26218 Btuh

EQUIPMENT

1. Electric Heat Pump	#	33000 Btuh

Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)
U - (Window U-Factor)
HTM - (ManualJ Heat Transfer Multiplier)

Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Miller Res

Project Title:
1304097

, FL

2013-05-29

Reference City: Gainesville, FL Temperature Difference: 17.0F(MJ8 99%) Humidity difference: 54gr.

Component Loads for Whole House

	Type*						Overhang		Window Area(sqft)			HTM		Load
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2 NFRC	0.35,	0.35	No	No	E	1.5ft.	1.0ft.	11.1	0.4	10.7	13	40	430 Btuh
2	2 NFRC	0.35,	0.35	No	No	E	1.5ft.	1.0ft.	17.8	0.7	17.1	13	40	688 Btuh
3	2 NFRC	0.35,	0.35	No	No	E	1.5ft.	1.0ft.	8.0	1.0	7.0	13	40	292 Btuh
4	2 NFRC	0.35,	0.35	No	No	S	9.5ft.	1.0ft.	30.0	30.0	0.0	13	16	399 Btuh
5	2 NFRC	0.35,	0.35	No	No	S	9.5ft.	1.0ft.	28.9	28.9	0.0	13	16	385 Btuh
6	2 NFRC	0.35,	0.35	No	No	W	9.5ft.	1.0ft.	60.0	60.0	0.0	13	40	799 Btuh
7	2 NFRC	0.35,	0.35	No	No	W	9.5ft.	1.0ft.	26.7	26.7	0.0	13	40	355 Btuh
8	2 NFRC	0.35,	0.35	No	No	N	1.5ft.	1.0ft.	45.0	0.0	45.0	13	13	599 Btuh
	Excursion													505 Btuh
	Window Total								227 (sqft)					4452 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.09	13.0/0.0	336.4	2.1	702 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	167.8	2.1	350 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	306.7	2.1	640 Btuh
4	Frame - Wood - Ext	0.09	13.0/0.0	195.0	2.1	407 Btuh
	Wall Total			1006 (sqft)		2098 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	20.0	11.2	224 Btuh
2	Insulated - Exterior	6.7	11.2	75 Btuh
3	Insulated - Exterior	13.3	11.2	149 Btuh
4	Insulated - Exterior	6.7	11.2	75 Btuh
	Door Total	47 (sqft)		523 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle	0.032	30.0/0.0	1520.0	1.66	2517 Btuh
	Ceiling Total			1520 (sqft)		2517 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	1520 (ft-perimeter)	0.0	0 Btuh
	Floor Total		1520.0 (sqft)		0 Btuh

	Envelope Subtotal:	9590 Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.65	12160	1	131.1	2440 Btuh

Internal gain	Occupants	Btuh/occupant		Appliance	Load
	6	X 230	+	3400	4780 Btuh

	Sensible Envelope Load:	16809 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.248)	4167 Btuh
	Sensible Load All Zones	**20977 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Miller Res

, FL

Project Title: 1304097

Climate:FL_GAINESVILLE_REGIONAL_A

2013-05-29

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**16809 Btuh**
	Sensible Duct Load	4167 Btuh
	Total Sensible Zone Loads	**20977 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**20977 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	4791 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	909 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**6900 Btuh**
	TOTAL GAIN	**27876 Btuh**

EQUIPMENT

1. Central Unit	#	33000 Btuh

*Key: Window types (Panes - Number and type of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value)
(U - Window U-Factor)
(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
- For Blinds: Assume medium color, half closed
For Draperies: Assume medium weave, half closed
For Roller shades: Assume translucent, half closed
(IS - Insect screen: none(N), Full(F) or Half(½))
(Ornt - compass orientation)

Version 8