

Florida Department of Business and Professional Regulation - Residential Performance Method

BUILDING OFFICIAL: _____
DATE: _____

PROJECT

Title: 1203090	Bedrooms: 3	AddressType: StreetAddress
Building Type: FLProp2010	Conditioned Area: 2474	Lot #
Owner: Ron & Connie Justice	Total Stories: 2	Block/SubDivision:
# of Units: 1	Worst Case: Yes	PlatBook:
Builder Name: Edgley Construction	Rotate Angle: 90	Street:
Permit Office:	Cross Ventilation:	County: Columbia
Jurisdiction:	Whole House Fan:	City, State, Zip: , FL ,
Family Type: Single-family		
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	2474	22266

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	RoomsInBlock1	2474	22266	Yes	3	3	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	RoomsInBlock1	218 ft	0	1590 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	Gable or shed	Composition shingles	1911 ft²	530 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	1590 ft²	N	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	RoomsInBlock1	30	1680 ft²	0.11	Wood

WALLS

✓	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor	Below Grade%
_____	1	N	Exterior	Frame - Wood	RoomsInBloc	19	36	8	9		330ft²		0.23	0.75	0
_____	2	NE	Exterior	Frame - Wood	RoomsInBloc	19	2	10	10		28.33333		0.23	0.75	0
_____	3	NW	Exterior	Frame - Wood	RoomsInBloc	19	2	10	10		28.33333		0.23	0.75	0
_____	4	E	Exterior	Frame - Wood	RoomsInBloc	19	46	2	9		415.5ft²		0.23	0.75	0
_____	5	S	Exterior	Frame - Wood	RoomsInBloc	19	62	0	9		558ft²		0.23	0.75	0
_____	6	W	Exterior	Frame - Wood	RoomsInBloc	19	46	2	9		415.5ft²		0.23	0.75	0
_____	7	N	Exterior	Frame - Wood	RoomsInBloc	19	33	8	8		269.3333		0.23	0.75	0
_____	8	E	Exterior	Frame - Wood	RoomsInBloc	19	28	2	8		225.3333		0.23	0.75	0
_____	9	S	Exterior	Frame - Wood	RoomsInBloc	19	33	8	8		269.3333		0.23	0.75	0
_____	10	W	Exterior	Frame - Wood	RoomsInBloc	19	28	2	8		225.3333		0.23	0.75	0
_____	11	N	Garage	Frame - Wood	RoomsInBloc	19	21	4	9		192ft²		0.23	0.01	0

DOORS

✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
_____	1	N	Insulated	RoomsInBloc	None	0.4	3		6	8	20 ft²
_____	2	N	Insulated	RoomsInBloc	None	0.4	3		6	8	10 ft²
_____	3	W	Insulated	RoomsInBloc	None	0.4	3		6	8	6.666666
_____	4	S	Insulated	RoomsInBloc	None	0.4	3		6	8	53.33333
_____	5	S	Insulated	RoomsInBloc	None	0.4	3		6	8	20 ft²

WINDOWS

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

✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storms	Area	Overhang Depth	Separation	Int Shade	Screening
_____	1	N	1	Metal	Low-EDouble	Yes	0.35	0.35	N	6ft²	12 ft 0 in	1 ft 6 in	HERS 2006	None
_____	2	NE	2	Metal	Low-EDouble	Yes	0.35	0.35	N	10ft²	99 ft 0 in	1 ft 6 in	HERS 2006	None
_____	3	N	1	Metal	Low-EDouble	Yes	0.35	0.35	N	15ft²	10 ft 0 in	1 ft 6 in	HERS 2006	None
_____	4	NW	3	Metal	Low-EDouble	Yes	0.35	0.35	N	10ft²	16 ft 0 in	1 ft 6 in	HERS 2006	None
_____	5	N	1	Metal	Low-EDouble	Yes	0.35	0.35	N	23.33333	12 ft 0 in	1 ft 6 in	HERS 2006	None
_____	6	W	6	Metal	Low-EDouble	Yes	0.35	0.35	N	13.33333	99 ft 0 in	1 ft 6 in	HERS 2006	None
_____	7	W	6	Metal	Low-EDouble	Yes	0.35	0.35	N	16ft²	1 ft 6 in	1 ft 6 in	HERS 2006	None
_____	8	N	1	Metal	Low-EDouble	Yes	0.35	0.35	N	16ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	9	N	1	Metal	Low-EDouble	Yes	0.35	0.35	N	30ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
_____	10	S	5	Metal	Low-EDouble	Yes	0.35	0.35	N	15ft²	1 ft 6 in	1 ft 6 in	HERS 2006	None
_____	11	S	5	Metal	Low-EDouble	Yes	0.35	0.35	N	17.77777	18 ft 16 in	1 ft 6 in	HERS 2006	None
_____	12	E	4	Metal	Low-EDouble	Yes	0.35	0.35	N	15ft²	9 ft 6 in	1 ft 6 in	HERS 2006	None
_____	13	S	5	Metal	Low-EDouble	Yes	0.35	0.35	N	60ft²	9 ft 6 in	1 ft 6 in	HERS 2006	None
_____	14	S	5	Metal	Low-EDouble	Yes	0.35	0.35	N	17.77777	6 ft 6 in	1 ft 6 in	HERS 2006	None
_____	15	S	5	Metal	Low-EDouble	Yes	0.35	0.35	N	4ft²	18 ft 16 in	1 ft 6 in	HERS 2006	None
_____	16	S	5	Metal	Low-EDouble	Yes	0.35	0.35	N	10ft²	1 ft 6 in	1 ft 6 in	HERS 2006	None
_____	17	W	6	Metal	Low-EDouble	Yes	0.35	0.35	N	3ft²	1 ft 6 in	1 ft 6 in	HERS 2006	None

WINDOWS

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

✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storms	Area	Overhang Depth	Separation	Int Shade	Screening
✓	18	N	7	Metal	Low-EDouble	Yes	0.35	0.35	N	3ft²	1 ft 6 in	1 ft 0 in	HERS 2006	None
✓	19	N	7	Metal	Low-EDouble	Yes	0.35	0.35	N	30ft²	1 ft 6 in	1 ft 0 in	HERS 2006	None
✓	20	E	8	Metal	Low-EDouble	Yes	0.35	0.35	N	30ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	21	S	9	Metal	Low-EDouble	Yes	0.35	0.35	N	90ft²	1 ft 6 in	1 ft 0 in	HERS 2006	None
✓	22	W	10	Metal	Low-EDouble	Yes	0.35	0.35	N	30ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
✓	23	W	6	Metal	Low-EDouble	Yes	0.35	0.35	N	15ft²	9 ft 6 in	1 ft 6 in	HERS 2006	None

GARAGE

✓	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
✓	1	582.981ft²	582.981ft²	76 ft	9 ft	1

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	BySpaces	Proposed SLA	0.000360	2336.1	128.25	241.19	0.3412	6.2952

HEATING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
✓	1	Electric Heat Pump	None	HSPF: 7.7	60 kBtu/hr	1	sys#1

COOLING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	AirFlow	SHR	Block	Ducts
✓	1	Central Unit	None	SEER: 13	60 kBtu/hr	1800 cfm	0.75	1	sys#1

HOT WATER SYSTEM

✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
✓	1	Electric	None	RoomsInBlock	10.93	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----			----Return----		Leakage Type	Air		Percent		HVAC#		
		Location	R-Value	Area	Location	Area		Handler	CFM 25	Leakage	QN	RLF	Heat	Cool
	1	Attic	6	494.8 ft	Attic	123.7 ft	DSE=0.88	RoomsInBl	0.0 cfm	0.00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

Cooling	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec

Thermostat Schedule: HERS 2006 Reference

Hours

Schedule Type		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

Florida Code Compliance Checklist

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

ADDRESS:

, FL,

PERMIT #:

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

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Airleakage	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	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.	
	403.3.3	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/kneewalls	405.2.1	R-19 space permitting.	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 78

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

, , FL,

1. New construction or existing	New (From Plans	9. Wall Types	Insulation	Area
2. Single family or multiple family	Single-family	a. Frame - Wood, Exterior	R=19.0	2765.00 ft ²
3. Number of units, if multiple family	1	b. Frame - Wood, Adjacent	R=19.0	192.00 ft ²
4. Number of Bedrooms	3	c. N/A	R=	ft ²
5. Is this a worst case?	Yes	d. N/A	R=	ft ²
6. Conditioned floor area (ft ²)	2474	10. Ceiling Types	Insulation	Area
7. Windows**	Description	a. Under Attic (Vented)	R=30.0	1680.00 ft ²
a. U-Factor:	DbI, U=0.35	b. N/A	R=	ft ²
SHGC:	SHGC=0.35	c. N/A	R=	ft ²
b. U-Factor:	N/A	11. Ducts		R ft ²
SHGC:		a. Sup: Attic, Ret: Attic, AH: RoomsInBlock1	6	494.8
c. U-Factor:	N/A			
SHGC:		12. Cooling systems	kBtu/hr	Efficiency
d. U-Factor:	N/A	a. Central Unit	60.0	SEER:13.00
SHGC:				
Area Weighted Average Overhang Depth:	9.608 ft.	13. Heating systems	kBtu/hr	Efficiency
Area Weighted Average SHGC:	0.350	a. Electric Heat Pump	60.0	HSPF:7.70
8. Floor Types	Insulation	Area		
a. Slab-On-Grade Edge Insulation	R=0.0	14. Hot water systems		Cap: 50 gallons
b. N/A	R=	a. Electric		EF: 0.93
c. N/A	R=	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

Ron & Connie Justice

Project Title:
1203090

, FL

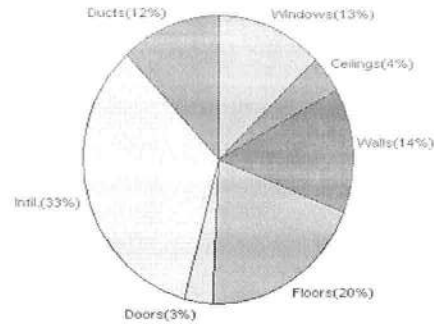
5/18/2012

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	47859 Btuh	Total cooling load calculation	50631 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	125.4 60000	Sensible (SHR = 0.75)	121.6 45000
Heat Pump + Auxiliary(0.0kW)	125.4 60000	Latent	110.2 15000
		Total (Electric Heat Pump)	118.5 60000

WINTER CALCULATIONS

Winter Heating Load (for 2474 sqft)

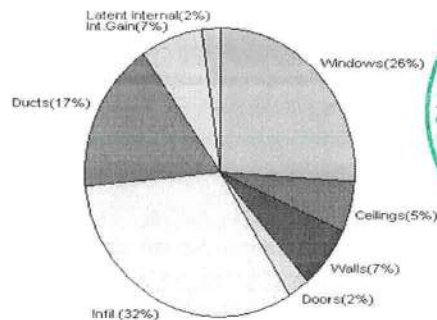
Load component		Load	
Window total	480 sqft	6219	Btuh
Wall total	2367 sqft	6767	Btuh
Door total	110 sqft	1628	Btuh
Ceiling total	1680 sqft	1980	Btuh
Floor total	1590 sqft	9518	Btuh
Infiltration	394 cfm	15960	Btuh
Duct loss		5787	Btuh
Subtotal		47859	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		47859	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2474 sqft)

Load component		Load	
Window total	480 sqft	13249	Btuh
Wall total	2367 sqft	3516	Btuh
Door total	110 sqft	1232	Btuh
Ceiling total	1680 sqft	2782	Btuh
Floor total		0	Btuh
Infiltration	296 cfm	5500	Btuh
Internal gain		3780	Btuh
Duct gain		6954	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		37013	Btuh
Latent gain(ducts)		1618	Btuh
Latent gain(infiltration)		10799	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		13617	Btuh
TOTAL HEAT GAIN		50631	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: *EVAN BISHOP*

DATE: *5/18/2012*

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Ron & Connie Justice

Project Title:

1203090

, FL

Building Type: User

5/18/2012

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

This calculation is for Worst Case. The house has been rotated 225 degrees.

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.35	Metal	0.35	SW	6.0		12.9	78 Btuh
2	2, NFRC 0.35	Metal	0.35	W	10.0		12.9	130 Btuh
3	2, NFRC 0.35	Metal	0.35	SW	15.0		12.9	194 Btuh
4	2, NFRC 0.35	Metal	0.35	S	10.0		12.9	130 Btuh
5	2, NFRC 0.35	Metal	0.35	SW	23.3		12.9	302 Btuh
6	2, NFRC 0.35	Metal	0.35	SE	13.3		12.9	173 Btuh
7	2, NFRC 0.35	Metal	0.35	SE	16.0		12.9	207 Btuh
8	2, NFRC 0.35	Metal	0.35	SW	16.0		12.9	207 Btuh
9	2, NFRC 0.35	Metal	0.35	SW	30.0		12.9	388 Btuh
10	2, NFRC 0.35	Metal	0.35	NE	15.0		12.9	194 Btuh
11	2, NFRC 0.35	Metal	0.35	NE	17.8		12.9	230 Btuh
12	2, NFRC 0.35	Metal	0.35	NW	15.0		12.9	194 Btuh
13	2, NFRC 0.35	Metal	0.35	NE	60.0		12.9	777 Btuh
14	2, NFRC 0.35	Metal	0.35	NE	17.8		12.9	230 Btuh
15	2, NFRC 0.35	Metal	0.35	NE	4.0		12.9	52 Btuh
16	2, NFRC 0.35	Metal	0.35	NE	10.0		12.9	130 Btuh
17	2, NFRC 0.35	Metal	0.35	SE	3.0		12.9	39 Btuh
18	2, NFRC 0.35	Metal	0.35	SW	3.0		12.9	39 Btuh
19	2, NFRC 0.35	Metal	0.35	SW	30.0		12.9	388 Btuh
20	2, NFRC 0.35	Metal	0.35	NW	30.0		12.9	388 Btuh
21	2, NFRC 0.35	Metal	0.35	NE	90.0		12.9	1166 Btuh
22	2, NFRC 0.35	Metal	0.35	SE	30.0		12.9	388 Btuh
23	2, NFRC 0.35	Metal	0.35	SE	15.0		12.9	194 Btuh
Window Total					480.2(sqft)			6219 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	230		2.86	657 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	18		2.86	52 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	18		2.86	52 Btuh
4	Frame - Wood	- Ext	(0.077)	19.0/0.0	401		2.86	1145 Btuh
5	Frame - Wood	- Ext	(0.077)	19.0/0.0	360		2.86	1030 Btuh
6	Frame - Wood	- Ext	(0.077)	19.0/0.0	362		2.86	1034 Btuh
7	Frame - Wood	- Ext	(0.077)	19.0/0.0	236		2.86	676 Btuh
8	Frame - Wood	- Ext	(0.077)	19.0/0.0	195		2.86	558 Btuh
9	Frame - Wood	- Ext	(0.077)	19.0/0.0	179		2.86	513 Btuh
10	Frame - Wood	- Ext	(0.077)	19.0/0.0	195		2.86	558 Btuh
11	Frame - Wood	- Adj	(0.077)	19.0/0.0	172		2.86	492 Btuh
Wall Total					2367(sqft)			6767 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Ron & Connie Justice

Project Title:

1203090

, FL

Building Type: User

5/18/2012

Doors	Type	Storm Ueff.		Area X	HTM=	Load
1	Insulated - Garage,	n (0.400)		20	14.8	296 Btuh
2	Insulated - Exterior,	n (0.400)		10	14.8	148 Btuh
3	Insulated - Exterior,	n (0.400)		7	14.8	99 Btuh
4	Insulated - Exterior,	n (0.400)		53	14.8	789 Btuh
5	Insulated - Exterior,	n (0.400)		20	14.8	296 Btuh
	Door Total			110(sqft)		1628Btuh
Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shing	(0.032)	30.0/0.0	1680	1.2	1980 Btuh
	Ceiling Total			1680(sqft)		1980Btuh
Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	218.0 ft(perim.)	43.7	9518 Btuh
	Floor Total			1590 sqft		9518 Btuh
	Envelope Subtotal:					26111 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural	1.06	22266	1.00	394.0	15960 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.138)					5787 Btuh
All Zones	Sensible Subtotal All Zones					47859 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	47859 Btuh 0 Btuh 47859 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	60000 Btuh
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Manual J Winter Calculations

Residential Load - Component Details (continued)

Ron & Connie Justice

Project Title:

1203090

, FL

Building Type: User

5/18/2012

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

Ron & Connie Justice

Project Title:
1203090

, FL

5/18/2012

Reference City: Gainesville, FL

Temperature Difference: 17.0F(MJ8 99%)

Humidity difference: 54gr.

This calculation is for Worst Case. The house has been rotated 225 degrees.

Component Loads for Whole House

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2 NFRC	0.35, 0.35	No	No	SW		12.0	1.5ft	6.0	6.0	0.0	13	31	80 Btuh
2	2 NFRC	0.35, 0.35	No	No	W		99.0	1.5ft	10.0	10.0	0.0	13	40	133 Btuh
3	2 NFRC	0.35, 0.35	No	No	SW		10.0	1.5ft	15.0	15.0	0.0	13	31	200 Btuh
4	2 NFRC	0.35, 0.35	No	No	S		16.0	1.5ft	10.0	10.0	0.0	13	16	133 Btuh
5	2 NFRC	0.35, 0.35	No	No	SW		12.0	1.5ft	23.3	23.3	0.0	13	31	311 Btuh
6	2 NFRC	0.35, 0.35	No	No	SE		99.0	1.5ft	13.3	13.3	0.0	13	31	177 Btuh
7	2 NFRC	0.35, 0.35	No	No	SE		1.5ft	1.5ft	16.0	3.9	12.1	13	31	428 Btuh
8	2 NFRC	0.35, 0.35	No	No	SW		0.0ft	0.0ft	16.0	0.0	16.0	13	31	496 Btuh
9	2 NFRC	0.35, 0.35	No	No	SW		0.0ft	0.0ft	30.0	0.0	30.0	13	31	931 Btuh
10	2 NFRC	0.35, 0.35	No	No	NE		1.5ft	1.5ft	15.0	0.0	15.0	13	29	442 Btuh
11	2 NFRC	0.35, 0.35	No	No	NE		19.3	1.5ft	17.8	0.0	17.8	13	29	524 Btuh
12	2 NFRC	0.35, 0.35	No	No	NW		9.5ft	1.5ft	15.0	0.0	15.0	13	29	442 Btuh
13	2 NFRC	0.35, 0.35	No	No	NE		9.5ft	1.5ft	60.0	0.0	60.0	13	29	1768 Btuh
14	2 NFRC	0.35, 0.35	No	No	NE		6.5ft	1.5ft	17.8	0.0	17.8	13	29	524 Btuh
15	2 NFRC	0.35, 0.35	No	No	NE		19.3	1.5ft	4.0	0.0	4.0	13	29	118 Btuh
16	2 NFRC	0.35, 0.35	No	No	NE		1.5ft	1.5ft	10.0	0.0	10.0	13	29	295 Btuh
17	2 NFRC	0.35, 0.35	No	No	SE		1.5ft	1.5ft	3.0	2.9	0.1	13	31	42 Btuh
18	2 NFRC	0.35, 0.35	No	No	SW		1.5ft	1.0ft	3.0	3.0	0.0	13	31	40 Btuh
19	2 NFRC	0.35, 0.35	No	No	SW		1.5ft	1.0ft	30.0	8.8	21.2	13	31	775 Btuh
20	2 NFRC	0.35, 0.35	No	No	NW		0.0ft	0.0ft	30.0	0.0	30.0	13	29	884 Btuh
21	2 NFRC	0.35, 0.35	No	No	NE		1.5ft	1.0ft	90.0	0.0	90.0	13	29	2652 Btuh
22	2 NFRC	0.35, 0.35	No	No	SE		0.0ft	0.0ft	30.0	0.0	30.0	13	31	931 Btuh
23	2 NFRC	0.35, 0.35	No	No	SE		9.5ft	1.5ft	15.0	15.0	0.0	13	31	200 Btuh
	Excursion													725 Btuh
	Window Total								480 (sqft)					13249 Btuh
Walls	Type					U-Value	R-Value	Area(sqft)			HTM		Load	
							Cav/Sheath							
1	Frame - Wood - Ext					0.08	19.0/0.0	229.7			1.5		344 Btuh	
2	Frame - Wood - Ext					0.08	19.0/0.0	18.3			1.5		27 Btuh	
3	Frame - Wood - Ext					0.08	19.0/0.0	18.3			1.5		27 Btuh	
4	Frame - Wood - Ext					0.08	19.0/0.0	400.5			1.5		600 Btuh	
5	Frame - Wood - Ext					0.08	19.0/0.0	360.1			1.5		540 Btuh	
6	Frame - Wood - Ext					0.08	19.0/0.0	361.5			1.5		542 Btuh	
7	Frame - Wood - Ext					0.08	19.0/0.0	236.3			1.5		354 Btuh	
8	Frame - Wood - Ext					0.08	19.0/0.0	195.3			1.5		293 Btuh	
9	Frame - Wood - Ext					0.08	19.0/0.0	179.3			1.5		269 Btuh	
10	Frame - Wood - Ext					0.08	19.0/0.0	195.3			1.5		293 Btuh	
11	Frame - Wood - Adj					0.08	19.0/0.0	172.0			1.3		226 Btuh	
	Wall Total								2367 (sqft)					3516 Btuh
Doors	Type							Area (sqft)			HTM		Load	
1	Insulated - Garage							20.0			11.2		224 Btuh	
2	Insulated - Exterior							10.0			11.2		112 Btuh	
3	Insulated - Exterior							6.7			11.2		75 Btuh	
4	Insulated - Exterior							53.3			11.2		597 Btuh	
5	Insulated - Exterior							20.0			11.2		224 Btuh	
	Door Total								110 (sqft)					1232 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Ron & Connie Justice

Project Title:
1203090

Climate:FL_GAINESVILLE_REGIONAL_A

, FL

5/18/2012

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle	0.032	30.0/0.0	1680.0	1.66	2782 Btuh
	Ceiling Total			1680 (sqft)		2782 Btuh
Floors	Type		R-Value	Size	HTM	Load
1	Slab On Grade		0.0	1590 (ft-perimeter)	0.0	0 Btuh
	Floor Total			1590.0 (sqft)		0 Btuh
	Envelope Subtotal:					20780 Btuh
Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.80	22266	1	295.5	5500 Btuh
Internal gain		Occupants	Btuh/occupant	Appliance		Load
		6	X 230	+	2400	3780 Btuh
	Sensible Envelope Load:					30060 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.231)					6954 Btuh
	Sensible Load All Zones					37013 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Ron & Connie Justice

Project Title:
1203090

Climate:FL_GAINESVILLE_REGIONAL_A

, FL

5/18/2012

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	30060 Btuh
	Sensible Duct Load	6954 Btuh
	Total Sensible Zone Loads	37013 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	37013 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	10799 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1618 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	13617 Btuh
	TOTAL GAIN	50631 Btuh

EQUIPMENT

1. Central Unit	#	60000 Btuh
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*Key: Window types (Panels - 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