

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Case

Project Title

, FL 32055-

Case Residence
Building Type: User

8/7/2014

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 0.50	Metal 0.55	N	15.0		20.4	305 Btuh
2	2, NFRC 0.50	Metal 0.55	E	45.0		20.4	916 Btuh
	Window Total			60.0(sqft)			1221 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	325	2.86	929 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	615	2.86	1472 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	300	2.86	858 Btuh
4	Frame - Wood	- Adj	(0.077)	19.0/0.0	540	2.86	1544 Btuh
	Wall Total				1680(sqft)		4804 Btuh
Doors	Type	Storm	Ueff.		Area X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		40	17.0	681 Btuh
2	Insulated - Garage, n		(0.460)		20	17.0	340 Btuh
	Door Total				60(sqft)		1021 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
1	Vented Attic/L/Metal		(0.032)	30.0/0.0	970	1.2	1143 Btuh
	Ceiling Total				970(sqft)		1143 Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	88.5 ft(perim.)	43.7	3864 Btuh
	Floor Total				970 sqft		3864 Btuh
Envelope Subtotal:							12053 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.37	13580	1.00	83.7	3388 Btuh
Duct load	Extremely sealed, R6.0, Supply(Att), Return(Con)					(DLM of 0.096)	1482 Btuh
All Zones	Sensible Subtotal					All Zones	16923 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss		16923 Btuh
	Ventilation Sensible Heat Loss		0 Btuh
	Total Heat Loss		16923 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

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, FL 32055-

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Case Residence
Building Type: User

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EQUIPMENT

1. Electric Heat Pump	#	24000 Btuh
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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 - (Manual J Heat Transfer Multiplier)



Version 8

RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST***Florida Department of Business and Professional Regulation
Simulated Performance Alternative (Performance) Method***

Applications for compliance with the 2010 Florida Building Code, Energy Conservation via the residential Simulated Performance method should include

- ☐ ***Form 405 (usually 5 pages/may be greater)***
- ☐ ***Energy Performance Level (EPL) Display Card (one page)***

Required prior to CO for the Performance Method:

- ☐ ***If duct leakage has been tested then a completed Air Distribution System Test Report (usually one page)***
- ☐ ***If building air leakage has been tested then a completed Envelope Leakage Test Report (usually one page), otherwise a completed Air Barrier and Insulation Inspection Component Criteria checklist (Table 402.4.2 - one page).***

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