System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Case

, FL 32065-

Project Title:
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	515		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)			1021Btuh

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)			1143Btuh

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)

Case

, FL 32055-

Project Title:
Case Residence
Building Type: User

8/7/2014

EQUIPMENT

1. Electric Heat Pump	#		24000 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

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).*