Manual J Winter Calculations

Residential Load - Component Details (continued)

Thomas

Lake City, FL

Project Title:
Norris Thomas Residence
Building Type: User

8/8/2022

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	17504 Btuh 0 Btuh 17504 Btuh

EQUIPMENT

1. Electric Heat Pump	#	36000 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)

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Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Thomas

Project Title:
Norris Thomas Residence

Lake City, FL

8/8/2022

Reference City: Gainesville, FL (Defaults)
Humidity difference: 47gr.

Temperature Difference: 17.0F(MJ8 99%)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Whole House

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	2 NFRC	0.21, 0.33	B-L	No	N		1.5ft	2.0ft	9.0	0.0	9.0	8	8	69 Btuh
2	2 NFRC	0.21, 0.33	B-L	No	N		1.5ft	2.0ft	4.5	0.0	4.5	8	8	35 Btuh
3	2 NFRC	0.21, 0.33	B-L	No	E		1.5ft	2.0ft	6.0	0.0	6.0	8	19	113 Btuh
4	2 NFRC	0.21, 0.33	B-L	No	E		1.5ft	2.0ft	7.5	0.0	7.5	8	19	141 Btuh
5	2 NFRC	0.21, 0.33	B-L	No	S		1.5ft	2.0ft	25.0	25.0	0.0	8	9	192 Btuh
6	2 NFRC	0.21, 0.33	B-L	No	S		1.5ft	2.0ft	15.0	15.0	0.0	8	9	115 Btuh
7	2 NFRC	0.21, 0.33	B-L	No	S		1.5ft	2.0ft	25.0	25.0	0.0	8	9	192 Btuh
8	2 NFRC	0.21, 0.33	B-L	No	W		1.5ft	2.0ft	15.0	0.0	15.0	8	19	282 Btuh
	Window Total								107 (sqft)					1140 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.08	13.0/1.0	327.5	2.0	653 Btuh
2	Frame - Wood - Ext	0.08	13.0/1.0	234.5	2.0	468 Btuh
3	Frame - Wood - Ext	0.08	13.0/1.0	152.2	2.0	303 Btuh
4	Frame - Wood - Ext	0.08	13.0/1.0	101.9	2.0	203 Btuh
5	Frame - Wood - Ext	0.08	13.0/1.0	233.0	2.0	465 Btuh
	Wall Total			1049 (sqft)		2092 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	13.3	12.9	172 Btuh
2	Insulated - Exterior	20.0	12.9	258 Btuh
	Door Total	33 (sqft)		429 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/Med/Shingle	0.025	38.0/0.0	1391.0	1.07	1483 Btuh
	Ceiling Total			1391 (sqft)		1483 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	1391 (ft-perimeter)	0.0	0 Btuh
	Floor Total		1391.0 (sqft)		0 Btuh

	Envelope Subtotal:	5143 Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.12	11128	1	21.8	406 Btuh

Internal gain	Occupants	Btuh/occupant	Appliance	Load
	2	X 230 +	1200	1660 Btuh

Sensible Envelope Load:	7209 Btuh
Duct load — Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.465)	3354 Btuh
Sensible Load All Zones	**10564 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Thomas

Project Title: Norris Thomas Residence

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

8/8/2022

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**7209 Btuh**
	Sensible Duct Load	3354 Btuh
	Total Sensible Zone Loads	**10564 Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**10564 Btuh**
	Latent infiltration gain (for 47 gr. humidity difference)	694 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	817 Btuh
	Latent occupant gain (2.0 people @ 200 Btuh per person)	400 Btuh
	Latent other gain	1200 Btuh
	Latent total gain	**3111 Btuh**
	TOTAL GAIN	**13675 Btuh**

EQUIPMENT

1. Central Unit	#	36000 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)

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