FORM R405-2023

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Lot 19 Russwood	Builder Name:	
Street:		Permit Office:	Columbia County
City, State, Zip:	Lake City, FL, 32024	Permit Number:	
Owner:	Peter & Anna Lev	Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	4
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	2530
Conditioned floor area below grade (ft²)	0

7. Windows(231.3 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.36	231.33 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.586 ft
Area Weighted Average SHGC:		0.250

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	2530.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1974.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1630.50 ft²
b. Frame - Wood, Adjacent	R=13.0	343.50 ft²
c. N/A		
d. N/A		

11. Ceiling Types(2783.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=38.0	2783.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Unvent)Deck	R=38.0	3041 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: 1st Floor	6	633
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	24.2	SEER2:15.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	31.5	HSPF2:8.80

16. Hot Water Systems	
a. Electric	Cap: 50 gallons EF: 0.920
b. Conservation features	None
17. Credits	CV, Pstat

Glass/Floor Area: 0.091

Total Proposed Modified Loads: 54.36

Total Baseline Loads: 57.72

PASS

NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or equal to 95 percent of the annual total loads of the standard reference design in order to comply.

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

PREPARED BY: _____

DATE: 3 / 7 / 2024

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 certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

- Default duct leakage does not require a Duct Leakage Test Report.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Lot 19 Russwood			Address type:	Lot
Building Type:	User	Bedrooms:	4	Lot #:	19
Owner:	Peter & Anna Lev	Conditioned Area:	2530	Block/SubDivision:	Russwood
Builder Home ID:		Total Stories:	1	PlatBook:	
Builder Name:		Worst Case:	No	Street:	
Permit Office:	Columbia County	Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:	Yes	City, State, Zip:	Lake City,
Family Type:	Detached	Whole House Fan:	No		FL, 32024
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2024	Shielding:	Suburban		
Comment:					

CLIMATE

√	Design Location	Tmy Site	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_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	2530	22770 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	1st Floor	2530	22770	Yes	8	4	Yes	Yes	Yes

FLOORS (Total Exposed Area = 2530 sq.ft.)

√	#	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	R-Value Joist	U-Factor	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	1st Floor	219.3	2530 sqft	0	---	0.304	2 (ft)/0 (ft)	0.00	0.00	1.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Hip	Composition shingles	3041 ft²	0 ft²	Medium	N	0.96	No	0.9	No	38	33.69

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Full attic	Unvented	0	2530 ft²	N	N

CEILING (Total Exposed Area = 2783 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Unvented)	1st Floor	0.0	Double Batt	2783.0ft²	0.024	0.11	Wood

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 1974 sq.ft.)

✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___ 1	N	Exterior	Frame - Wood	1st Floor	13.0	28.0	0	9.0	0	252.0	0.084		0.23	0.75	0 %
___ 2	N	Exterior	Frame - Wood	1st Floor	13.0	16.0	4	9.0	0	147.0	0.084		0.23	0.75	0 %
___ 3	W	Exterior	Frame - Wood	1st Floor	13.0	43.0	8	9.0	0	393.0	0.084		0.23	0.75	0 %
___ 4	S	Exterior	Frame - Wood	1st Floor	13.0	16.0	4	9.0	0	147.0	0.084		0.23	0.75	0 %
___ 5	S	Exterior	Frame - Wood	1st Floor	13.0	19.0	4	9.0	0	174.0	0.084		0.23	0.75	0 %
___ 6	S	Exterior	Frame - Wood	1st Floor	13.0	30.0	4	9.0	0	273.0	0.084		0.23	0.75	0 %
___ 7	E	Exterior	Frame - Wood	1st Floor	13.0	27.0	2	9.0	0	244.5	0.084		0.23	0.75	0 %
___ 8	N	Garage	Frame - Wood	1st Floor	13.0	21.0	4	9.0	0	192.0	0.084		0.23	0.75	0 %
___ 9	E	Garage	Frame - Wood	1st Floor	13.0	16.0	10	9.0	0	151.5	0.084		0.23	0.75	0 %

DOORS (Total Exposed Area = 40 sq.ft.)

✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___ 1	N	Exterior	Insulated	1st Floor	None	0.46	3.00	0	6.00	8	20.0ft²
___ 2	E	Garage	Insulated	1st Floor	None	0.46	3.00	0	6.00	8	20.0ft²

WINDOWS (Total Exposed Area = 231 sq.ft.)

✓ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	--Overhang-- Sep. (ft)	Interior Shade	Screen
___ 1	N	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	9.0	1	3.00	3.00	7.5	1.0	None	None
___ 2	N	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	7.5	1.0	None	None
___ 3	N	1	TIM	Low-E Double	Y	0.36	0.25	N	N	13.3	2	1.00	6.67	7.5	1.0	None	None
___ 4	N	2	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___ 5	W	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	15.0	1	3.00	5.00	1.5	1.0	None	None
___ 6	W	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	4.00	1.00	1.5	1.0	None	None
___ 7	S	4	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___ 8	S	5	TIM	Low-E Double	Y	0.36	0.25	N	N	40.0	2	3.00	6.67	11.5	1.0	None	None
___ 9	S	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___ 10	E	7	Vinyl	Low-E Double	Y	0.36	0.25	N	N	10.0	1	2.00	5.00	1.5	1.0	None	None
___ 11	E	7	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	1	5.00	4.00	1.5	1.0	None	None

INFILTRATION

✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00029	1898	104.10	195.44	0.1027	5.0	All	22770 cu ft

GARAGE

✓ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	557 ft²	557 ft²	58 ft	9 ft	1

MASS

✓ #	Mass Type	Area	Thickness	Furniture Fraction	Space
___ 1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	1st Floor

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INPUT SUMMARY CHECKLIST REPORT

HEATING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	None/Single		HSPF2: 8.80	31.5		0.00	0.00	0.00	sys#1	1

COOLING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	None/Single		SEER2:15.0	24.2	720	0.70	sys#1	1

HOT WATER SYSTEM

✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Garage	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	None	12

	Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___ 1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

✓	Duct #	Supply Location	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	RLF	HVAC # Heat	HVAC # Cool
___	1	Attic	6.0	633 ft²	Attic	6.0	127 ft²	Default Leakage	1st Floor	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

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

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 R405-2023

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 94

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

,Lake City,FL,32024

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		4
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		2530
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.36	231.33 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.586 ft
Area Weighted Average SHGC:		0.250

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	2530.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1974.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1630.50 ft²
b. Frame - Wood, Adjacent	R=13.0	343.50 ft²
c. N/A		
d. N/A		

11. Ceiling Types(2783.0 sqft.)	Insulation	Area
a. Roof Deck (Unvented)	R=38.0	2783.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Unvent)Deck	R=38.0	3041 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: 1st Floor	6	633
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	24.2	SEER2:15.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	31.5	HSPF2:8.80

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CV, 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: Lake City,FL,32024

*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 Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Envelope Leakage Test Report (Blower Door Test)
Residential Prescriptive, Performance or ERI Method Compliance
2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction:	Permit #:

Job Information

Builder: Community: Lot: 19

Address:

City: Lake City State: FL Zip: 32024

Air Leakage Test Results *Passing results must meet either the Performance, Prescriptive, or ERI Method*

○ **PRESCRIPTIVE METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.

● **PERFORMANCE or ERI METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2023 (Performance) or R406-2023 (ERI), section labeled as infiltration, sub-section ACH50.

ACH(50) specified on Form R405-2023-Energy Calc (Performance) or R406-2023 (ERI): 5.000

_____ x 60 ÷ 22770 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:

○ Retrieved from architectural plans

● Code software calculated

○ Field measured and calculated

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding seven air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Dwelling units with an air leakage rate less than three air changes per hour shall be provided with whole-house mechanical ventilation in accordance with Section R403.6.1 of this code and Section M1507.3 if the *Florida Building Code, Residential*. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), *Florida Statues*, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.
7. If an attic is both sealed and insulated at the roof deck, interior access doors and hatches between the conditioned space volume and the attic shall be opened during the test and the volume of the attic shall be added to the conditioned space volume for purposes of reporting the infiltration volume and calculating the air leakage of the home.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above Air Leakage results are in accordance with the 2023 8th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

Residential System Sizing Calculation

Summary

Peter & Anna Lev

Lake City, FL 32024

Project Title:
Lot 19 Russwood

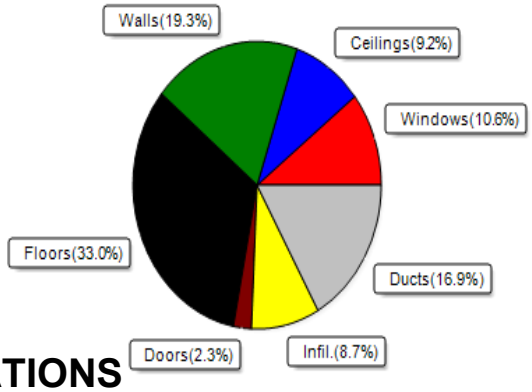
3/7/2024

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr.)					
Winter design temperature(MJ8 99%/Cu)	33	F	Summer design temperature(MJ8 99%/Cu)	99	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	24	F
Total heating load calculation	**29033**	**Btuh**	**Total cooling load calculation**	**27030**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	108.6	31530	Sensible (SHR = 0.70)	78.6	16973
Heat Pump + Auxiliary(0.0kW)	108.6	31530	Latent	133.6	7274
			Total (Electric Heat Pump)	89.7	24247

WINTER CALCULATIONS

Winter Heating Load (for 2530 sqft)

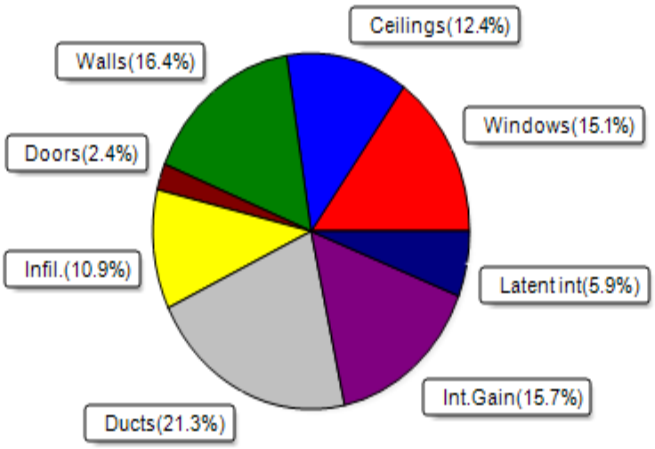
Load component			Load	
Window total	231	sqft	3081	Btuh
Wall total	1703	sqft	5592	Btuh
Door total	40	sqft	681	Btuh
Ceiling total	2783	sqft	2683	Btuh
Floor total	2530	sqft	9575	Btuh
Infiltration	62	cfm	2526	Btuh
Duct loss			4896	Btuh
Subtotal			**29033**	**Btuh**
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS			**29033**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 2530 sqft)

Load component			Load	
Window total	231	sqft	4074	Btuh
Wall total	1703	sqft	4423	Btuh
Door total	40	sqft	644	Btuh
Ceiling total	2783	sqft	3354	Btuh
Floor total			0	Btuh
Infiltration	47	cfm	1229	Btuh
Internal gain			4240	Btuh
Duct gain			3621	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			**21584**	**Btuh**
Latent gain(ducts)			2137	Btuh
Latent gain(infiltration)			1709	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1600	Btuh
Total latent gain			**5446**	**Btuh**
TOTAL HEAT GAIN			**27030**	**Btuh**



Powered by ACCA MANUAL J8 8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 3 / 7 / 2024

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Peter & Anna Lev
Lake City, FL 32024

Project Title:
Lot 19 Russwood
Building Type: User

3/7/2024

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 99%/Cu)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft) X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	N	9.0	13.3	120 Btuh
2	2, NFRC 0.25	Vinyl	0.36	N	30.0	13.3	400 Btuh
3	2, NFRC 0.25	TIM	0.36	N	13.3	13.3	178 Btuh
4	2, NFRC 0.25	Vinyl	0.36	N	30.0	13.3	400 Btuh
5	2, NFRC 0.25	Vinyl	0.36	W	15.0	13.3	200 Btuh
6	2, NFRC 0.25	Vinyl	0.36	W	4.0	13.3	53 Btuh
7	2, NFRC 0.25	Vinyl	0.36	S	30.0	13.3	400 Btuh
8	2, NFRC 0.25	TIM	0.36	S	40.0	13.3	533 Btuh
9	2, NFRC 0.25	Vinyl	0.36	S	30.0	13.3	400 Btuh
10	2, NFRC 0.25	Vinyl	0.36	E	10.0	13.3	133 Btuh
11	2, NFRC 0.25	Vinyl	0.36	E	20.0	13.3	266 Btuh
	Window Total				231.3(sqft)		3081 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	180	3.28	590 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	117	3.28	384 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	374	3.28	1228 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	117	3.28	384 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	134	3.28	440 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	243	3.28	798 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	215	3.28	704 Btuh
8	Frame - Wood	- Adj	(0.089)	13.0/0.0	192	3.28	631 Btuh
9	Frame - Wood	- Adj	(0.089)	13.0/0.0	132	3.28	432 Btuh
	Wall Total				1703(sqft)		5592 Btuh

Doors	Type	Storm	Ueff.	Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)	20	17.0	340 Btuh
2	Insulated - Garage,	n	(0.460)	20	17.0	340 Btuh
	Door Total			40(sqft)		681Btuh

Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
1	Flat ceil/D/Shing	(0.241)	0.0/38.0	2783	0.96	2683 Btuh
	Ceiling Total			2783(sqft)		2683Btuh

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	219.3 ft(perim.)	43.7	9575 Btuh
	Floor Total			2530 sqft		9575 Btuh

	Envelope Subtotal:	21611 Btuh

Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.16	22770	1.00	62.4	2526 Btuh

Duct load	Average sealed, R6.0, Supply(Att), Return(Att)	(DLM of 0.203)	4896 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Peter & Anna Lev
Lake City, FL 32024

Project Title:
Lot 19 Russwood
Building Type: User

3/7/2024

All Zones	**Sensible Subtotal All Zones**	**29033 Btuh**

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	29033 Btuh 0 Btuh 29033 Btuh

EQUIPMENT

1. Electric Heat Pump	#	31530 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

Peter & Anna Lev

Project Title:
Lot 19 Russwood

Lake City, FL 32024

3/7/2024

Reference City: Gainesville, FL (Defaults)
Humidity difference: 54gr.

Temperature Difference: 24.0F(MJ8 99%/Cu)
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	0.25, 0.36		No	No	N	7.5ft.	1.0ft.	9.0	0.0	9.0	14	14	125 Btuh
2	2 NFRC	0.25, 0.36		No	No	N	7.5ft.	1.0ft.	30.0	0.0	30.0	14	14	417 Btuh
3	2 NFRC	0.25, 0.36		No	No	N	7.5ft.	1.0ft.	13.3	0.0	13.3	14	14	185 Btuh
4	2 NFRC	0.25, 0.36		No	No	N	1.5ft.	1.0ft.	30.0	0.0	30.0	14	14	417 Btuh
5	2 NFRC	0.25, 0.36		No	No	W	1.5ft.	1.0ft.	15.0	0.7	14.3	14	33	477 Btuh
6	2 NFRC	0.25, 0.36		No	No	W	1.5ft.	1.0ft.	4.0	1.0	3.0	14	33	113 Btuh
7	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	30.0	30.0	0.0	14	16	417 Btuh
8	2 NFRC	0.25, 0.36		No	No	S	11.5f	1.0ft.	40.0	40.0	0.0	14	16	556 Btuh
9	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	30.0	30.0	0.0	14	16	417 Btuh
10	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	1.0ft.	10.0	0.5	9.5	14	33	318 Btuh
11	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	1.0ft.	20.0	1.2	18.8	14	33	632 Btuh
	Window Total								231 (sqft)					4074 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.09	13.0/0.0	179.7	2.7	486 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	117.0	2.7	317 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	374.0	2.7	1012 Btuh
4	Frame - Wood - Ext	0.09	13.0/0.0	117.0	2.7	317 Btuh
5	Frame - Wood - Ext	0.09	13.0/0.0	134.0	2.7	363 Btuh
6	Frame - Wood - Ext	0.09	13.0/0.0	243.0	2.7	658 Btuh
7	Frame - Wood - Ext	0.09	13.0/0.0	214.5	2.7	581 Btuh
8	Frame - Wood - Adj	0.09	13.0/0.0	192.0	2.1	409 Btuh
9	Frame - Wood - Adj	0.09	13.0/0.0	131.5	2.1	280 Btuh
	Wall Total			1703 (sqft)		4423 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	20.0	16.1	322 Btuh
2	Insulated - Garage	20.0	16.1	322 Btuh
	Door Total	40 (sqft)		644 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Unvented Attic/DarkShingle	0.241	0.0/38.0	2783.0	1.20	3354 Btuh
	Ceiling Total			2783 (sqft)		3354 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	2530 (ft-perimeter)	0.0	0 Btuh
	Floor Total		2530.0 (sqft)		0 Btuh

	Envelope Subtotal:	12494 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Peter & Anna Lev
Lake City, FL 32024

Project Title: Lot 19 Russwood

Climate:FL_GAINESVILLE_REGIONAL_A

3/7/2024

Infiltration	Type	Average ACH	Volume(cuft)		Wall Ratio		CFM=	Load	
	Natural	0.12	22770		1		46.8	1229	Btuh
Internal gain		Occupants	Btuh/occupant				Appliance	Load	
		8	X	230	+		2400	4240	Btuh
						Sensible Envelope Load:		17963	Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)					(DGM of 0.202)		3621	Btuh
						Sensible Load All Zones		**21584**	**Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Peter & Anna Lev
Lake City, FL 32024

Project Title: Lot 19 Russwood
Climate:FL_GAINESVILLE_REGIONAL_A

3/7/2024

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**17963 Btuh**
	Sensible Duct Load	3621 Btuh
	Total Sensible Zone Loads	**21584 Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**21584 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	1709 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	2137 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**5446 Btuh**
	TOTAL GAIN	**27030 Btuh**

EQUIPMENT

1. Central Unit	#	24247 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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