

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: 176 SW Kimberly Lane Street: 176 SW Kimberly Lane City, State, Zip: Lake City, FL, 32025 Owner: N/A Design Location: FL, Gainesville	Builder Name: Permit Office: Columbia County Permit Number: Jurisdiction: County: Columbia(Florida Climate Zone 2)
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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 3 5. Is this a worst case? No 6. Conditioned floor area above grade (ft²) 1895 Conditioned floor area below grade (ft²) 0 7. Windows(215.0 sqft.) Description Area a. U-Factor: Dbl, U=0.36 215.00 ft² SHGC: SHGC=0.25 b. U-Factor: N/A ft² SHGC: c. U-Factor: N/A ft² SHGC: Area Weighted Average Overhang Depth: 3.267 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 1895.00 ft² b. N/A R= ft² c. N/A R= ft²	10. Wall Types(1758.0 sqft.) Insulation Area a. Frame - Wood, Exterior R=13.0 1437.00 ft² b. Frame - Wood, Adjacent R=13.0 321.00 ft² c. N/A d. N/A 11. Ceiling Types(1989.8 sqft.) Insulation Area a. Roof Deck (Unvented) R=38.0 1989.80 ft² b. N/A c. N/A 12. Roof(Comp. Shingles, Unvent)Deck R=38.0 2278 ft² 13. Ducts, location & insulation level R ft² a. Sup: Attic, Ret: Attic, AH: Main 6 474 b. c. 14. Cooling Systems kBtu/hr Efficiency a. Central Unit 20.1 SEER2:15.00 15. Heating Systems kBtu/hr Efficiency a. Electric Heat Pump 26.7 HSPF2:8.80 16. Hot Water Systems a. Electric Cap: 40 gallons EF: 0.920 b. Conservation features None 17. Credits CV, Pstat
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Glass/Floor Area: 0.113	Total Proposed Modified Loads: 45.28	PASS
	Total Baseline Loads: 47.56	
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: <u>W. C. [Signature]</u> DATE: <u>3 / 7 / 2024</u> 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: _____
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- 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).

INPUT SUMMARY CHECKLIST REPORT

PROJECT												
Title:	176 SW Kimberly Lane				Address type:	Street Address						
Building Type:	User		Bedrooms:	3	Lot #:	---						
Owner:	N/A		Conditioned Area:	1895	Block/SubDivision:	---						
Builder Home ID:			Total Stories:	1	PlatBook:	---						
Builder Name:			Worst Case:	No	Street:	176 SW Kimberly Lane						
Permit Office:	Columbia County		Rotate Angle:	0	County:	Columbia						
Jurisdiction:			Cross Ventilation:	Yes	City, State, Zip:	Lake City, FL, 32025						
Family Type:	Detached		Whole House Fan:	No								
New/Existing:	New (From Plans)		Terrain:	Suburban								
Year Construct:	2023		Shielding:	Suburban								
Comment:												
CLIMATE												
✓ Design Location	Tmy Site		Design Temp 97.5% 2.5%		Int Design Temp Winter 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		1895		17055 cu ft							
SPACES												
✓ Number	Name		Area		Volume		Kitchen		Occupants		Bedrooms	
___ 1	Main		1895		17055		Yes		6		3	
<div>Finished</div> <div>Cooled</div> <div>Heated</div>												
___ 1	Main		1895		17055		Yes		6		3	
<div>Yes</div> <div>Yes</div> <div>Yes</div>												
FLOORS (Total Exposed Area = 1895 sq.ft.)												
✓ #	Floor Type		Space		Exposed Perim(ft)		Area		R-Value Perim. Joist		U-Factor	
___ 1	Slab-On-Grade Edge Ins		Main		195.33		1895 sqft		0 ---		0.304	
<div>Slab Insul. Vert/Horiz</div> <div>Tile</div> <div>Wood</div> <div>Carpet</div>												
___ 1	Slab-On-Grade Edge Ins		Main		195.33		1895 sqft		0 ---		0.304	
<div>2 (ft)/0 (ft)</div> <div>0.00</div> <div>0.00</div> <div>1.00</div>												
ROOF												
✓ #	Type		Materials		Roof Area		Gable Area		Roof Color		Rad Barr	
___ 1	Hip		Composition shingles		2278 ft²		0 ft²		Medium		N	
<div>Solar Absor.</div> <div>SA Tested</div> <div>Emitt</div> <div>Emitt Tested</div> <div>Deck Insul.</div> <div>Pitch (deg)</div>												
___ 1	Hip		Composition shingles		2278 ft²		0 ft²		Medium		N	
<div>0.96</div> <div>No</div> <div>0.9</div> <div>No</div> <div>38</div> <div>33.69</div>												
ATTIC												
✓ #	Type		Ventilation		Vent Ratio (1 in)		Area		RBS		IRCC	
___ 1	Full attic		Unvented		0		1895 ft²		N		N	
CEILING (Total Exposed Area = 1990 sq.ft.)												
✓ #	Ceiling Type		Space		R-Value		Ins. Type		Area		U-Factor	
___ 1	Flat ceiling under attic(Unvented)		Main		0.0		Double Batt		1989.8ft²		0.024	
<div>Framing Frac.</div> <div>Truss Type</div>												
___ 1	Flat ceiling under attic(Unvented)		Main		0.0		Double Batt		1989.8ft²		0.024	
<div>0.11</div> <div>Wood</div>												

INPUT SUMMARY CHECKLIST REPORT

WALLS																	(Total Exposed Area = 1758 sq.ft.)			
✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade					
___ 1	N	Exterior	Frame - Wood	Main	13.0	22.0	8	9.0	0	204.0	0.084		0.23	0.75	0 %					
___ 2	E	Exterior	Frame - Wood	Main	13.0	38.0	0	9.0	0	342.0	0.084		0.23	0.75	0 %					
___ 3	S	Exterior	Frame - Wood	Main	13.0	10.0	0	9.0	0	90.0	0.084		0.23	0.75	0 %					
___ 4	E	Exterior	Frame - Wood	Main	13.0	16.0	0	9.0	0	144.0	0.084		0.23	0.75	0 %					
___ 5	S	Exterior	Frame - Wood	Main	13.0	33.0	8	9.0	0	303.0	0.084		0.23	0.75	0 %					
___ 6	W	Exterior	Frame - Wood	Main	13.0	39.0	4	9.0	0	354.0	0.084		0.23	0.75	0 %					
___ 7	N	Garage	Frame - Wood	Main	13.0	21.0	0	9.0	0	189.0	0.084		0.23	0.75	0 %					
___ 8	W	Garage	Frame - Wood	Main	13.0	14.0	8	9.0	0	132.0	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	In	Height Ft	In	Area				
___ 1	N	Exterior	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²				
___ 2	N	Garage	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²				

WINDOWS																	(Total Exposed Area = 215 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)	Sep. (ft)	Interior Shade	Screen				
___ 1	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			
___ 2	E	2	Vinyl	Low-E Double	Y	0.36	0.25	N	N	75.0	5	3.00	5.00	1.5	1.0	None	None			
___ 3	S	3	TIM	Low-E Double	Y	0.36	0.25	N	N	40.0	2	3.00	6.67	6.5	1.0	None	None			
___ 4	S	5	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	S	5	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	4.00	1.00	1.5	1.0	None	None			
___ 6	W	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	6.0	1	2.00	3.00	1.5	1.0	None	None			
___ 7	W	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			

INFILTRATION										
✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00029	1421	77.97	146.39	0.1027	5.0	All	17055 cu ft

GARAGE					
✓ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	525 ft²	525 ft²	56 ft	9 ft	1

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

HEATING SYSTEM										
✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal Entry	HeatPump Power	-----	Ducts Volt	Block Current
___ 1	Electric Heat Pump	None/Single		HSPF2: 8.80	26.7		0.00	0.00	0.00	sys#1 1

INPUT SUMMARY CHECKLIST REPORT

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	20.1	600	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)	40.00 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 #	Location	Supply----- R-Value	Area	Return----- Location	R-Value	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	RLF	HVAC # Heat Cool
___ 1	Attic	6.0	474 ft²	Attic	6.0	95 ft²	Default Leakage	Main	(Default)	(Default)			1 1

TEMPERATURES

Programable Thermostat: Y													
Cooling <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input checked="" type="checkbox"/> Jun <input checked="" type="checkbox"/> Jul <input checked="" type="checkbox"/> Aug <input checked="" type="checkbox"/> Sep <input type="checkbox"/> Oct <input type="checkbox"/> Nov <input type="checkbox"/> Dec													
Heating <input checked="" type="checkbox"/> Jan <input checked="" type="checkbox"/> Feb <input checked="" type="checkbox"/> Mar <input type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input type="checkbox"/> Oct <input checked="" type="checkbox"/> Nov <input checked="" type="checkbox"/> Dec													
Venting <input type="checkbox"/> Jan <input type="checkbox"/> Feb <input checked="" type="checkbox"/> Mar <input checked="" type="checkbox"/> Apr <input type="checkbox"/> May <input type="checkbox"/> Jun <input type="checkbox"/> Jul <input type="checkbox"/> Aug <input type="checkbox"/> Sep <input checked="" type="checkbox"/> Oct <input checked="" type="checkbox"/> Nov <input type="checkbox"/> Dec													
Ceiling Fans: N													
Thermostat Schedule: HERS 2006 Reference													
✓ Schedule Type		1	2	3	4	5	6	Hours 7	8	9	10	11	12
___ Cooling (WD)	AM PM	78 80	78 80	78 78	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
___ Cooling (WEH)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
___ Heating (WD)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66
___ Heating (WEH)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 95

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

176 SW Kimberly Lane,Lake City,FL,32025

1. New construction or existing	New (From Plans)	10. Wall Types(1758.0 sqft.)	Insulation	Area
2. Single family or multiple family	Detached	a. Frame - Wood, Exterior	R=13.0	1437.00 ft ²
3. Number of units, if multiple family	1	b. Frame - Wood, Adjacent	R=13.0	321.00 ft ²
4. Number of Bedrooms	3	c. N/A		
5. Is this a worst case?	No	d. N/A		
6. Conditioned floor area above grade (ft ²)	1895	11. Ceiling Types(1989.8 sqft.)	Insulation	Area
Conditioned floor area below grade (ft ²)	0	a. Roof Deck (Unvented)	R=38.0	1989.80 ft ²
7. Windows**	Description	b. N/A		
a. U-Factor:	Dbl, U=0.36	c. N/A		
SHGC:	SHGC=0.25	12. Roof(Comp. Shingles, Unvent)Deck	R=38.0	2278 ft ²
b. U-Factor:	N/A	13. Ducts, location & insulation level	R	ft ²
SHGC:		a. Sup: Attic, Ret: Attic, AH: Main	6	474
c. U-Factor:	N/A	b.		
SHGC:		c.		
Area Weighted Average Overhang Depth:	3.267 ft	14. Cooling Systems	kBtu/hr	Efficiency
Area Weighted Average SHGC:	0.250	a. Central Unit	20.1	SEER2:15.00
8. Skylights	Description	15. Heating Systems	kBtu/hr	Efficiency
U-Factor:(AVG)	N/A	a. Electric Heat Pump	26.7	HSPF2:8.80
SHGC(AVG):	N/A			
9. Floor Types	Insulation	16. Hot Water Systems	Cap: 40 gallons	
a. Slab-On-Grade Edge Insulation	R= 0.0	a. Electric	EF: 0.920	
b. N/A	R=			
c. N/A	R=	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: 176 SW Kimberly Lane

City/FL Zip: Lake City,FL,32025



*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:	NA
Address: 176 SW Kimberly Lane			
City: Lake City	State: FL	Zip: 32025	
Air Leakage Test Results <i>Passing results must meet either the Performance, Prescriptive, or ERI Method</i>			
<div style="display: flex; justify-content: space-between; align-items: flex-start;"><div style="width: 60%;"><p><input type="radio"/> 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.</p><p><input checked="" type="radio"/> 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.</p><p style="text-align: center;"><i>ACH(50) specified on Form R405-2023-Energy Calc (Performance) or R406-2023 (ERI):</i></p><div style="border: 1px solid black; width: 100px; text-align: center; margin: 0 auto; padding: 2px 10px;">5.000</div></div><div style="width: 35%; border: 1px solid black; padding: 5px;"><p>Method for calculating building volume:</p><p><input type="radio"/> Retrieved from architectural plans</p><p><input checked="" type="radio"/> Code software calculated</p><p><input type="radio"/> Field measured and calculated</p></div></div> <div style="margin-top: 20px; display: flex; justify-content: space-between; align-items: center;"><div style="width: 60%;"><p>$\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div \frac{17055}{\text{ACH}(50)} =$</p><div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-weight: bold; font-size: 1.2em;">PASS</div><p><input type="checkbox"/> When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.</p></div><div style="width: 35%;"></div></div>			
<p>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 <i>Florida Building Code, Residential</i>. 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), <i>Florida Statutes</i>, 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 <i>code official</i>. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.</p> <p>During testing:</p> <ol style="list-style-type: none">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			
<div style="display: flex; justify-content: space-between;"><div>Company Name: _____</div><div>Phone: _____</div></div> <p>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.</p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"><div>Signature of Tester: _____</div><div>Date of Test: _____</div></div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"><div>Printed Name of Tester: _____</div><div></div></div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"><div>License/Certification #: _____</div><div>Issuing Authority: _____</div></div>			

Residential System Sizing Calculation

Summary

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title:
176 SW Kimberly Lane

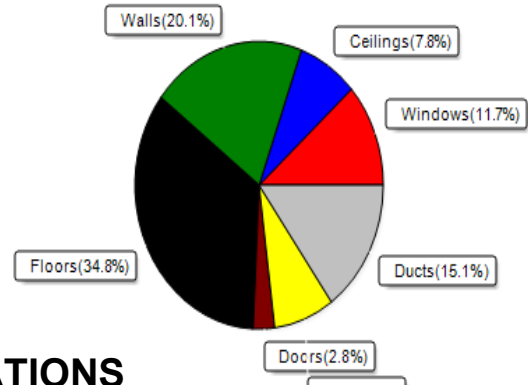
3/7/2024

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	24528 Btuh	Total cooling load calculation	22089 Btuh
Submitted heating capacity % of calc Btuh		Submitted cooling capacity % of calc Btuh	
Total (Electric Heat Pump) 108.7 26659		Sensible (SHR = 0.70) 78.0 14087	
Heat Pump + Auxiliary(0.0kW) 108.7 26659		Latent 149.7 6037	
		Total (Electric Heat Pump) 91.1 20125	

WINTER CALCULATIONS

Winter Heating Load (for 1895 sqft)

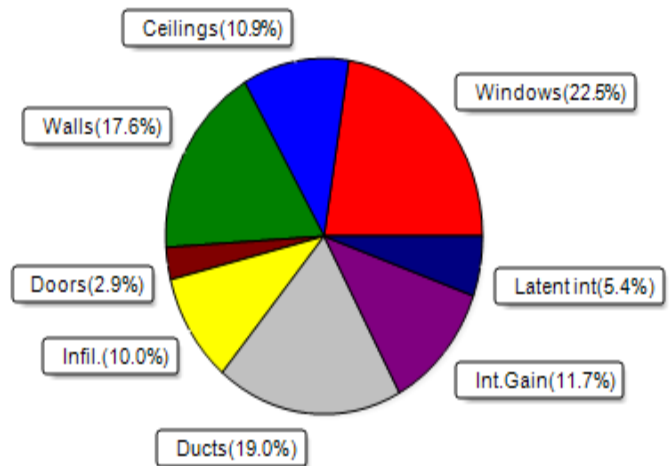
Load component		Load	
Window total	215 sqft	2864	Btuh
Wall total	1503 sqft	4936	Btuh
Door total	40 sqft	681	Btuh
Ceiling total	1990 sqft	1918	Btuh
Floor total	1895 sqft	8528	Btuh
Infiltration	47 cfm	1892	Btuh
Duct loss		3710	Btuh
Subtotal		24528	Btuh
Ventilation Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS		24528	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1895 sqft)

Load component		Load	
Window total	215 sqft	4974	Btuh
Wall total	1503 sqft	3895	Btuh
Door total	40 sqft	644	Btuh
Ceiling total	1990 sqft	2398	Btuh
Floor total		0	Btuh
Infiltration	35 cfm	920	Btuh
Internal gain		2580	Btuh
Duct gain		2644	Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load		0	Btuh
Total sensible gain		18055	Btuh
Latent gain(ducts)		1554	Btuh
Latent gain(infiltration)		1280	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		4034	Btuh
TOTAL HEAT GAIN		22089	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 3 / 7 / 2024

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title:
176 SW Kimberly Lane
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	30.0		13.3	400 Btuh
2	2, NFRC 0.25	Vinyl	0.36	E	75.0		13.3	999 Btuh
3	2, NFRC 0.25	TIM	0.36	S	40.0		13.3	533 Btuh
4	2, NFRC 0.25	Vinyl	0.36	S	30.0		13.3	400 Btuh
5	2, NFRC 0.25	Vinyl	0.36	S	4.0		13.3	53 Btuh
6	2, NFRC 0.25	Vinyl	0.36	W	6.0		13.3	80 Btuh
7	2, NFRC 0.25	Vinyl	0.36	W	30.0		13.3	400 Btuh
Window Total					215.0(sqft)			2864 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	154		3.28	506 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	267		3.28	877 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	50		3.28	164 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	144		3.28	473 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	269		3.28	883 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	318		3.28	1044 Btuh
7	Frame - Wood	- Adj	(0.089)	13.0/0.0	169		3.28	555 Btuh
8	Frame - Wood	- Adj	(0.089)	13.0/0.0	132		3.28	433 Btuh
Wall Total					1503(sqft)			4936 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	1990		0.96	1918 Btuh
Ceiling Total					1990(sqft)			1918Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	195.3 ft(perim.)		43.7	8528 Btuh
Floor Total					1895 sqft			8528 Btuh
Envelope Subtotal:								18927 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.16	17055	1.00	46.7		1892 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.178)							3710 Btuh
All Zones	Sensible Subtotal All Zones							24528 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title:
176 SW Kimberly Lane
Building Type: User

3/7/2024

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	24528 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	24528 Btuh

EQUIPMENT

1. Electric Heat Pump	#	26659 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 - (ManualJ Heat Transfer Multiplier)



Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title:
176 SW Kimberly Lane

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*						Overhang		Window Area(sqft)			HTM		Load			
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded				
1	2 NFRC	0.25, 0.36	No	No	N		7.5ft.	1.0ft.	30.0	0.0	30.0	14	14	417	Btuh		
2	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	75.0	3.7	71.3	14	33	2386	Btuh		
3	2 NFRC	0.25, 0.36	No	No	S		6.5ft.	1.0ft.	40.0	40.0	0.0	14	16	556	Btuh		
4	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	1.0ft.	30.0	30.0	0.0	14	16	417	Btuh		
5	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	1.0ft.	4.0	4.0	0.0	14	16	56	Btuh		
6	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	6.0	0.5	5.5	14	33	187	Btuh		
7	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	30.0	1.5	28.5	14	33	955	Btuh		
	Window Total								215 (sqft)					4974		Btuh	
Walls	Type				U-Value	R-Value		Area(sqft)			HTM		Load				
							Cav/Sheath										
1	Frame - Wood - Ext					0.09	13.0/0.0		154.0			2.7		417	Btuh		
2	Frame - Wood - Ext					0.09	13.0/0.0		267.0			2.7		723	Btuh		
3	Frame - Wood - Ext					0.09	13.0/0.0		50.0			2.7		135	Btuh		
4	Frame - Wood - Ext					0.09	13.0/0.0		144.0			2.7		390	Btuh		
5	Frame - Wood - Ext					0.09	13.0/0.0		269.0			2.7		728	Btuh		
6	Frame - Wood - Ext					0.09	13.0/0.0		318.0			2.7		861	Btuh		
7	Frame - Wood - Adj					0.09	13.0/0.0		169.0			2.1		360	Btuh		
8	Frame - Wood - Adj					0.09	13.0/0.0		132.0			2.1		281	Btuh		
	Wall Total								1503 (sqft)					3895		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 AtticDarkShingle				0.241	0.0/38.0		1989.8			1.20		2398	Btuh			
	Ceiling Total								1990 (sqft)					2398		Btuh	
Floors	Type						R-Value		Size			HTM		Load			
1	Slab On Grade								0.0		1895 (ft-perimeter)			0.0		0	Btuh
	Floor Total								1895.0 (sqft)					0		Btuh	
	Envelope Subtotal:													11910		Btuh	
Infiltration	Type				Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load				
	Natural				0.12		17055		1		35.0		920		Btuh		
Internal gain					Occupants		Btuh/occupant		Appliance		Load						
					6		X 230		+		1200		2580		Btuh		
	Sensible Envelope Load:													15411		Btuh	
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)										(DGM of 0.172)		2644		Btuh		
	Sensible Load All Zones													18055		Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
176 SW Kimberly Lane

3/7/2024

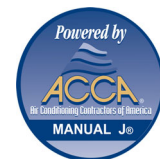
WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	15411 Btuh
	Sensible Duct Load	2644 Btuh
	Total Sensible Zone Loads	18055 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	18055 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	1280 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1554 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4034 Btuh
	TOTAL GAIN	22089 Btuh

EQUIPMENT

1. Central Unit	#	20125 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