

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

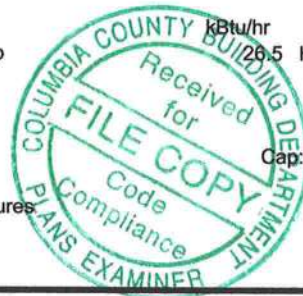
Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Flowers shop Street: 207 SE Condor Glen City, State, Zip: High Springs, FL, 32643 Owner: Mike Flowers Design Location: FL, Gainesville	Builder Name: Permit Office: Columbia County Permit Number: Jurisdiction: County: Columbia (Florida Climate Zone 2)
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Glass/Floor Area: 0.004	Total Proposed Modified Loads: 38.36	PASS
	Total Baseline Loads: 38.83	

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: _____ DATE: 12/28/2017 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 R403.2.2.1.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and starting July 1, 2017 this project requires an envelope leakage test report with envelope leakage no greater than 5.0 ACH50 (R402.4.1.2).

PROJECT

Title:	Flowers shop	Bedrooms:	0	Address Type:	Street Address
Building Type:	User	Conditioned Area:	1467	Lot #	
Owner:	Mike Flowers	Total Stories:	1	Block/SubDivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:		Rotate Angle:	0	Street:	207 SE Condor Glen
Permit Office:	Columbia County	Cross Ventilation:	Yes	County:	Columbia
Jurisdiction:		Whole House Fan:	No	City, State, Zip:	High Springs , FL , 32643
Family Type:	Single-family				
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

✓	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	2.5 %	Int Design Temp Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range
_____	FL, Gainesville	FL_GAINESVILLE_REGI	2	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	1467	14670

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1467	14670	Yes	6	0	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area	Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulation	Main	153.33 ft	0	1467 ft²	----	0	0 1

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	1641 ft²	0 ft²	Medium	0.96	No	0.9	No	0	26.6

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	1467 ft²	Y	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	38	Double Batt	1540 ft²	0.11	Wood

WALLS

✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	S	Exterior	Concrete Block - Int Insul	Main	5	40		10		400.0 ft²		0	0.75	0
2	E	Exterior	Concrete Block - Int Insul	Main	5	36	8	10		366.7 ft²		0	0.75	0
3	N	Exterior	Concrete Block - Int Insul	Main	5	40		10		400.0 ft²		0	0.75	0
4	W	Exterior	Concrete Block - Int Insul	Main	5	36	8	10		366.7 ft²		0	0.75	0

DOORS

✓ #	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
1	S	Insulated	Main	None	.46	6		6	8	40 ft²
2	W	Insulated	Main	None	.46	6		6	8	40 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

✓ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Separation	Int Shade	Screening
1	N	3	Vinyl	Low-E Double	Yes	0.36	0.25	6.0 ft²	1 ft 6 in	0 ft 6 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000318	1222.5	67.11	126.22	.2446	5

HEATING SYSTEM

✓ #	System Type	Subtype	Efficiency	Capacity	Block	Ducts
1	Electric Heat Pump	None	HSPF:8.2	26.51 kBtu/hr	1	sys#1

COOLING SYSTEM

✓ #	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
1	Central Unit	None	SEER: 15	17.69 kBtu/hr	540 cfm	0.7	1	sys#1

HOT WATER SYSTEM

✓ #	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
1	Electric	None	Main	0.92	50 gal	40 gal	120 deg	None

SOLAR HOT WATER SYSTEM

✓	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
	None	None			ft²		

DUCTS

✓	#	--- Supply ---		--- Return ---		Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC #	
		Location	R-Value	Area	Location	Area						Heat	Cool
	1	Attic	6	366.75 f	Attic	73.35 ft²	Default Leakage	Main	(Default) c	(Default) c		1	1

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

Cooling	☐ Jan	☐ Feb	☐ Mar	☐ Apr	☐ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☐ Oct	☐ Nov	☐ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☐ May	☐ Jun	☐ Jul	☐ Aug	☐ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☐ Jan	☐ Feb	☐ Mar	☐ Apr	☐ May	☐ Jun	☐ Jul	☐ Aug	☐ Sep	☐ Oct	☐ Nov	☐ Dec

Thermostat Schedule: HERS 2006 Reference

Hours

Schedule Type		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
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	PM	68	68	68	68	68	68	68	68	68	68	66	66

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 99

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

207 SE Condor Glen, High Springs, FL, 32643

1. New construction or existing	New (From Plans)		9. Wall Types	Insulation	Area
2. Single family or multiple family	Single-family		a. Concrete Block - Int Insul, Exterior	R=5.0	1533.30 ft ²
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4. Number of Bedrooms	0		c. N/A	R=	ft ²
5. Is this a worst case?	No		d. N/A	R=	ft ²
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7. Windows**	Description	Area	a. Under Attic (Vented)	R=38.0	1540.00 ft ²
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SHGC:			a. Central Unit	17.7	SEER:15.00
d. U-Factor:	N/A	ft ²	13. Heating systems	kBtu/hr	Efficiency
SHGC:			a. Electric Heat Pump	26.5	HSPF:8.20
Area Weighted Average Overhang Depth:	1.500 ft.		14. Hot water systems		Cap: 50 gallons
Area Weighted Average SHGC:	0.250		a. Electric		EF: 0.92
8. Floor Types	Insulation	Area	b. Conservation features		
a. Slab-On-Grade Edge Insulation	R=0.0	1467.00 ft ²	None		
b. N/A	R=	ft ²	15. Credits		CV, Pstat
c. N/A	R=	ft ²			

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: _____



*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 EnergyGauge Rating. Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. 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.

Residential System Sizing Calculation

Summary

Mike Flowers
207 SE Condor Glen
High Springs, FL 32643

Project Title:
Flowers shop

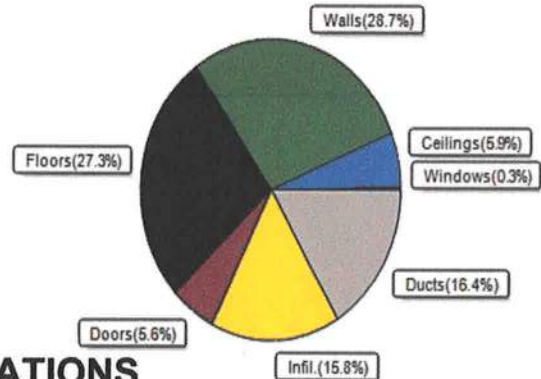
12/28/2017

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)			
Winter design temperature(TMY3 99%)	30 F	Summer design temperature(TMY3 99%)	94 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	40 F	Summer temperature difference	19 F
Total heating load calculation	26505 Btuh	Total cooling load calculation	17070 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 26505	Sensible (SHR = 0.70)	99.7 12386
Heat Pump + Auxiliary(0.0kW)	100.0 26505	Latent	114.2 5308
		Total (Electric Heat Pump)	103.7 17695

WINTER CALCULATIONS

Winter Heating Load (for 1467 sqft)

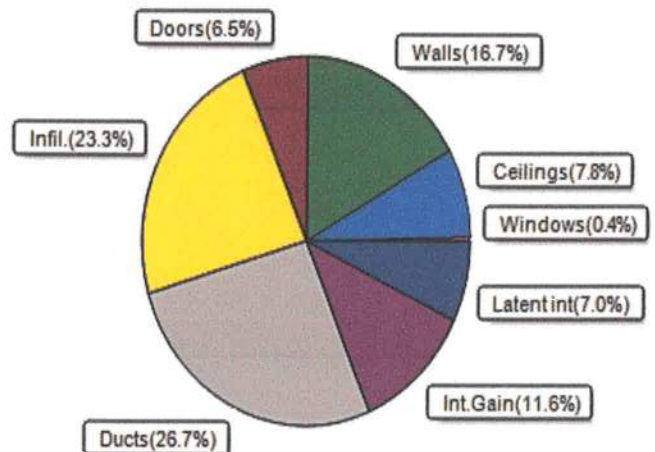
Load component		Load	
Window total	6 sqft	86	Btuh
Wall total	1447 sqft	7617	Btuh
Door total	80 sqft	1472	Btuh
Ceiling total	1540 sqft	1563	Btuh
Floor total	1467 sqft	7237	Btuh
Infiltration	96 cfm	4191	Btuh
Duct loss		4339	Btuh
Subtotal		26505	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		26505	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1467 sqft)

Load component		Load	
Window total	6 sqft	73	Btuh
Wall total	1447 sqft	2856	Btuh
Door total	80 sqft	1104	Btuh
Ceiling total	1540 sqft	1329	Btuh
Floor total		0	Btuh
Infiltration	72 cfm	1493	Btuh
Internal gain		1980	Btuh
Duct gain		3585	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		12420	Btuh
Latent gain(ducts)		972	Btuh
Latent gain(infiltration)		2477	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		4650	Btuh
TOTAL HEAT GAIN		17070	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

12/28/2017

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Mike Flowers
207 SE Condor Glen
High Springs, FL 32643

Project Title:
Flowers shop
Building Type: User

12/28/2017

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 F (TMY3 99%)

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	6.0		14.4	86 Btuh
	Window Total				6.0(sqft)			86 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	360		5.26	1895 Btuh
2	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	367		5.26	1930 Btuh
3	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	394		5.26	2073 Btuh
4	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	327		5.26	1719 Btuh
	Wall Total				1447(sqft)			7617 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		40		18.4	736 Btuh
2	Insulated - Exterior, n		(0.460)		40		18.4	736 Btuh
	Door Total				80(sqft)			1472Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Vented Attic/L/Shing		(0.025)	38.0/0.0	1540		1.0	1563 Btuh
	Ceiling Total				1540(sqft)			1563Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	153.3 ft(perim.)		47.2	7237 Btuh
	Floor Total				1467 sqft			7237 Btuh
	Envelope Subtotal:							17976 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio		CFM=	
	Natural		0.39	14670	1.00		95.7	4191 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)						(DLM of 0.196)	4339 Btuh
All Zones	Sensible Subtotal All Zones							26505 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	26505 Btuh 0 Btuh 26505 Btuh
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Manual J Winter Calculations

Residential Load - Component Details (continued)

Mike Flowers
207 SE Condor Glen
High Springs, FL 32643

Project Title:
Flowers shop
Building Type: User

12/28/2017

EQUIPMENT

1. Electric Heat Pump	#	26505 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

Mike Flowers
207 SE Condor Glen
High Springs, FL 32643

Project Title:
Flowers shop

12/28/2017

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

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		1.5ft.	0.5ft.	6.0	0.0	6.0	12	12	73 Btuh		
	Window Total									6 (sqft)					73 Btuh	
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load	
									Cav/Sheath							
	1	Concrete Blk,Hollow- Ext					0.13		5.0/0.0		360.0		2.0			710 Btuh
	2	Concrete Blk,Hollow- Ext					0.13		5.0/0.0		366.7		2.0			724 Btuh
	3	Concrete Blk,Hollow- Ext					0.13		5.0/0.0		394.0		2.0			778 Btuh
	4	Concrete Blk,Hollow- Ext					0.13		5.0/0.0		326.7		2.0			645 Btuh
	Wall Total										1447 (sqft)				2856 Btuh	
Doors	Type										Area (sqft)		HTM		Load	
	1	Insulated - Exterior									40.0		13.8			552 Btuh
	2	Insulated - Exterior									40.0		13.8			552 Btuh
	Door Total										80 (sqft)				1104 Btuh	
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load	
	1	Vented AtticLight/Shingle/RB					0.025		38.0/0.0		1540.0		0.86			1329 Btuh
	Ceiling Total										1540 (sqft)				1329 Btuh	
Floors	Type								R-Value		Size		HTM		Load	
	1	Slab On Grade							0.0		1467 (ft-perimeter)		0.0			0 Btuh
	Floor Total										1467.0 (sqft)				0 Btuh	
	Envelope Subtotal:													5362 Btuh		
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load	
	Natural						0.29		14670		1		71.8			1493 Btuh
Internal gain							Occupants		Btuh/occupant		Appliance		Load			
							6		X 230		+		600		1980 Btuh	
	Sensible Envelope Load:													8835 Btuh		
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)										(DGM of 0.406)			3585 Btuh		
	Sensible Load All Zones													12420 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Mike Flowers
207 SE Condor Glen
High Springs, FL 32643

Project Title:
Flowers shop

Climate: FL_GAINESVILLE_REGIONAL_A

12/28/2017

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	8835 Btuh
	Sensible Duct Load	3585 Btuh
	Total Sensible Zone Loads	12420 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	12420 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2477 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	972 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4650 Btuh
	TOTAL GAIN	17070 Btuh

EQUIPMENT

1. Central Unit	#	17695 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(1/2))
(Ornt - compass orientation)



Version 8