FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name	140207	Builder Name	Affinity Conctruction
Street	3643 SW Pinemount	Permit Office	
City, State, Zip	Lake City , FL ,	Permit Number	
Owner	Carpenter	Jurisdiction	
Design Location	FL, Gainesville		

1 New construction or existing		Addition
2 Single family or multiple family		Single-family
3 Number of units, if multiple family		1
4 Number of Bedrooms(Bedrms In Addition)		0(0)
5 Is this a worst case?		No
6 Conditioned floor area above grade (ft²)		432
Conditioned floor area below grade (ft²)		0

7 Windows(30 0 sqft)	Description	Area
a U-Factor	Dbl, U=0 35	30 00 ft²
SHGC	SHGC=0 35	
b U-Factor	N/A	ft²
SHGC		
c U-Factor	N/A	ft²
SHGC		
d U-Factor	N/A	ft²
SHGC		
Area Weighted Average Overhang Depth		1 000 ft
Area Weighted Average SHGC		0 350

8 Floor Types (432 0 sqft)	Insulation	Area
a Raised Floor	R=0 0	432 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²

9 Wall Types (472 0 sqft)	Insulation	Area
a Frame - Wood, Exterior	R=13 0	472 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²
d N/A	R=	ft²

10 Ceiling Types (432 0 sqft)	Insulation	Area
a Under Attic (Vented)	R=30 0	432 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²

11 Ducts		R ft²

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	6 0	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a Electric Heat Pump	9 7	HSPF 7 70

14 Hot water systems - None required	
a	Cap N/A
	EF 0 000
b Conservation features	

15 Credits	None

Glass/Floor Area 0 069

Total Proposed Modified Loads. 9.42

Total Standard Reference Loads 12 67

PASS

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

PREPARED BY Brad Bramley

DATE: 2014-05-19

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.

GREAT SEAL OF THE STATE OF FLORIDA * IN GOD WE TRUST *

BUILDING OFFICIAL. _____

DATE. _____

COLUMBIA COUNTY BUILDING DEPARTMENT Received for FILE COPY Code Compliance PLANS EXAMINER

- Compliance requires completion of a Florida Air Barrier and Insulation Inspection Checklist

PROJECT

Title	140207	Bedrooms	0	Address Type	Street Address
Building Type	User	Conditioned Area	432	Lot #	
Owner	Carpenter	Total Stories	1	Block/SubDivision	
# of Units	1	Worst Case	No	PlatBook	
Builder Name	Affinity Conctruction	Rotate Angle	0	Street	3643 SW Pinemount
Permit Office		Cross Ventilation		County	Columbia
Jurisdiction		Whole House Fan.		City, State, Zip	Lake City , FL ,
Family Type	Single-family				
New/Existing	Addition				
Comment					

CLIMATE

√	Design Location	TMY Site	IECC Zone	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_REGI	2	32	92	70	75	1305 5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	432	3456

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	432	3456	No	2	0	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	R-Value	Area		Tile	Wood	Carpet
_____	1	Raised Floor	Main	----	----	432 ft²	0	0	0	1

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor	SA Tested	Emitt	Emitt Tested	Deck Insul	Pitch (deg)
_____	1	Gable or shed	Composition shingles	445 ft²	54 ft²	Dark	0 96	No	0 9	No	0	14

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	432 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	30	432 ft²	0 11	Wood

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
___	1	E	Exterior	Frame - Wood	Main	13	16		8		128 0 ft²		0 23	0 75	0
___	2	S	Exterior	Frame - Wood	Main	13	27		8		216 0 ft²		0 23	0 75	0
___	3	W	Exterior	Frame - Wood	Main	13	16		8		128 0 ft²		0 23	0 75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	E	Insulated	Main	None	46	3		6	8	20 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	S	2	Metal	Low-E Double	Yes	0 35	0 35	30 0 ft²	1 ft 0 in	4 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0003	339 9	18 66	35 1	231	5 9018

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump	None	HSPF 7 7	9 7 kBtu/hr	1	Ductless

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit	None	SEER. 13	6 04 kBtu/hr	180 cfm	0 75	1	Ductless

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
_____					ft²		

TEMPERATURES

Programable Thermostat None

Ceiling Fans

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

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	78	78	78	78
	PM	78	78	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	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

FORM 405-10

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS: 3643 SW Pinemount Lake City, FL,	PERMIT #:

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402 4	To be caulked, gasketed, weatherstripped or otherwise sealed. Recessed lighting IC-rated as meeting ASTM E 283. Windows and doors = 0 30 cfm/sq ft. Testing or visual inspection required. Fireplaces: gasketed doors & outdoor combustion air Must complete envelope leakage report or visually verify Table 402.4.2.	
Thermostat & controls	403 1	At least one thermostat shall be provided for each separate heating and cooling system Where forced-air furnace is primary system, programmable thermostat is required. Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load.	
Ducts	403 2 2 403 3 3	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503.2 7 2 of this code Building framing cavities shall not be used as supply ducts.	
Water heaters	403 4	Heat trap required for vertical pipe risers Comply with efficiencies in Table 403 4 3 2 Provide switch or clearly marked circuit breaker (electric) or shutoff (gas) Circulating system pipes insulated to = R-2 + accessible manual OFF switch	
Mechanical ventilation	403 5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level. No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas.	
Swimming Pools & Spas	403 9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy Off/timer switch required. Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4 0	
Cooling/heating equipment	403 6	Sizing calculation performed & attached Minimum efficiencies per Tables 503 2 3. Equipment efficiency verification required. Special occasion cooling or heating capacity requires separate system or variable capacity system Electric heat >10kW must be divided into two or more stages.	
Ceilings/knee walls	405 2 1	R-19 space permitting	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 74

The lower the EnergyPerformance Index, the more efficient the home

3643 SW Pinemount, Lake City, FL,

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a Electric Heat Pump	9 7	HSPF 7 70

14 Hot water systems - None required	Cap N/A
a	EF
b Conservation features	

15 Credits	None

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 303 1 3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Residential System Sizing Calculation

Summary

Carpenter
3643 SW Pinemount
Lake City, FL

Project Title:
140207

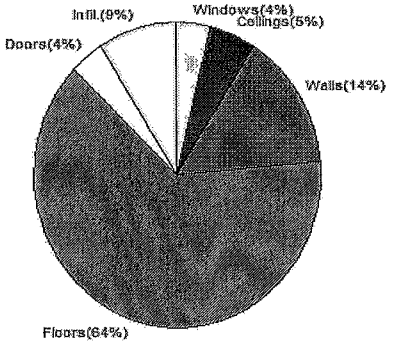
5/19/2014

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(54gr)					
Winter design temperature(MJ8 99%)	33	F	Summer design temperature(MJ8 99%)	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation	**9634**	**Btuh**	**Total cooling load calculation**	**6123**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100 7	9700	Sensible (SHR = 0 75)	88.2	4531
Heat Pump + Auxiliary(0.0kW)	100 7	9700	Latent	153.6	1510
			Total (Electric Heat Pump)	98 7	6042

WINTER CALCULATIONS

Winter Heating Load (for 432 sqft)

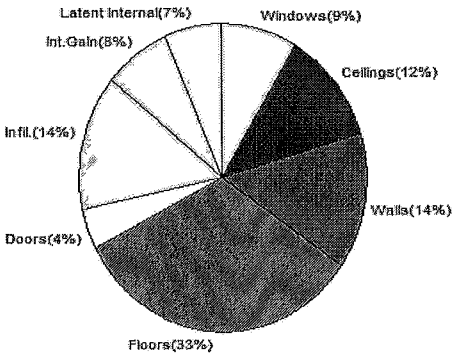
Load component			Load	
Window total	30	sqft	389	Btuh
Wall total	422	sqft	1386	Btuh
Door total	20	sqft	340	Btuh
Ceiling total	432	sqft	509	Btuh
Floor total	432	sqft	6148	Btuh
Infiltration	21	cfm	862	Btuh
Duct loss			0	Btuh
Subtotal			**9634**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**9634**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 432 sqft)

Load component			Load	
Window total	30	sqft	536	Btuh
Wall total	422	sqft	880	Btuh
Door total	20	sqft	258	Btuh
Ceiling total	432	sqft	715	Btuh
Floor total			1994	Btuh
Infiltration	16	cfm	297	Btuh
Internal gain			460	Btuh
Duct gain			0	Btuh
Sens Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			**5140**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			584	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			400	Btuh
Total latent gain			**984**	**Btuh**
TOTAL HEAT GAIN			**6123**	**Btuh**



8th Edition

EnergyGauge® System Sizing
PREPARED BY BRANDON RAMSEY
DATE 2014-05-19