FORM R405-2017

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Indigo Model	Builder Name:	IC Construction
Street:		Permit Office:	
City, State, Zip:	Lake City , FL ,	Permit Number:	
Owner:		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	Single-family
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)	2110
Conditioned floor area below grade (ft²)	0

7. Windows(301.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.33	301.00 ft²
SHGC:	SHGC=0.22	
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:		6.158 ft.
Area Weighted Average SHGC:		0.220

8. Floor Types (2110.0 sqft.)	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	2110.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

9. Wall Types (1956.7 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1701.70 ft²
b. Frame - Wood, Adjacent	R=13.0	255.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

10. Ceiling Types (2110.0 sqft.)	Insulation	Area
a. Under Attic (Vented)	R=30.0	2110.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

11. Ducts	R	ft²
a. Sup: Attic, Ret: Attic, AH: Main	6	422

12. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	36.0	SEER:15.00

13. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	36.0	HSPF:8.50

14. Hot water systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
None	
15. Credits	Pstat

Glass/Floor Area: 0.143

Total Proposed Modified Loads: 60.65

Total Baseline Loads: 62.75

PASS

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

PREPARED BY: _____

DATE: 3-12-20

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: _____

- 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.

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

- Compliance with a proposed duct leakage Qn requires a Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.000 Qn for whole house.

FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Indigo Model	Bedrooms:	4	Address Type:	Lot Information
Building Type:	User	Conditioned Area:	1524	Lot #	10
Owner Name:		Total Stories:	1	Block/Subdivision:	High Pointe
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	IC Construction	Rotate Angle:	0	Street:	
Permit Office:		Cross Ventilation:		County:	Columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	Lake City , FL ,
Family Type:	Single-family				
New/Existing:	New (From Plans)				
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_REGI	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2110	18990

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2110	18990	Yes	6	4	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	Main	211 ft	0	2110 ft²	----	0.33	0.33	0.34

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	2444 ft²	0 ft²	Medium	N	0.85	No	0.9	No	0	30.3

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	2110 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	30	Blown	2110 ft²	0.11	Wood

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INPUT SUMMARY CHECKLIST REPORT

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	N	Exterior	Frame - Wood	Main	13	27		9		243.0 ft²	0.625	0.23	0.75	0
____ 2	W	Exterior	Frame - Wood	Main	13	10		10		100.0 ft²	0.625	0.23	0.75	0
____ 3	N	Exterior	Frame - Wood	Main	13	26	8	9		240.0 ft²	0.625	0.23	0.75	0
____ 4	E	Exterior	Frame - Wood	Main	13	45		9		405.0 ft²	0.625	0.23	0.75	0
____ 5	S	Exterior	Frame - Wood	Main	13	11	4	9		102.0 ft²	0.625	0.23	0.75	0
____ 6	E	Exterior	Frame - Wood	Main	13	5		9		45.0 ft²	0.625	0.23	0.75	0
____ 7	S	Exterior	Frame - Wood	Main	13	5	8	10		56.7 ft²	0.625	0.23	0.75	0
____ 8	W	Exterior	Frame - Wood	Main	13	5		9		45.0 ft²	0.625	0.23	0.75	0
____ 9	S	Exterior	Frame - Wood	Main	13	11	4	9		102.0 ft²	0.625	0.23	0.75	0
____ 10	W	Exterior	Frame - Wood	Main	13	7	4	9		66.0 ft²	0.625	0.23	0.75	0
____ 11	S	Exterior	Frame - Wood	Main	13	4	4	9		39.0 ft²	0.625	0.23	0.75	0
____ 12	W	Exterior	Frame - Wood	Main	13	28	8	9		258.0 ft²	0.625	0.23	0.75	0
____ 13	S	Garage	Frame - Wood	Main	13	28	4	9		255.0 ft²	0.625	0.23	0.75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	S	Insulated	Main	None	.4	3		8		24 ft²
_____	2	S	Insulated	Main	None	.4	3		6	8	20 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N	1	Vinyl	Low-E Double	Yes	0.33	0.22	N	25.0 ft²	11 ft 6 in	1 ft 4 in	None	None
_____	2	N	1	Vinyl	Low-E Double	Yes	0.33	0.22	N	72.0 ft²	11 ft 6 in	1 ft 4 in	None	None
_____	3	W	2	Vinyl	Low-E Double	Yes	0.33	0.22	N	36.0 ft²	7 ft 6 in	1 ft 4 in	None	None
_____	4	N	3	Vinyl	Low-E Double	Yes	0.33	0.22	N	54.0 ft²	1 ft 6 in	1 ft 4 in	None	None
_____	5	N	3	Vinyl	Low-E Double	Yes	0.33	0.22	N	15.0 ft²	1 ft 6 in	1 ft 4 in	None	None
_____	6	E	4	Vinyl	Low-E Double	Yes	0.33	0.22	N	3.0 ft²	1 ft 6 in	1 ft 4 in	None	None
_____	7	E	4	Vinyl	Low-E Double	Yes	0.33	0.22	N	15.0 ft²	1 ft 6 in	1 ft 4 in	None	None
_____	8	E	4	Vinyl	Low-E Double	Yes	0.33	0.22	N	9.0 ft²	1 ft 6 in	1 ft 4 in	None	None
_____	9	S	5	Vinyl	Low-E Double	Yes	0.33	0.22	N	18.0 ft²	7 ft 6 in	1 ft 4 in	None	None
_____	10	S	9	Vinyl	Low-E Double	Yes	0.33	0.22	N	18.0 ft²	7 ft 6 in	1 ft 4 in	None	None
_____	11	W	12	Vinyl	Low-E Double	Yes	0.33	0.22	N	16.0 ft²	1 ft 6 in	1 ft 4 in	None	None
_____	12	W	12	Vinyl	Low-E Double	Yes	0.33	0.22	N	20.0 ft²	1 ft 6 in	1 ft 4 in	None	None

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INPUT SUMMARY CHECKLIST REPORT

GARAGE

√	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
_____	1	469.348 ft²	469.348 ft²	65 ft	9 ft	1

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000286	1582.5	86.88	163.39	.1128	5

HEATING SYSTEM

√	#	System Type	Subtype	Speed	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	None	Singl	HSPF:8.5	36 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	None	Singl	SEER: 15	36 kBtu/hr	1080 cfm	0.85	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	Garage	0.92	50 gal	70 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 ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool
_____	1	Attic	6	422 ft²	Attic	105.5 ft	Default Leakage	Main	(Default)	(Default)			1	1

FORM R405-2017

INPUT SUMMARY CHECKLIST REPORT

TEMPERATURES

Programable Thermostat: Y

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	80	80	80	80
	PM	80	80	80	80	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	80	80	78	78	78	78	78	78	78	78
Heating (WD)	AM	65	65	65	65	65	65	65	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	65	65	65	65	65	65	65	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	Main

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

The lower the Energy Performance Index, the more efficient the home.

1. New home or, addition	1. New (From Plans)
2. Single-family or multiple-family	2. Single-family
3. No. of units (if multiple-family)	3. 1
4. Number of bedrooms	4. 4
5. Is this a worst case? (yes/no)	5. No
6. Conditioned floor area (sq. ft.)	6. 2110
7. Windows, type and area	
a) U-factor:(weighted average)	7a. 0.330
b) Solar Heat Gain Coefficient (SHGC)	7b. 0.220
c) Area	7c. 301.0
8. Skylights	
a) U-factor:(weighted average)	8a. NA
b) Solar Heat Gain Coefficient (SHGC)	8b. NA
9. Floor type, insulation level:	
a) Slab-on-grade (R-value)	9a. 0.0
b) Wood, raised (R-value)	9b.
c) Concrete, raised (R-value)	9c.
10. Wall type and insulation:	
A. Exterior:	
1. Wood frame (Insulation R-value)	10A1. 13.0
2. Masonry (Insulation R-value)	10A2.
B. Adjacent:	
1. Wood frame (Insulation R-value)	10B1. 13.0
2. Masonry (Insulation R-value)	10B2.
11. Ceiling type and insulation level	
a) Under attic	11a. 30.0
b) Single assembly	11b.
c) Knee walls/skylight walls	11c.
d) Radiant barrier installed	11d. No

12. Ducts, location & insulation level	
a) Supply ducts	R 6.0
b) Return ducts	R 6.0
c) AHU location	Main
13. Cooling system:	Capacity 36.0
a) Split system	SEER
b) Single package	SEER
c) Ground/water source	SEER/COP
d) Room unit/PTAC	EER
e) Other	15.0
14. Heating system:	Capacity 36.0
a) Split system heat pump	HSPF
b) Single package heat pump	HSPF
c) Electric resistance	COP
d) Gas furnace, natural gas	AFUE
e) Gas furnace, LPG	AFUE
f) Other	8.50
15. Water heating system	
a) Electric resistance	EF 0.92
b) Gas fired, natural gas	EF
c) Gas fired, LPG	EF
d) Solar system with tank	EF
e) Dedicated heat pump with tank	EF
f) Heat recovery unit	HeatRec%
g) Other	
16. HVAC credits claimed (Performance Method)	
a) Ceiling fans	Yes
b) Cross ventilation	No
c) Whole house fan	No
d) Multizone cooling credit	
e) Multizone heating credit	
f) Programmable thermostat	Yes

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

I certify that this home has complied with the Florida Building Code, Energy Conservation, 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

Residential System Sizing Calculation

Summary

Project Title:
Indigo Model

Lake City, FL

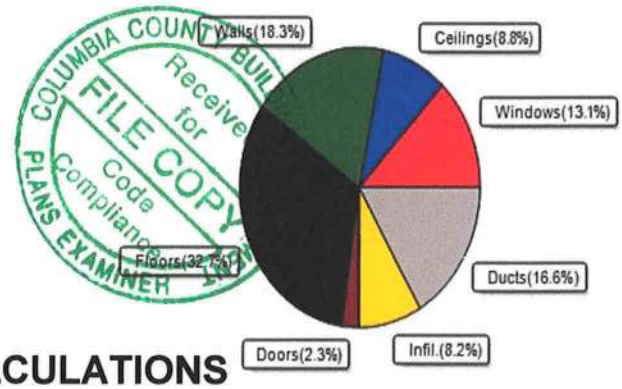
3/11/2020

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	**30426**	**Btuh**		**Total cooling load calculation**	**23854**	**Btuh**
Submitted heating capacity	% of calc	Btuh		Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	118.3	36000		Sensible (SHR = 0.85)	153.5	30600
Heat Pump + Auxiliary(0.0kW)	118.3	36000		Latent	137.8	5400
				Total (Electric Heat Pump)	150.9	36000

WINTER CALCULATIONS

Winter Heating Load (for 2110 sqft)

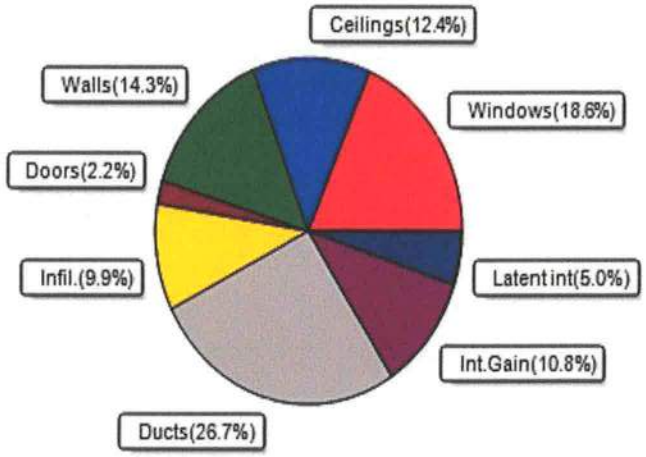
Load component			Load	
Window total	301	sqft	3973	Btuh
Wall total	1612	sqft	5558	Btuh
Door total	44	sqft	704	Btuh
Ceiling total	2110	sqft	2688	Btuh
Floor total	2110	sqft	9959	Btuh
Infiltration	57	cfm	2501	Btuh
Duct loss			5043	Btuh
Subtotal			**30426**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**30426**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 2110 sqft)

Load component			Load	
Window total	301	sqft	4435	Btuh
Wall total	1612	sqft	3411	Btuh
Door total	44	sqft	528	Btuh
Ceiling total	2110	sqft	2957	Btuh
Floor total			0	Btuh
Infiltration	43	cfm	891	Btuh
Internal gain			2580	Btuh
Duct gain			5132	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			**19934**	**Btuh**
Latent gain(ducts)			1242	Btuh
Latent gain(infiltration)			1478	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1200	Btuh
Total latent gain			**3920**	**Btuh**
TOTAL HEAT GAIN			**23854**	**Btuh**



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EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 3-12-20

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Indigo Model

Lake City, FL

3/11/2020

Reference City: Gainesville, FL Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

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	0.22, 0.33		No	No	N	11.5f	1.3ft	25.0	0.0	25.0	11	11	272 Btuh
2	2 NFRC	0.22, 0.33		No	No	N	11.5f	1.3ft	72.0	0.0	72.0	11	11	785 Btuh
3	2 NFRC	0.22, 0.33		No	No	W	7.5ft	1.3ft	36.0	29.3	6.7	11	27	503 Btuh
4	2 NFRC	0.22, 0.33		No	No	N	1.5ft	1.3ft	54.0	0.0	54.0	11	11	588 Btuh
5	2 NFRC	0.22, 0.33		No	No	N	1.5ft	1.3ft	15.0	0.0	15.0	11	11	163 Btuh
6	2 NFRC	0.22, 0.33		No	No	E	1.5ft	1.3ft	3.0	0.0	3.0	11	27	82 Btuh
7	2 NFRC	0.22, 0.33		No	No	E	1.5ft	1.3ft	15.0	0.0	15.0	11	27	412 Btuh
8	2 NFRC	0.22, 0.33		No	No	E	1.5ft	1.3ft	9.0	0.0	9.0	11	27	247 Btuh
9	2 NFRC	0.22, 0.33		No	No	S	7.5ft	1.3ft	18.0	18.0	0.0	11	13	196 Btuh
10	2 NFRC	0.22, 0.33		No	No	S	7.5ft	1.3ft	18.0	18.0	0.0	11	13	196 Btuh
11	2 NFRC	0.22, 0.33		No	No	W	1.5ft	1.3ft	16.0	0.0	16.0	11	27	440 Btuh
12	2 NFRC	0.22, 0.33		No	No	W	1.5ft	1.3ft	20.0	0.0	20.0	11	27	550 Btuh
	Window Total								301 (sqft)					4435 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.09	13.0/0.6	146.0	2.2	321 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.6	64.0	2.2	141 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.6	171.0	2.2	376 Btuh
4	Frame - Wood - Ext	0.09	13.0/0.6	378.0	2.2	831 Btuh
5	Frame - Wood - Ext	0.09	13.0/0.6	84.0	2.2	185 Btuh
6	Frame - Wood - Ext	0.09	13.0/0.6	45.0	2.2	99 Btuh
7	Frame - Wood - Ext	0.09	13.0/0.6	32.7	2.2	72 Btuh
8	Frame - Wood - Ext	0.09	13.0/0.6	45.0	2.2	99 Btuh
9	Frame - Wood - Ext	0.09	13.0/0.6	84.0	2.2	185 Btuh
10	Frame - Wood - Ext	0.09	13.0/0.6	66.0	2.2	145 Btuh
11	Frame - Wood - Ext	0.09	13.0/0.6	39.0	2.2	86 Btuh
12	Frame - Wood - Ext	0.09	13.0/0.6	222.0	2.2	488 Btuh
13	Frame - Wood - Adj	0.09	13.0/0.6	235.0	1.6	385 Btuh
	Wall Total			1612 (sqft)		3411 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	24.0	12.0	288 Btuh
2	Insulated - Garage	20.0	12.0	240 Btuh
	Door Total	44 (sqft)		528 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/Light/Shingle	0.032	30.0/0.0	2110.0	1.40	2957 Btuh
	Ceiling Total			2110 (sqft)		2957 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	2110 (ft-perimeter)	0.0	0 Btuh
	Floor Total		2110.0 (sqft)		0 Btuh

		Envelope Subtotal:	11331 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Indigo Model

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

3/11/2020

Infiltration	Type	Average ACH	Volume(cuft)		Wall Ratio		CFM=	Load	
	Natural	0.14	18990		1		42.8	891	Btuh
Internal gain		Occupants	Btuh/occupant				Appliance	Load	
		6	X	230	+		1200	2580	Btuh
						Sensible Envelope Load:		14802	Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)					(DGM of 0.347)		5132	Btuh
						Sensible Load All Zones		**19934**	**Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Indigo Model
Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

3/11/2020

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**14802 Btuh**
	Sensible Duct Load	5132 Btuh
	Total Sensible Zone Loads	**19934 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**19934 Btuh**
	Latent infiltration gain (for 51 gr. humidity difference)	1478 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1242 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**3920 Btuh**
	TOTAL GAIN	**23854 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)

Version 8

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Project Title:
Indigo Model
Building Type: User

Lake City, FL

3/11/2020

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 0.22	Vinyl	0.33	N	25.0	13.2	330 Btuh
2	2, NFRC 0.22	Vinyl	0.33	N	72.0	13.2	950 Btuh
3	2, NFRC 0.22	Vinyl	0.33	W	36.0	13.2	475 Btuh
4	2, NFRC 0.22	Vinyl	0.33	N	54.0	13.2	713 Btuh
5	2, NFRC 0.22	Vinyl	0.33	N	15.0	13.2	198 Btuh
6	2, NFRC 0.22	Vinyl	0.33	E	3.0	13.2	40 Btuh
7	2, NFRC 0.22	Vinyl	0.33	E	15.0	13.2	198 Btuh
8	2, NFRC 0.22	Vinyl	0.33	E	9.0	13.2	119 Btuh
9	2, NFRC 0.22	Vinyl	0.33	S	18.0	13.2	238 Btuh
10	2, NFRC 0.22	Vinyl	0.33	S	18.0	13.2	238 Btuh
11	2, NFRC 0.22	Vinyl	0.33	W	16.0	13.2	211 Btuh
12	2, NFRC 0.22	Vinyl	0.33	W	20.0	13.2	264 Btuh
	Window Total				301.0(sqft)		3973 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.086)	13.0/0.6	146	3.45	503 Btuh
2	Frame - Wood	- Ext	(0.086)	13.0/0.6	64	3.45	221 Btuh
3	Frame - Wood	- Ext	(0.086)	13.0/0.6	171	3.45	590 Btuh
4	Frame - Wood	- Ext	(0.086)	13.0/0.6	378	3.45	1304 Btuh
5	Frame - Wood	- Ext	(0.086)	13.0/0.6	84	3.45	290 Btuh
6	Frame - Wood	- Ext	(0.086)	13.0/0.6	45	3.45	155 Btuh
7	Frame - Wood	- Ext	(0.086)	13.0/0.6	33	3.45	113 Btuh
8	Frame - Wood	- Ext	(0.086)	13.0/0.6	45	3.45	155 Btuh
9	Frame - Wood	- Ext	(0.086)	13.0/0.6	84	3.45	290 Btuh
10	Frame - Wood	- Ext	(0.086)	13.0/0.6	66	3.45	228 Btuh
11	Frame - Wood	- Ext	(0.086)	13.0/0.6	39	3.45	134 Btuh
12	Frame - Wood	- Ext	(0.086)	13.0/0.6	222	3.45	766 Btuh
13	Frame - Wood	- Adj	(0.086)	13.0/0.6	235	3.45	810 Btuh
	Wall Total				1612(sqft)		5558 Btuh

Doors	Type	Storm	Ueff.	Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.400)	24	16.0	384 Btuh
2	Insulated - Garage,	n	(0.400)	20	16.0	320 Btuh
	Door Total			44(sqft)		704Btuh

Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
1	Vented Attic/L/Shing	(0.032)	30.0/0.0	2110	1.3	2688 Btuh
	Ceiling Total			2110(sqft)		2688Btuh

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	211.0 ft(perim.)	47.2	9959 Btuh
	Floor Total			2110 sqft		9959 Btuh

	Envelope Subtotal:	22882 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Project Title:
Indigo Model
Lake City, FL
Building Type: User

3/11/2020

Infiltration	Type Wholehouse ACH Volume(cuft) Wall Ratio CFM= Natural 0.18 18990 1.00 57.1	2501 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.199)	5043 Btuh
All Zones	**Sensible Subtotal All Zones**	**30426 Btuh**

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	30426 Btuh 0 Btuh 30426 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)

Version 8