Residential System Sizing Calculation

Summary

Lux
1946 SW Loncala Loop
Ft White, FL 32308-

Project Title:
Lux Residence

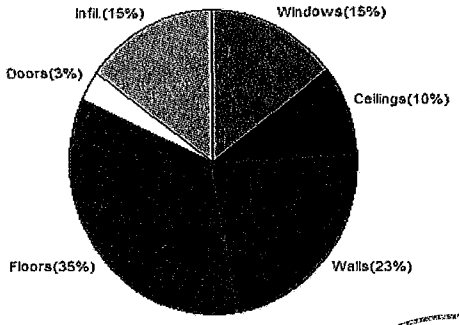
5/6/2014

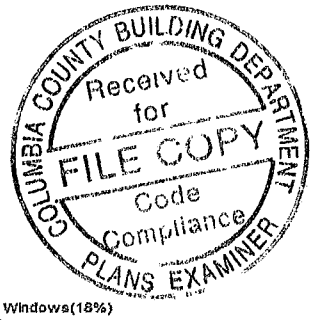
Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)					
Winter design temperature(MJ8 99%)	33	F	Summer design temperature(MJ8 99%)	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation	**20485**	**Btuh**	**Total cooling load calculation**	**15391**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100.0	20485	Sensible (SHR = 0 75)	91.8	11543
Heat Pump + Auxiliary(0.0kW)	100 0	20485	Latent	136 6	3848
			Total (Electric Heat Pump)	100 0	15391

WINTER CALCULATIONS

Winter Heating Load (for 1327 sqft)

Load component			Load	
Window total	147	sqft	2991	Btuh
Wall total	1548	sqft	4701	Btuh
Door total	40	sqft	681	Btuh
Ceiling total	1327	sqft	1972	Btuh
Floor total	1327	sqft	7160	Btuh
Infiltration	74	cfm	2980	Btuh
Duct loss			0	Btuh
Subtotal			**20485**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**20485**	**Btuh**

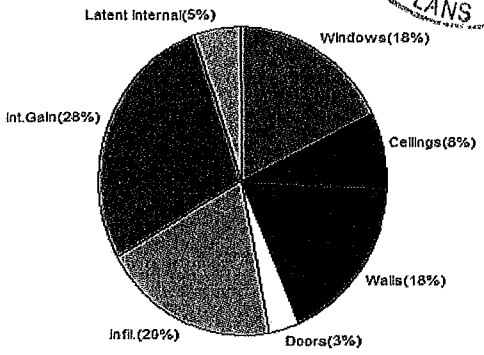




SUMMER CALCULATIONS

Summer Cooling Load (for 1327 sqft)

Load component			Load	
Window total	147	sqft	2755	Btuh
Wall total	1548	sqft	2732	Btuh
Door total	40	sqft	515	Btuh
Ceiling total	1327	sqft	1226	Btuh
Floor total			0	Btuh
Infiltration	55	cfm	1027	Btuh
Internal gain			4320	Btuh
Duct gain			0	Btuh
Sens Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			**12575**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			2016	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			800	Btuh
Total latent gain			**2816**	**Btuh**
TOTAL HEAT GAIN			**15391**	**Btuh**



8th Edition

EnergyGauge® System Sizing
PREPARED BY Panel Fusion LLC
DATE 5/6/2014

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Lux
1946 SW Loncala Loop
Ft White, FL 32308-

Project Title:
Lux Residence
Building Type: User

5/6/2014

Reference City. Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 F (MJ8 99%)
This calculation is for Worst Case. The house has been rotated 315 degrees.

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft) X	HTM=	Load
1	2, NFRC 0 30	Vinyl	0.55	SW	31.5	20.4	641 Btuh
2	2, NFRC 0.30	Vinyl	0.55	SW	24.0	20.4	488 Btuh
3	2, NFRC 0.30	Vinyl	0.55	NW	24.0	20 4	488 Btuh
4	2, NFRC 0.30	Vinyl	0 55	NW	8.0	20.4	163 Btuh
5	2, NFRC 0.30	Vinyl	0 55	NE	31.5	20.4	641 Btuh
6	2, NFRC 0.30	Vinyl	0.55	SE	8 0	20.4	163 Btuh
7	2, NFRC 0.30	Vinyl	0.55	SE	6 0	20 4	122 Btuh
8	2, NFRC 0.30	Vinyl	0.55	SE	6 0	20.4	122 Btuh
9	2, NFRC 0 30	Vinyl	0.55	SE	8 0	20.4	163 Btuh
	Window Total				147 0(sqft)		2991 Btuh
Walls	Type	Ornt	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.082)	16.0/0.0	244	3.04	742 Btuh
2	Frame - Wood	- Ext	(0 082)	16 0/0 0	496	3 04	1506 Btuh
3	Frame - Wood	- Ext	(0 082)	16 0/0 0	308	3 04	934 Btuh
4	Frame - Wood	- Ext	(0.082)	16 0/0.0	500	3 04	1519 Btuh
	Wall Total				1548(sqft)		4701 Btuh
Doors	Type	Storm	Ueff		Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)		20	17 0	340 Btuh
2	Insulated - Exterior,	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	Cathedral/L/Shing		(0 040)	24 0/0 0	1327	1.5	1972 Btuh
	Ceiling Total				1327(sqft)		1972Btuh
Floors	Type		Ueff	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1.180)	0 0	164.0 ft(perim)	43 7	7160 Btuh
	Floor Total				1327 sqft		7160 Btuh
					Envelope Subtotal:		17505 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.37	11943	1.00	73 6	2980 Btuh
Duct load	Average sealed, R6 0, Supply(Con), Return(Con)					(DLM of 0 000)	0 Btuh
All Zones				**Sensible Subtotal All Zones**			**20485 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

Lux
1946 SW Loncala Loop
Ft White, FL 32308-

Project Title:
Lux Residence
Building Type. User

5/6/2014

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	20485 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	20485 Btuh

EQUIPMENT

1 Electric Heat Pump	#	20485 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

Lux
1946 SW Loncala Loop
Ft. White, FL 32308-

Project Title:
Lux Residence

5/6/2014

Reference City: Gainesville, FL Temperature Difference: 17.0F(MJ8 99%) Humidity difference: 54gr.
This calculation is for Worst Case. The house has been rotated 315 degrees.

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 30, 0 55	B-L	H	SW	1 0ft	9 0ft	31 5	0 0	31 5	11	21	657	Btuh
2	2 NFRC	0 30, 0 55	B-L	H	SW	7 2ft.	6 0ft	24 0	24 0	0 0	11	21	266	Btuh
3	2 NFRC	0 30, 0 55	B-L	H	NW	1 0ft	6 7ft.	24 0	0 0	24 0	11	20	472	Btuh
4	2 NFRC	0 30, 0 55	B-L	H	NW	1 0ft	6 0ft.	8 0	0 0	8 0	11	20	157	Btuh
5	2 NFRC	0 30, 0 55	B-L	H	NE	1 0ft	8 8ft.	31 5	0 0	31 5	11	20	620	Btuh
6	2 NFRC	0 30, 0 55	B-L	H	SE	1 0ft	6 0ft.	8 0	0 0	8 0	11	21	167	Btuh
7	2 NFRC	0 30, 0 55	B-L	H	SE	1 0ft	6 1ft.	6 0	0 0	6 0	11	21	125	Btuh
8	2 NFRC	0 30, 0 55	B-L	H	SE	1 0ft	9 8ft	6 0	0 0	6 0	11	21	125	Btuh
9	2 NFRC	0 30, 0 55	B-L	H	SE	1 0ft	11 3f	8 0	0 0	8 0	11	21	167	Btuh
	Window Total							147 (sqft)					2755	Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0 08	16 0/0 0	244 3	1 8	431 Btuh
2	Frame - Wood - Ext	0 08	16 0/0 0	496 0	1 8	875 Btuh
3	Frame - Wood - Ext	0 08	16 0/0 0	307 6	1 8	543 Btuh
4	Frame - Wood - Ext	0 08	16 0/0 0	500 0	1 8	882 Btuh
	Wall Total			1548 (sqft)		2732 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	20 0	12 9	258 Btuh
2	Insulated - Exterior	20 0	12 9	258 Btuh
	Door Total	40 (sqft)		515 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Cath/Sngl Assem/Light/Shingle	0 040	24 0/0 0	1327 0	0 92	1226 Btuh
	Ceiling Total			1327 (sqft)		1226 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0 0	1327 (ft-perimeter)	0 0	0 Btuh
	Floor Total		1327.0 (sqft)		0 Btuh

	Envelope Subtotal.	7228 Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.28	11943	1	55.2	1027 Btuh

Internal gain	Occupants	Btuh/occupant		Appliance	Load
	4	X 230	+	3400	4320 Btuh

	Sensible Envelope Load	12575 Btuh
Duct load	Average sealed, Supply(R6 0-Condi), Return(R6 0-Condi) (DGM of 0 000)	0 Btuh
	Sensible Load All Zones	**12575 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Lux
1946 SW Loncala Loop
Ft. White, FL 32308-

Project Title.
Lux Residence

Climate FL_GAINESVILLE_REGIONAL_A

5/6/2014

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**12575 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**12575 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**12575 Btuh**
	Latent infiltration gain (for 54 gr humidity difference)	2016 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (4 0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**2816 Btuh**
	TOTAL GAIN	**15391 Btuh**

EQUIPMENT

1 Central Unit	#	15391 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

RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST

Florida Department of Business and Professional Regulation
Simulated Performance Alternative (Performance) Method

Applications for compliance with the 2010 Florida Building Code, Energy Conservation via the residential Simulated Performance method should include

- ☐ ***Form 405 (usually 5 pages/may be greater)***
- ☐ ***Energy Performance Level (EPL) Display Card (one page)***

Required prior to CO for the Performance Method:

- ☐ ***If duct leakage has been tested then a completed Air Distribution System Test Report (usually one page)***
- ☐ ***If building air leakage has been tested then a completed Envelope Leakage Test Report (usually one page), otherwise a completed Air Barrier and Insulation Inspection Component Criteria checklist (Table 402.4.2 - one page).***

EnergyGauge® - USRFZB v3.1

FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name	Lux Residence	Builder Name	David A Brown
Street	1946 SW Loncala Loop	Permit Office	
City, State, Zip	Ft White , FL , 32308-	Permit Number	
Owner	Lux	Jurisdiction	
Design Location	FL, Gainesville		

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	3
5	Is this a worst case?	No
6	Conditioned floor area above grade (ft²)	1327
	Conditioned floor area below grade (ft²)	0

7 Windows(147 0 sqft)	Description	Area
a U-Factor	Dbl, U=0 55	147 00 ft²
SHGC	SHGC=0 30	
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		2 007 ft.
Area Weighted Average SHGC		0 300

8 Floor Types (1327 0 sqft)	Insulation	Area
a Slab-On-Grade Edge Insulation	R=0 0	1327 00 ft²
b N/A	R=	ft²
c. N/A	R=	ft²

9 Wall Types (1734 9 sqft)	Insulation	Area
a Frame - Wood, Exterior	R=16 0	1734 90 ft²
b N/A	R=	ft²
c N/A	R=	ft²
d N/A	R=	ft²

10 Ceiling Types (1327 0 sqft)	Insulation	Area
a Cathedral/Single Assembly (Vented)	R=24 0	1327 00 ft²
b N/A	R=	ft²
c. N/A	R=	ft²

11 Ducts	R	ft²
a Sup Main, Ret Main, AH Main	6	265 4

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	15 4	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a Electric Heat Pump	20 5	HSPF 7 70

14 Hot water systems	
a Electric	Cap 50 gallons
	EF 0 920
b Conservation features	
None	
15 Credits	Pstat

Glass/Floor Area. 0 111

Total Proposed Modified Loads 25.85

Total Standard Reference Loads. 35 88

PASS

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

PREPARED BY Panel Fusion LLC

DATE: 5/6/2014

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: David A Brown

DATE 5-12-14

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 completion of a Florida Air Barrier and Insulation Inspection Checklist**
- **Compliance requires a roof absorptance test in accordance with 405.6.2**

PROJECT

Title	Lux Residence	Bedrooms	3	Address Type	Street Address
Building Type	User	Conditioned Area	1327	Lot #	
Owner	Lux	Total Stories	1	Block/SubDivision	
# of Units	1	Worst Case	No	PlatBook.	
Builder Name	David A Brown	Rotate Angle	45	Street	1946 SW Loncala Loop
Permit Office		Cross Ventilation		County	Columbia
Jurisdiction		Whole House Fan		City, State, Zip	Ft. White , FL , 32308-
Family Type	Single-family				
New/Existing	New (From Plans)				
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	1327	11943

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1327	11943	Yes	4	3	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	Main	164 ft	0	1327 ft²	----	0 13	0 13	0 75

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	1437 ft²	276 ft²	Medium	0 75	Yes	0 9	No	0	22 6

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full cathedral ceilin	Vented	300	1327 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
_____	1	Cathedral/Single Assembly (Vented)	Main	24	1327 ft²	0	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	N=>NE	Exterior	Frame - Wood	Main	16	33	8	9	6	319 8 ft²		0	0 75	0
____	2	E=>SE	Exterior	Frame - Wood	Main	16	48		11	0	528 0 ft²		0	0 75	0
____	3	S=>SW	Exterior	Frame - Wood	Main	16	33	8	10	8	359 1 ft²		0	0 75	0
____	4	W=>NW	Exterior	Frame - Wood	Main	16	48		11		528 0 ft²		0	0 75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N=>NE	Insulated	Main	None	46	3		6	8	20 ft²
_____	2	S=>SW	Insulated	Main	None	46	3		6	8	20 ft²

WINDOWS

Orientation shown is the entered orientation (=>) changed to As Built (rotated 45 degrees)

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N=>NE	1	Vinyl	Double (Clear)	Yes	0 55	0 3	31 5 ft²	1 ft 0 in	9 ft 0 in	Drapes/blinds	Exterior 5
_____	2	N=>NE	1	Vinyl	Double (Clear)	Yes	0 55	0 3	24 0 ft²	7 ft 2 in	6 ft 0 in	Drapes/blinds	Exterior 5
_____	3	E=>SE	2	Vinyl	Double (Clear)	Yes	0 55	0 3	24 0 ft²	1 ft 0 in	6 ft 8 in	Drapes/blinds	Exterior 5
_____	4	E=>SE	2	Vinyl	Double (Clear)	Yes	0 55	0 3	8 0 ft²	1 ft 0 in	6 ft 0 in	Drapes/blinds	Exterior 5
_____	5	S=>SW	3	Vinyl	Double (Clear)	Yes	0 55	0 3	31 5 ft²	1 ft 0 in	8 ft 10 in	Drapes/blinds	Exterior 5
_____	6	W=>NW	4	Vinyl	Double (Clear)	Yes	0 55	0 3	8 0 ft²	1 ft 0 in	6 ft 0 in	Drapes/blinds	Exterior 5
_____	7	W=>NW	4	Vinyl	Double (Clear)	Yes	0 55	0 3	6 0 ft²	1 ft 0 in	6 ft 1 in	Drapes/blinds	Exterior 5
_____	8	W=>NW	4	Vinyl	Double (Clear)	Yes	0 55	0 3	6 0 ft²	1 ft 0 in	9 ft 10 in	Drapes/blinds	Exterior 5
_____	9	W=>NW	4	Vinyl	Double (Clear)	Yes	0 55	0 3	8 0 ft²	1 ft 0 in	11 ft 3 in	Drapes/blinds	Exterior 5

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0003	1044 2	57 33	107 81	231	5 246

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump	None	HSPF 7 7	20 49 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit	None	SEER 13 15	39 kBtu/hr	450 cfm	0 75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
____	1	Electric	None	Main	0 92	50 gal	60 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	Cool
____	1	Main	6	265 4 ft	Main	66 35 ft	Default Leakage	Main	(Default)	(Default)			1	1

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 Schedule Type	HERS 2006 Reference	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 405-10

Florida Code Compliance Checklist

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

ADDRESS: 1946 SW Loncala Loop Ft. White, FL, 32308-	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* = 72

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

1946 SW Loncala Loop, Ft. White, FL, 32308-

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	3
5	Is this a worst case?	No
6	Conditioned floor area (ft²)	1327

7 Windows**	Description	Area
a U-Factor:	Dbl, U=0 55	147 00 ft²
SHGC	SHGC=0 30	
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		2 007 ft
Area Weighted Average SHGC		0 300

8 Floor Types	Insulation	Area
a Slab-On-Grade Edge Insulation	R=0 0	1327 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²

9 Wall Types	Insulation	Area
a Frame - Wood, Exterior	R=16 0	1734 90 ft²
b N/A	R=	ft²
c. N/A	R=	ft²
d N/A	R=	ft²

10 Ceiling Types	Insulation	Area
a Cathedral/Single Assembly (Vented)	R=24 0	1327 00 ft²
b N/A	R=	ft²
c. N/A	R=	ft²

11 Ducts	R	ft²
a Sup Main, Ret. Main, AH Main	6	265 4

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	15 4	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a Electric Heat Pump	20 5	HSPF 7 70

14 Hot water systems	
a Electric	Cap 50 gallons
	EF 0 92
b Conservation features	
None	

15 Credits 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: [signature] Date: 5-12-14

Address of New Home: 1946 SW Loncala Loop City/FL Zip: Ft. White, FL 32038

*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.

TABLE 402.4.2

AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

Project Name	Lux Residence	Builder Name	David A Brown
Street.	1946 SW Loncala Loop	Permit Office	
City, State, Zip	Ft White , FL , 32308-	Permit Number	
Owner	Lux	Jurisdiction	
Design Location	FL, Gainesville		

COMPONENT	CRITERIA	CHECK
Air barrier and thermal barrier	Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier Breaks or joints in the air barrier are filled or repaired Air-permeable insulation is not used as a sealing material. Air-permeable insulation is inside of an air barrier.	✓
Ceiling/attic	Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed. Attic access (except unvented attic), knee wall door, or drop down stair is sealed.	✓
Walls	Corners and headers are insulated Junction of foundation and sill plate is sealed.	✓
Windows and doors	Space between window/door jambs and framing is sealed	✓
Rim joists	Rim joists are insulated and include an air barrier	✓
Floors (including above-garage and cantilevered floors)	Insulation is installed to maintain permanent contact with underside of subfloor decking	✓
Crawl space walls	Insulation is permanently attached to walls Exposed earth in unvented crawl spaces is covered with Class I	✓
Shafts, penetrations	Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed.	✓
Narrow cavities	Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation	✓
Garage separation	Air sealing is provided between the garage and conditioned spaces	✓
Recessed lighting	Recessed light fixtures are air tight, IC rated, and sealed to drywall Exception—fixtures in conditioned space	✓
Plumbing and wiring	Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation	✓
Shower/tub on exterior wall	Showers and tubs on exterior walls have insulation and an air barrier separating them from the exterior wall.	✓
Electrical/phone box on	Air barrier extends behind boxes or air sealed-type boxes are installed	✓
Common wall	Air barrier is installed in common wall between dwelling units	✓
HVAC register boots	HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.	✓
Fireplace	Fireplace walls include an air barrier.	✓