

FLORIDA SOLAR ENERGY CENTER[•] Creating Energy Independence

2014 Florida Energy Code Software Verification Test Report: EnergyGauge[®] USA version 4.0

FSEC-RR-544-15 part 2 Prescriptive Results

June 2, 2015

Submitted to

Florida Building Commission 1940 North Monroe Street Tallahassee, FL 32399

Submitted by

Florida Solar Energy Center

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A Research Institute of the University of Central Florida

RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST

Florida Department of Business and Professional Regulation Residential R-Value Computation Prescriptive Method

Applications for compliance with the 2014 Florida Building Code, Energy Conservation via the Residential R-Value computation prescriptive method shall include

- □ This Checklist
- □ Form R402-2014 which includes the parameters of Table 402.1.1 (two pages)
- Energy Performance Level (EPL) Display Card (one page)
- □ Mandatory requirements (three pages)

Required prior to CO for the R-Value computation method:

- A completed Air Barrier and Insulation Inspection Component Criteria checklist (Table R402.4.1.1 of the 2014 Florida Building Code, Energy Conservation with added checkboxes one page)
- □ A completed Envelope Leakage Test Report(usually one page)
- A completed Duct Leakage Test Report (usually one page), unless all duct work and air handler units are located entirely within the building thermal envelope.

Florida Building Code, Energy Conservation

Residential Building Thermal Envelope Approach R-Value Computation Method

Climate Zone 2

Scope: Compliance with Section R402.1.1 of the *Florida Building Code, Energy Conservation*, shall be demonstrated by the use of Form R402 for single and multiple-family residences of three stories or less in height, additions to existing residential buildings, renovations, and building systems in existing buildings, as applicable. To comply, a building must meet or exceed all of the energy efficiency requirements on Table R402A and all applicable mandatory requirements summarized in Table R402B of this form. If a building does not comply with this method, or by the UA Alternative method, it may still comply under Section R405 of the Florida Building Code, Energy Conservation.

PROJECT NAME:	TAM Tampa House 1	BUILDER:INCOMPLETE
ND ADDRESS:	12345 North 99th Street	
	I ampa FL 33614	
WNER:		PERMIT NUMBER:INCOMPLETE
Fill in all the applic st be equal to or n Complete page 1 b Read the requirem Read, sign and dat	s: able spaces of the "To Be Installed" column nore efficient than the required levels. nased on the "To Be Installed" column inform ents of Table R402B and check each box to ne the "Prepared By" certification statement a	on Table R402A with the information requested. At the build
		Check
New construction	n, addition, or existing building	1. <u>New (From Plans)</u>
Single-family de	tached or multiple-family attached	2. <u>Single ramiy</u>
If multiple-family	, number of units covered by this subm	
Is this a worst c		4. NO
	or area (sq. π.)	5 _200
windows type a	nd area:	
a) U-lacio	I.	
	real Gain Coefficient (SHGC).	$\frac{0.25}{200}$
C) AIEa.	and area:	
a) II facto	r.	72 0.650
b) Solar H	I. Heat Gain Coefficient (SHGC):	7a. <u>0.050</u>
c) Skyligh	nt area.	$76. \frac{0.23}{7c} = 10$
Floor type area	or perimeter and insulation. (Total exp	posed all as = 2000 soft)
a) Slab-o	n-grade (R-value)	
b) Wood	raised (R-value)	8h Not Applicable
c) Wood,	common (R-value)	8c Not Applicable
d) Concre	ete, raised (R-value)	8d. Not Applicable
e) Concre	ete, common (R-value)	8e. Not Applicable
Wall type, area	and insulation: (Total exposed area = 1	00 saft)
a) Exterio	or: 1. Wood frame (Insulation R-value)	e) 9a1.13
	2. Masonry (Insulation R-alue	9a2, 7,2
b) Adiace	nt: 1. Wood frame (Insuration R-valu	(e) 9b1. Not Applicable
	2. Masonry (Insulation R-value	e) 9b2. Not Applicable
. Ceiling type, a	rea and insulation (Total exposed area =	= 2000 saft)
a) Attic (I	nsulation R-value)	10a. 38
b) Single	assembly (Insulation R-value)	10b. Not Applicable
. Air distributior	n system:	
a) Duct ir	Isulation	11a. R6.0
b) AHU lo	ocation	11b. Main
c) Total D	Duct Leakage hast report attached	11c. 0.04(Substantially leak free)
. Cooling system	n: a) type:	12a. Central Unit
	b) efficiency	12b. 14
. Heating syster	n: a) type:	13a. Electric Heat Pump
	b) efficiency	13b. HSPF = 8.50
. HVAC sizing	deulation: attached	14. Verify attachment
. Water heating	system: a) type	15a. Electric Storage
	b) efficiency	15b. <u>0.95</u>
hereby pertify that	the plans and specifications covered by this	Review of plans and specifications covered by this form indicate
orm are in conoliar	nce with the <i>Florida Building Code</i> .	compliance with the Florida Building Code. Energy Conservation
Energy Conservation.		
REPARED BY:	Date	compliance in accordance with Section 553.908, F.S.
hereby certify that	this building is in compliance with the	

OWNER/AGENT:

FORM R402-2014

Date

CODE OFFICIAL:

Date

FORM R402-2014

BUILDING COMPONENT	UILDING COMPONENT PRESCRIPTIVE REQUIREMENTS ¹		INSTALLED VALUES	
	Climate Zone 1	Climate Zone 2	Fens. U-Factor(Ave) = 0.400	PASS
Windows	U-Factor = 0.65^2	U-Factor = 0.40^2	U-Factor(Avg)=0.4	
	SHGC= 0.25	SHGC= 0.25	SHGC(Avg) = 0.25	PASS
Skylights	U-Factor = 0.75	U-Factor = 0.65	U-Factor(Avg) = 0.65	
	SHGC= 0.30	SHGC= 0.30	SHGC(Avg) = 0.25	PASS
Doors: Exterior door	U-Factor = 0.65^3	U-Factor = 0.40^3	U-Factors(Max) = 0.4	PASS
Floors: Over unconditioned spaces ⁴	R-13	R-13	Not Applicable	
Common	R-11	R-11	Not Applicable	
Walls: Ext. and Adj.				
Frame	R-13	R-13	R-Value(Min) = 13	PASS
Mass(Insulation on wall interior):	R-4	R-6	R-Values = 7.2	PASS
Mass(Insulation on wall exterior):	R-3	R-4	Not Applicable	
Common(multifamily):	Fr:R-11, Mass:R-6	Fr:R-11, Mass:R-6	Not Applicable	
Ceilings: Exposed	R-30	R-38	R-Value = 38	PASS
Common	R-11	R-11	Not Applicable	
Air infiltration:	Blower door test is requi	ired on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage \leq 5 ACH50; test		Test report attached?	
	report provided to code official.		□Yes □No	
Air distribution system ⁵ :				
Air handling unit	Not allowed in attic		Location: Main	PASS
-	Sealed		Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in unconditioned attics)		R-Value(Supply in unc. attic) = 8.0	PASS
	or ≥R-6 (all other unconditioned duct locations).		R-Value(Others in unc. space) = 8.0	PASS
Air Leakage⁵:				
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.		Substantially Leak Free	
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.		Test report required? YES	
Ducts in conditioned space	Test not required if all ducts and AHU are in		Location: Unconditioned	
	conditioned space.			
Air conditioning systems:	Minimum federal standa	rd required by NAECA ⁶		
Central system ≤ 65,000 Btu/h	SEER=14.0		SEER(Min)=14	PASS
	EER [from Table C403.2.3(3)]			
PTAC				
Other:				
Heating systems:	Minimum federal standa	rd required by NAECA ⁶		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2		HSPF(Min) = 8.5	PASS
Gas Furnace, non-weatherized	Gas Furnace, non-weatherized AFUE 78% (AFUE 80% after Nov. 2015)		Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%		Not Applicable	
Other:				
Water heating system (storage type):	Minimum federal standa	rd required by NAECA6		
Electric: ⁷	50 gallons: EF=0.945		50 gallons: EF=0.95	PASS
Gas fired: ⁸	40 gallons: EF=0.62, 50 gallons: EF=0.60		Not Applicable	
Other (describe):				

User entry meets requirements of R-Value Calculation Method.

NR = No requirement

(1) Each component present in the As Proposed home must meet or exceed each of the applicable criteria in order to comply with this code using this method.

(2) For impact rated fenestration complying with Section R301.2.1.2 of the Florida building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the minimum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2. An area-weighted average of U-factor and SHGC shall be accepted to meet the requirements, or up to 15 square feet of glazed fenestration area are exempted from the U-factor and SHGC requirement based on Section R402.3.1, R402.3.2 and R403.3.3.

(3) One side-hinged opaque door assembly up to 24 square feet is exempted from this U-factor requirement.

(4) R-values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls the "interior of wall" requirement must be met except if at least 50 percent of the insulation required for the "exterior of wall" is installed exterior of, or integral to, the wall.

(5) Ducts & AHU installed "substantially leak free" per Section R403.2.2. Test required by an energy rater certified in accordance with Section 553.99, Florida Statues, or as authorized by Florida Statutes. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.

(6) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the Florida Building Code, Energy Conservation.

(7) For electric storage volumes \leq 55, min. EF = 0.960 – (0.0003 * volume). For electric storage volumes > 55, min. EF = 2.057 – (0.00113 * volume).

(8) For natural gas storage volumes \leq 55, min. EF = 0.675 – (0.0015 * volume). For natural gas storage volumes > 55, min. EF = 0.8012 – (0.00078 * volume). (9) For electric tankless, min. EF = 0.93. For natural gas tankless, min. EF = 0.82

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EnergyGauge® / USRRIB v4.0 - Section R405.4.1 Compliant Software

TABLE 402B MANDATORY REQUIREMENTS			
Component	Section	Summary of Requirement(s)	Check
Air leakage	R402.4	To be caulked, gasketed, weatherstripped or otherwise sealed per Table R402.4.1.1.	
		Recessed lighting IC-rated as having ≤ 2.0 cfm tested to ASTM E 283.	
		Windows and doors: 0.3 cfm/sq.ft. (swinging doors: 0.5 cfm/sf) when tested to NFRC 400 or	
		AAMA/WDMA/DSA 101/I.S. 2/A440.	
		Fireplaces: Tight-fitting flue dampers & outdoor combustion air.	
Programmable thermostat	R403.1.2	Where forced-air furnace is primary system, programmable thermostat is required.	
Air distribution system	R403.2.2	Ducts shall be tested to Section 803 of the RESNET standards by an energy rater certified in	
	R403.2.4	accordance with Section 553.99, Florida Statutes, or as authorized by Florida Statutes.	
		Air handling units are not allowed in attics.	
Water heaters	R403.4	Comply with efficiencies in Table C404.2. Hot water pipes insulated to \geq R-3 to kitchen outlets,	
		other cases. Circulating systems to have an automatic or accessible manual OFF switch.	
		Heat trap required for vertical pipe risers.	
Cooling/heating equipment	R403.6	Sizing calculation performed & attached. Special occasion cooling or heating capacity	
		requires seperate system or variable capacity system.	
Swimming pools & spas	R403.9	Spas and heated pools must have vapor-retardent 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 is 82%.	
		Heat pump pool heaters minimum COP is 4.0	
Lighting equipment	R404.1	At least 75% of permanently installed lighting fixtures shall be high-efficacy lamps.	

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ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 104 The lower the EnergyPerformance Index, the more efficient the home.

12345 North 99th Street, Tampa, FL, 33614



*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.

4/13/2015 10:56 AM

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		Florida Department of Business and Professional Regulations Residential Whole Building Performance and Prescriptive Methods
AI	DDRESS	: 12345 North 99th Street Permit Number: Tampa , FL , 33614
MAI	NDAT	ORY REQUIREMENTS See individual code sections for full details.
	401.3 displar [Section nonpro- installe and sp	Energy Performance Level (EPL) display card (Mandatory). The building official shall require that an energy performance level (EPL) or card be completed and certified by the builder to be accurate and correct before final approval of the building for occupancy. Florida law on 553.9085, Florida Statues] requires the EPL display card to be included as an addendum to each sales contract for both presold and esold residential buildings. The EPL display card contains information indicating the energy performance level and efficiencies of components ad in a dwelling unit. The building official shall verify that the EPL display card completed and signed by the builder accurately reflects the plans ecifications submitted to demonstrate compliance for the building. A copy of the EPL display card can be found in Appendix C.
	R402. Sectio	4 Air leakage (Mandatory). The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of ns R402.1 through R402.4.4.
	0	R402.4.1 Building thermal envelope. The building thermal envelope shall comply with Sections R402.4.1.1 and R402.4.1.2. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.
		 R402.4.1.1 Installation. The components of the building thermal envelope as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table 402.4.1.1, as applicable to the method of construction. Where required by the code official, an approved third party shall inspect all components and verify compliance.
		 R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in Climate Zones 1 and 2, and 3 air changes per hour in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the code official, testing shall be conducted by 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. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.
		During testing: 1. Exterior windows and doors, firenace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or
		other infiltration control measures;
		infiltration control measures;
		 Interior doors, it installed at the time of the test, shall be open; Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed; Heating and cooling systems, if installed at the time of the test, shall be turned off; and Supply and return registers, if installed at the time of the test, shall be fully open.
	0	R402.4.2 Fireplaces. New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.
	0	R402.4.3 Fenestration air leakage. Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m2), when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.
		Exception: Site-built windows, skylights and doors.
	0	R402.4.4 Recessed lighting. Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.
	R403.	1.1 Thermostat provision (Mandatory). At least one thermostat shall be provided for each separate heating and cooling system.
	R403. that, e	I.3 Heat pump supplementary heat (Mandatory). Heat pumps having supplementary electric-resistance heat shall have controls keept during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.
	R403. passa with S rough	2.2 Sealing (Mandatory)All ducts, air handlers, and filter boxes and building cavities that form the primary air containment geways for air distribution systems shall be considered ducts and plenum chambers, shall be constructed and sealed in accordance ection C403.2.7.2 of the Commercial Provisions of this code and shall be shown to meet duct tightness criteria by post-construction or in testing below.
	Duct ti 553.99	ghtness shall be verified by testing to Section 803 of the RESNET Standards by either an energy rater certified in accordance with Section I, Florida Statutes, or as authorized by Florida Statutes, to be "substantially leak free" by either of the following:
	1.	Post-construction test: Total leakage shall be less than or equal to 4 cfm (113 L/min) per 100 square feet (9.29 m2) of conditioned floor area when ested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register poots shall be taped or otherwise sealed during the test.
	2.	Rough-in test: Total leakage shall be less than or equal to 4 cfm (113 L/min) per 100 square feet (9.29 m2) of conditioned floor area when tested a pressure differential of 0.1 inches w.g. (25Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 _/min) per 100 square feet (9.29 m2) of conditioned floor area when tested a pressure differential of 0.1 inches w.g. (25Pa) across the system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test. If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 3 cfm (85 _/min) per 100 square feet (9.29 m2) of conditioned floor area.
	E	ceptions:

1. The total leakage test is not required for ducts and air handlers located entirely within the building envelope.

2. Duct testing is not mandatory for buildings complying by Section R405 of this code.

MANDATORY REQUIREMENTS - (Continued)

- R403.2.2.1 Sealed air handler. Air handlers shall have a manufacturer's designation for an air leakage of no more than 2 percent of the design air flow rate when tested in accordance with ASHRAE 193.
- **R403.2.3 Building Cavities (Mandatory).** Building framing cavities shall not be used as ducts or plenums.
- □ R403.3 Mechanical system piping insulation (Mandatory). Mechanical system piping capable of carrying fluids above 105°F (41°C) or below 55°F (13°C) shall be insulated to a minimum of R-3.,
 - R403.3.1 Protection of piping insulation. Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance, and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall not be permitted.
- **R403.4.1 Circulating hot water systems (Mandatory).** Circulating hot water systems shall be provided with an automatic or readily accessible manual switch that can turn off the hot-water circulating pump when the system is not in use.
- R403.4.3 Heat traps (Mandatory). Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall have heat traps installed on both the inlets and outlets. External heat traps shall consist of either a commercially available heat trap or a downward and upward bend of at least 3 ½ inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.
- □ R403.4.4 Water heater efficiencies (Mandatory). Water heater efficiencies
 - R403.4.4.1 Storage water heater temperature controls
 - R403.4.4.1.1 Automatic controls. Service water heating systems shall be equipped with automatic temperature controls capable
 of adjustment from the lowest to the highest acceptable temperature settings for the intended use. The minimum temperature setting
 range shall be from 100°F to 140°F (38°C to 60°C).
 - R403.4.4.1.2 Shut down. A separate switch or a clearly marked circuit breaker shall be provided to permit the power supplied to
 electric service systems to be turned off. A separate valve shall be provided to permit the energy supplied to the main burner(s) of
 combustion types of service water heating systems to be turned off.
 - R403.4.4.2 Water heating equipment. Water heating equipment installed in residential units shall meet the minimum efficiencies of Table C404.2 in Chapter 4 of the Florida Building Code, Energy Conservation, Commercial Provisions, for the type of equipment installed. Equipment used to provide heating functions as part of a combination system shall satisfy all stated requirements for the appropriate water heating category. Solar water heaters shall met the criteria Section R403.4.4.2.1.
 - R403.4.4.2.1 Solar water heating systems. Solar systems for domestic hot water production are rated by the annual solar energy factor of the system. The solar energy factor of a system shall be determined from the Florida Solar Energy Center Directory of Certified Solar Systems. Solar collectors shall be tested in accordance with ISO Standard 9806, Test Methods for Solar Collectors, and SRCC Standard TM-1, Solar Domestic Hot Water System and Component Test Protocol, Collectors in installed solar water heating systems should meet the following criteria:
 - 1. Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and
 - 2. Be installed at an orientation within 45 degrees of true south.
- R403.5 Mechanical ventilation (Mandatory). The building shall be provided with ventilation that meets the requirements of the Florida Building Code, Residential or Florida Building Code, Mechanical, as applicable, or with other approved means of ventilation. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.
 - R403.5.1 Whole-house mechanical ventilation system fan efficacy. Mechanical ventilation system fans shall meet the efficacy requirements of Table R403.5.1.

Exception: Where mechanical ventilation fans are integral to tested and listed HVAC equipment, they shall be powered by an electronically commutated motor.

- R403.5.2 Ventilation air. Residential buildings designed to be operated at a positive indoor pressure or for mechanical ventilation shall meet the following criteria:
 - 1. The design air change per hour minimums for residential buildings in ASHRAE 62, Ventilation for Acceptable Indoor Air Quality, shall be the maximum rates allowed for residential applications.
 - 2. No ventilation or air-conditioned system make air shall be provided to conditioned space from attics, crawlspaces, attached closed garages or outdoor spaces adjacent to swimming pools or spas.
 - 3. If ventilation air is drawn from enclosed spaces(s), then the walls of the space(s) from which air is drawn shall be insulated to a minimum of R-11 and the ceiling shall be insulated to a minimum or R-19, space permitting, or R-10 otherwise.

R403.6 Heating and cooling equipment (Mandatory). The following sections are mandatory for cooling and heating equipment.

- R403.6.1 Equipment sizing. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on the equipment loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies, based on building loads for the directional orientation of the building. The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described in Section R302.1. This code does not allow designer safety factors, provisions for future expansion or other factors which affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems.
 - R403.6.1.1 Cooling equipment capacity. Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load, but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section 403.6, or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the equipment shall not be less than the calculated latent load.

FORM R405-2014 MANDATORY REQUIREMENTS - (Continued)

R403.6.1.1 Cooling equipment capacity. (continued) The published value for AHRI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacture's expanded performance data shall be used to select cooling-only equipment. This selection shall be used to select cooling-only equipment. This selection shall be used to select cooling-only equipment. This selection shall be used to retering water temperature for water-source equipment), the blower cfm provided by the expanded performance data, the design value for entering wet bulb temperature and the design value for entering dry bulb temperature.

Design values for entering wet bulb and dry bulb temperature shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space.

Exceptions:

- 1. Attached single- and multi-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total sensible load but not less than 80 percent of that load.
- 2. When signed and sealed by a Florida-registered engineer, in attached single- and multi-family units, the capacity of equipment may be sized in accordance with good design practice.
- R403.6.1.2 Heating equipment capacity
 - R403.6.1.2.1 Heat pumps. Heat pumps sizing shall be based on the cooling requirements as calculated according to Section R403.6.1.1 and the heat pump total cooling capacity shall not be more than 1.15 times greater than the design cooling load.
 - R403.6.1.2.2 Electric resistance furnaces. Electric resistance furnaces shall be sized within 4 kW of the design requirements calculated according to the procedure selected in Section R403.6.1.
 - R403.6.1.2.3 Fossil fuel heating equipment. The capacity of fossil fuel heating equipment with natural draft atmospheric burners shall not be less than the design load calculated in accordance with Section R403.6.1.
- R403.6.1.3 Extra capacity required for special occasions. Residences requiring excess cooling or heating equipment capacity on an intermittent basis, such as anticipated additional loads caused by major entertainment events, shall have equipment sized or controlled to prevent continuous space cooling or heating within that space by one or more of the following options:
 - 1. A separate cooling or heating system is utilized to provide cooling or heating to the major entertainment areas.
 - 2. A variable capacity system sized for optimum performance during base load periods is utilized.
- R403.7 Systems serving multiple dwelling units (Mandatory). Systems serving multiple dwelling units shall comply with Sections C403 and C404 of the Commercial Provisions in lieu of Section R403.
- R403.8 Snow melt system controls (Mandatory). Snow and ice-melting systems, supplied through energy service to the building, shall include automatic controls capable of shutting off the system when the pavement temperature is above 55°F, and no precipitation is falling and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.
- R403.9 Swimming pools, inground spas and portable spas (Mandatory). The energy requirements for residential pools and inground spas shall be as specified in Sections R403.9.1 through R403.9.3 and in accordance with ANSI/APSP-15. The energy requirements for portable spas shall be in accordance with ANSI/APSP-14.
 - R403.9.1 Pool and spa heaters. All pool heaters shall be equipped with a readily accessible on-off switch that is mounted outside the heater to allow shutting off the heater without adjusting the thermostat setting.
 - R403.9.1.1 Gas and oil-fired pool and spa heaters. All gas- and oil-fired pool and space heaters shall have a minimum thermal efficiency of 82 percent for heaters manufactured on or after April 16, 2013 when tested in accordance with ANSI Z 21.56. Pool heaters fired by natural gas or LP gas shall not have continuously burning pilot lights.
 - **R403.9.1.2 Heat pump pool heaters.** Heat pump pool heaters shall have a minimum COP of 4.0 when tested in accordance with AHRI 1160, Table 2, Standard Rating Conditions-Low Air Temperature. A test report from an independent laboratory is required to verify procedure compliance. Geothermal swimming pool heat pumps are not required to meet this standard.
 - R403.9.2 Time switches. Time switches or other control method that can automatically turn off and on heaters and pumps according to a preset schedule shall be installed on all heaters and pumps. Heaters, pumps and motors that have built in timers shall be deemed in compliance with this equipment.
 - Exceptions:
 - 1. Where public health standards require 24-hour pump operations.
 - 2. Where pumps are required to operate solar- and waste-heat-recovery pool heating systems.
 - 3. Where pumps are powered exclusively from on-site renewable generation.
 - R403.9.3 Covers. Heated swimming pools and inground permanently installed spas shall be equipped with a vapor-retardant cover on or at the water surface or a liquid cover or other means proven to reduce heat loss.
 - **Exception:** Outdoor pools deriving over 70 percent of the energy for heating from site-recovered energy, such as a heat pump or solar energy source computed over an operating season.
- RR404.1 Lighting equipment (Mandatory). A minimum of 75 percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps or a minimum of 75 percent of permanently installed lighting fixtures shall contain only high efficacy lamps.
 - Exception: Low-voltage lighting shall not be required to utilize high-efficacy lamps.
 - R404.1.1 Lighting equipment (Mandatory). Fuel gas lighting systems shall not have continuously burning pilot lights
 - R405.2 Performance ONLY. All ducts not entirely inside the building thermal envelope shall be insulated to a minimum of R-6.
 - R405.2.1 Performance ONLY. Ceilings shall have minimum insulation of R-19. Where single assembly of the exposed deck and beam type or concrete deck roofs do not have sufficient space, R-10 is allowed.

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TABLE 402.4.1.1

AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

Project Name:	TAM Tampa House 1	Builder Name:
Street:	12345 North 99th Street	Permit Office:
City, State, Zip:	Tampa , FL , 33614	Permit Number:
Owner:		Jurisdiction:
Design Location:	FL. Tampa	

COMPONENT	CRITERIA	CHECK
Air barrier and thermal barrier	A continuous air barrier shall be installed in the building envelope. Exterior thermal envelope contains a continuous barrier. Breaks or joints in the air barrier shall be sealed. Air-permeable insulation shall not be used as a sealing material.	
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	
Walls	Corners and headers shall be insulated and the junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top or exterior walls shall be sealed. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier. Knee walls shall be sealed.	
Windows, skylights and doors	The space between window/door jambs and framing and skylights and framing shall be sealed.	
Rim joists	Rim joists are insulated and include an air barrier.	
Floors (including above-garage and cantilevered floors)	Insulation shall be installed to maintain permanent contact with underside of subfloor decking. The air barrier shall be installed at any exposed edge of insulation.	
Crawl space walls	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls. Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	
Shafts, penetrations	Duct shafts, utility penetrations, and flue shaft openings to exterior or unconditioned space shall be sealed.	
Narrow cavities	Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity spaces.	
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.	
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be air tight, IC rated, and sealed to the drywall.	
Plumbing and wiring	Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.	
Shower/tub on exterior wall	Exterior walls adjacent to showers and tubs shall be insulated and the air barrier installed separating them from the showers and tubs.	
Electrical/phone box on	The air barrier shall be installed behind electrical or communication boxes or air sealed boxes shall be installed.	
HVAC register boots	HVAC register boots that penetrate building thermal envelope shall be sealed to the sub-floor or drywall.	
Fireplace	An air barrier shall be installed on fireplace walls. Fireplaces shall have gasketed doors	

EnergyGauge® USA - FlaRes2014 Section R405.4.1 Compliant Software

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Envelope Leakage Test Report Prescriptive and Performance Method

Project Name	TAM Tampa House 1
Floject Name.	TAW Tampa House T
Street:	12345 North 99th Street
City, State, Zip:	Tampa , FL , 33614
Design Location:	FL, Tampa

Builder Name: Permit Office: Permit Number: Jurisdiction:

Envelope Leakage Test Results

n:

Regression Data:

r	2	
C	,	

Single or Multi Point Test Data

<u> </u>		
	HOUSE PRESSURE	FLOW:
1	Ра	cfm
2	Ра	cfm
3	Ра	cfm
4	Ра	cfm
5	Ра	cfm
6	Ра	cfm

R:

Leakage Characteristics

CFM(50):	
ELA:	
EqLA:	
ACH:	
ACH(50):	
SLA:	

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in Climate Zones 1 and 2, 3 air changes per hour in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 inches w.g. (50 Pascals). Where required by the code official, testing shall be conducted by 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. Testing shall be performed at any time after creation of all penetrations of the building thermal envelope.

During testing:

- 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, backdraft 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; and
- 6. Supply and return registers, if installed at the time of the test, shall be fully open.

I hereby certify that the above envelope leakage
performance results demonstrate compliance
with Florida Energy Code requirements in
accordance with Section R402.4.1.2.

DATE:

Where required by the code official, testing shall be conducted by an approved third party. A written report of the results of the test shall be signed by the third party conducting the test and provided to the code official.



BUILDING OFFICIAL:

DATE:

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Duct Leakage Test Report Prescriptive Method

Project Name:	TAM Tampa House 1	Builder Name:
Street:	12345 North 99th Street	Permit Office:
City, State, Zip:	Tampa , FL , 33614	Permit Number:
Design Location:	FL, Tampa	Jurisdiction:

CFM25 Duct Leakage Test Values					
Line	System	Total Duct Leakage			
1	System 1	cfm25(Total)			
2	System 2	cfm25(Total)			
3	System 3	cfm25(Total)			
4	System 4	cfm25(Total)			
5	Total House Duct System Leakage	Sum lines 1-4 Divide by (Total Conditioned Floor Area) = (Q _n ,Total) Air Handler Installed at time of test? (circle one) Yes No			
		To qualify as "substantially leak free" Qn Total must be less than or equal to 0.04 if air handler unit is installed. If air handler unit is not installed On Total must be less than or equal to 0.03			

Duct Leakage Test Results

I hereby certify that the above duct testing performance results demonstrate compliance with the Florida Energy Code requirements in accordance with Section R403.2.2.

PRINTED NAME:

DATE:

Duct tightness shall be verified by testing to Section 803 of the RESNET Standards by either an energy rater certified in accordance with Section 553.99, Florida Statutes, or as authorized by Florida Statutes, to be "substantially leak free."



BUILDING OFFICIAL:

DATE:

Florida Building Code, Energy Conservation

Residential Building Thermal Envelope Approach R-Value Computation Method

Climate Zone 2

Scope: Compliance with Section R402.1.1 of the *Florida Building Code, Energy Conservation*, shall be demonstrated by the use of Form R402 for single and multiple-family residences of three stories or less in height, additions to existing residential buildings, renovations, and building systems in existing buildings, as applicable. To comply, a building must meet or exceed all of the energy efficiency requirements on Table R402A and all applicable mandatory requirements summarized in Table R402B of this form. If a building does not comply with this method, or by the UA Alternative method, it may still comply under Section R405 of the Florida Building Code, Energy Conservation.

PROJECT NAME:	TAM Tampa House 2	BUILDER:INCOMPLETE		
AND ADDRESS:	12345 North 99th Street	PERMITTING OFFICE:INCOMPLETE		
	Tampa FL 33614	JURISDICTION NUMBER:INCOMPLETE		
OWNER:	INCOMPLETE	PERMIT NUMBER:INCOMPLETE		
General Instructions				
1. Fill in all the applica	ble spaces of the "I o Be Installed" column on	Table R402A with the information requested. Alter by Installed" values		
must be equal to or me	ore efficient than the required levels.			
3 Read the requireme	ased on the To be installed countril information and check each box to inc	dicate your intent to comply with all applicable items		
4 Read sign and date	the "Prepared By" certification statement at the	he bottom of page 1. The owner or owner's ment must also sign and date the for		
n noud, oigh and date		Check		
1 New construction	a addition or existing building	1 New Erem Plans)		
2 Single-family det	ached or multiple-family attached	2 Single samiy		
3 If multiple-family	number of units covered by this submiss	sion 3		
4 Is this a worst ca	(ves/no)	4 - NO		
5. Conditioned floor	r area (sg. ff.)	5 200		
6 Windows type ar	nd area.	<u> </u>		
a) U-factor		0 0.378 (15soft exempt*)		
b) Solar H	leat Gain Coefficient (SHGC):	0.0100(10000000000000000000000000000000		
c) Area:		300		
7 Skylights type a	nd area.			
a) II-factor		7a 0.650		
h) Solar H	eat Gain Coefficient (SHGC)	7a. <u>0.050</u> 7b 0.25		
c) Skyligh	t area.	$75. \frac{0.20}{10}$		
8 Floor type area	or perimeter, and insulation: (Total expose	ad apper 2000 soft)		
a) Slah or	or perimeter, and insulation. (rotal expose			
a) Slab-Ol	raised (P value)	8h Not Applicable		
c) Wood (common (P value)			
d) Concre	te raised (P value)	8d Not Applicable		
a) Concre	te common (P value)	Not Applicable		
	and insulation: (Total exposed area -	be. <u>Not Applicable</u>		
a) Exterior	r: 1 Wood frame (Insulation P value)	0o1 13		
	2 Masonry (Insulation P alue)	9a1. <u>15</u> 9a2.7.2		
h) Adiaceu	2. Wasoniy (Insulation R-value)	0h1 Not Applicable		
D) Aujacei	2. Maconny (Insulation P. value)			
10 Coiling type or	2. Wasonly (institution R-value)	902NOL Applicable		
a) Attic (Ir	$rac{1}{2}$	10a 29		
a) Auto (III b) Single (accombly (Inculation R visito)	10b. Not Applicable		
11 Air distribution	assembly (Insulation R-value)			
a) Duct in	system.	11a P60		
		11b Main		
a) Total D	unt Lookago pot roport attached	110. 0.04(Substantially look free)		
12 Cooling over		12c. Control Unit		
12. Cooling system	l. e) type.			
40 Heathan and an	b) emiciency	120. <u>14</u>		
13. Heating system	a) type:			
	b) emiciency	130. HSPF = 8.50		
14. HVAC sizing	autation: attached	14. <u>verity attachment</u>		
15. Water heating s	system: a) type	15a. Electric Storage		
	b) efficiency	1500.95		
*Passes after exception	see Florida Code 402.3.3			
I hereby centry that t	he plans and specifications covered by this	Review of plans and specifications covered by this form indicate		
torm are in complian	ce with the <i>Florida Building Code,</i>	compliance with the <i>Horida Building Code, Energy Conservation</i>		
Energy Conservatio	n.	Before construction is complete, this building will be inspected for		
PREPARED BY:	bis building is in compliance with the	compliance in accordance with Section 553.908, F.S.		
Florida Building Cod	e. Energy Conservation			

OWNER/AGENT:

FORM R402-2014

Date

Date

CODE OFFICIAL:

FORM R402-2014

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS ¹		INSTALLED VALUES	
	Climate Zone 1	Climate Zone 2	Fens. U-Factor(Ave) = 0.387	PASS
Windows	U-Factor = 0.65^2	U-Factor = 0.40^2	U-Factor(Avg)=0.378 (15sqft exempt*)	
	SHGC= 0.25	SHGC= 0.25	SHGC(Avg)=0.246 (15sqft exempt*)	PASS
Skylights	U-Factor = 0.75	U-Factor = 0.65	U-Factor(Avg) = 0.65	
	SHGC= 0.30	SHGC= 0.30	SHGC(Avg) = 0.25	PASS
Doors: Exterior door	U-Factor = 0.65^3	U-Factor = 0.40^3	U-Factors(Max)=0.8 (24 sq.ft. exempt**)	PASS
Floors: Over unconditioned spaces ⁴	R-13	R-13	Not Applicable	
Common	R-11	R-11	Not Applicable	
Walls: Ext. and Adj.				
Frame	R-13	R-13	R-Value(Min) = 13	PASS
Mass(Insulation on wall interior):	R-4	R-6	R-Values = 7.2	PASS
Mass(Insulation on wall exterior):	R-3	R-4	Not Applicable	
Common(multifamily):	Fr:R-11, Mass:R-6	Fr:R-11, Mass:R-6	Not Applicable	
Ceilings: Exposed	R-30	R-38	R-Value = 38	PASS
Common	R-11	R-11	Not Applicable	
Air infiltration:	Blower door test is requi	ired on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leaka	ge ≤ 5 ACH50; test	Test report attached?	
	report provided to code	official.	□Yes □No	
Air distribution system ⁵ :				
Air handling unit	Not allowed in attic		Location: Main	PASS
	Sealed		Sealed	PASS
Duct R-Value	R -value $\geq R$ -8 (supply in unconditioned attics)		R-Value(Supply in unc. attic) = 8.0	PASS
	or \geq R-6 (all other unconditioned duct locations).		R-Value(Others in unc. space) = 8.0	PASS
Air Leakage⁵:	,	,		
Duct test	Air handler installed: To	tal leakage ≤ 4 cfm/100 s.f.	Substantially Leak Free	
	Air handler Not installed	:Total leakage ≤ 3 cfm/100 s.f.	Test report required? YES	
Ducts in conditioned space	Test not required if all d	ucts and AHU are in	Location: Unconditioned	
	conditioned space.			
Air conditioning systems:	Minimum federal standa	rd required by NAECA ⁶		
Central system ≤ 65,000 Btu/h	SEER=14.0		SEER(Min)=14	PASS
	EER [from Table C403.2	2.3(3)]		
PTAC				
Other:				
Heating systems:	Minimum federal standa	rd required by NAECA ⁶		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2		HSPF(Min) = 8.5	PASS
Gas Furnace, non-weatherized	AFUE 78% (AFUE 80% after Nov. 2015)		Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%		Not Applicable	
Other:				
Water heating system (storage type):	Minimum federal standa	rd required by NAECA ⁶		
Electric: ⁷	50 gallons: EF=0.945		50 gallons: EF=0.95	PASS
Gas fired: ⁸	40 gallons: EF=0.62, 50	gallons: EF=0.60	Not Applicable	
Other (describe):	- /	-		

User entry meets requirements of R-Value Calculation Method.

NR = No requirement

(1) Each component present in the As Proposed home must meet or exceed each of the applicable criteria in order to comply with this code using this method.

(2) For impact rated fenestration complying with Section R301.2.1.2 of the Florida building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the minimum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2. An area-weighted average of U-factor and SHGC shall be accepted to meet the requirements, or up to 15 square feet of glazed fenestration area are exempted from the U-factor and SHGC requirement based on Section R402.3.1, R402.3.2 and R403.3.3.

(3) One side-hinged opaque door assembly up to 24 square feet is exempted from this U-factor requirement.

(4) R-values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls the "interior of wall" requirement must be met except if at least 50 percent of the insulation required for the "exterior of wall" is installed exterior of, or integral to, the wall.

(5) Ducts & AHU installed "substantially leak free" per Section R403.2.2. Test required by an energy rater certified in accordance with Section 553.99, Florida Statues, or as authorized by Florida Statutes. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.

(6) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the Florida Building Code, Energy Conservation.

(7) For electric storage volumes \leq 55, min. EF = 0.960 – (0.0003 * volume). For electric storage volumes > 55, min. EF = 2.057 – (0.00113 * volume).

(8) For natural gas storage volumes \leq 55, min. EF = 0.675 – (0.0015 * volume). For natural gas storage volumes > 55, min. EF = 0.8012 – (0.00078 * volume). (9) For electric tankless, min. EF = 0.93. For natural gas tankless, min. EF = 0.82

ቻ/គេរ៍វូឡេវារំដាំដែល@setting. See Florida Code 4 ਇົກອະຊາງ Gauge® / USRRIB v4.0 - Section R405.4.1 Compliant Software

TABLE 402B MANDATORY REQUIREMENTS					
Component	Section	Summary of Requirement(s)	Check		
Air leakage	R402.4	To be caulked, gasketed, weatherstripped or otherwise sealed per Table R402.4.1.1.			
		cessed lighting IC-rated as having ≤ 2.0 cfm tested to ASTM E 283.			
		Windows and doors: 0.3 cfm/sq.ft. (swinging doors: 0.5 cfm/sf) when tested to NFRC 400 or			
		AAMA/WDMA/DSA 101/I.S. 2/A440.			
		Fireplaces: Tight-fitting flue dampers & outdoor combustion air.			
Programmable thermostat	R403.1.2	Where forced-air furnace is primary system, programmable thermostat is required.			
Air distribution system	R403.2.2	Ducts shall be tested to Section 803 of the RESNET standards by an energy rater certified in			
	R403.2.4	rdance with Section 553.99, Florida Statutes, or as authorized by Florida Statutes.			
		Air handling units are not allowed in attics.			
Water heaters	R403.4	Comply with efficiencies in Table C404.2. Hot water pipes insulated to ≥ R-3 to kitchen outlets,			
		other cases. Circulating systems to have an automatic or accessible manual OFF switch.			
		Heat trap required for vertical pipe risers.			
Cooling/heating equipment	R403.6	Sizing calculation performed & attached. Special occasion cooling or heating capacity			
		requires seperate system or variable capacity system.			
Swimming pools & spas	R403.9	Spas and heated pools must have vapor-retardent 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 is 82%.			
		Heat pump pool heaters minimum COP is 4.0			
Lighting equipment	R404.1	At least 75% of permanently installed lighting fixtures shall be high-efficacy lamps.			

2

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 104 The lower the EnergyPerformance Index, the more efficient the home.

12345 North 99th Street, Tampa, FL, 33614



*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.

4/13/2015 10:59 AM

EnergyGauge® USA - FlaRes2014 - Section R405.4.1 Compliant Software

Page 1 of 1

Florida Building Code, Energy Conservation

Residential Building Thermal Envelope Approach R-Value Computation Method

Climate Zone 2

Scope: Compliance with Section R402.1.1 of the *Florida Building Code, Energy Conservation*, shall be demonstrated by the use of Form R402 for single and multiple-family residences of three stories or less in height, additions to existing residential buildings, renovations, and building systems in existing buildings, as applicable. To comply, a building must meet or exceed all of the energy efficiency requirements on Table R402A and all applicable mandatory requirements summarized in Table R402B of this form. If a building does not comply with this method, or by the UA Alternative method, it may still comply under Section R405 of the Florida Building Code, Energy Conservation.

PROJECT NAME:	TAM Tampa House 3	BUILDER:INCOMPLETE		
AND ADDRESS:	12345 North 99th Street	PERMITTING OFFICE:INCOMPLETE		
014/1/50	Tampa FL 33614			
OWNER:	INCOMPLETE	PERMIT NUMBER:INCOMPLETE		
General Instructions 1. Fill in all the applica must be equal to or m 2. Complete page 1 b 3. Read the requirement 4. Read, sign and dat	: able spaces of the "To Be Installed" column on ore efficient than the required levels. ased on the "To Be Installed" column informat ents of Table R402B and check each box to in e the "Prepared By" certification statement at t	n Table R402A with the information requested. After B Installed" values tion. Indicate your intent to comply with all applicable items. the bottom of page 1. The owner or owner's event must also sign and date the fo		
		Check		
 New constructio 	n, addition, or existing building	1. <u>New (From Plans)</u>		
2. Single-family de	tached or multiple-family attached	2. <u>Single amiy</u>		
If multiple-family	, number of units covered by this submiss	sion 3.		
1. Is this a worst ca	ase? (yes/no)	4. NO		
5. Conditioned floo	r area (sq. ft.)	5 _200		
Windows type a	nd area:			
a) U-factor		<u>6</u> a. <u>0.392</u>		
b) Solar H	leat Gain Coefficient (SHGC):	6b. <u>0.25 (15sqft exempt*)</u>		
c) Area:		<u>6</u> c. <u>300</u>		
 Skylights, type a 	nd area:			
a) U-factor		7a. <u>0.650</u>		
b) Solar F	leat Gain Coefficient (SHGC):	7b. <u>0.25</u>		
c) Skyligh	t area:	7c. <u>10</u>		
. Floor type, area	or perimeter, and insulation: (I otal expos	sed area = 2000 sqft)		
a) Slab-or	n-grade (R-value)			
b) Wood,	raised (R-value)	8b. Not Applicable		
c) Wood,	common (R-value)	8c. Not Applicable		
d) Concre	te, raised (R-value)	8d. Not Applicable		
e) Concre	te, common (R-value)	8e. Not Applicable		
. Wall type, area a	and insulation: (I otal exposed area = 100	ru sqft)		
a) Exterio	r: 1. Wood frame (Insulation R-value)	9a1. <u>18</u>		
	2. Masonry (Insulation R-value)	9a2. Not Applicable		
b) Adjace	nt: 1. vvood frame (Insulance R-value)			
	2. Masonry (Insulation R-value)			
U. Ceiling type, ar	ea and insulation (Total exposed area = 2	2000 sqπ)		
a) Attic (ir	isulation R-value)	10a. <u>30</u> FAILED		
D) Single	assembly (Insulance R-value)			
1. All distribution	system.	11a D6 0		
		11a. <u>Ko.U</u>		
a) Total D	unt Lookage bet report attached	110. 0.04(Substantially look from)		
2 Cooling system				
2. Cooling system	i. lype.			
2 Heating system	b) eniciency	120. 14		
5. Healing system	h) officionov	$13a _ \underline{\text{Lieutic field Fullip}}$ $13b _ \underline{\text{Lieutic field Fullip}}$		
	b) efficiency	130. <u></u>		
4. HVAC SIZING		14. <u>Verify attachment</u>		
5. Water nearing	system. a) type			
Passes after exception	see Florida Code 402.3.3	150. 0.95		
\ `	1			
I hereby centry that	the plans and specifications covered by this	Review of plans and specifications covered by this form indicate		
form are in compliar	ce with the Florida Building Code,	compliance with the Florida Building Code, Energy Conservation		
Energy Conservation	on.	Before construction is complete, this building will be inspected for		
PREPARED BY:	Date	compliance in accordance with Section 553.908, F.S.		
Florido Ruilding Cos	Inis building is in compliance with the			
i ionua bullulity 600	o, Linergy Conservation.			

OWNER/AGENT:

FORM R402-2014

Date

Date

CODE OFFICIAL:

FORM R402-2014

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS ¹		INSTALLED VALUES	
	Climate Zone 1	Climate Zone 2	Fens. U-Factor(Ave) = 0.360	PASS
Windows	U-Factor = 0.65^2	U-Factor = 0.40^2	U-Factor(Avg)=0.35	
	SHGC= 0.25	SHGC= 0.25	SHGC(Avg)=0.25 (15sgft exempt*)	PASS
Skylights	U-Factor = 0.75	U-Factor = 0.65	U-Factor(Avg) = 0.65	
	SHGC= 0.30	SHGC= 0.30	SHGC(Avg) = 0.25	PASS
Doors: Exterior door	U-Factor = 0.65^3	U-Factor = 0.40^3	U-Factors(Max) = 0.4	PASS
Floors: Over unconditioned spaces ⁴	R-13	R-13	Not Applicable	
Common	R-11	R-11	Not Applicable	
Walls: Ext. and Adj.				
Frame	R-13	R-13	R-Value(Min) = 18	PASS
Mass(Insulation on wall interior):	R-4	R-6	Not Applicable	
Mass(Insulation on wall exterior):	R-3	R-4	Not Applicable	
Common(multifamily):	Fr:R-11, Mass:R-6	Fr:R-11, Mass:R-6	Not Applicable	
Ceilings: Exposed	R-30	R-38	R-Value(Min) = 30	FAIL
Common	R-11	R-11	Not Applicable	
Air infiltration:	Blower door test is requi	ired on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leaka	ge ≤ 5 ACH50; test	Test report attached?	
	report provided to code	official.	□Yes □No	
Air distribution system ⁵ :				
Air handling unit	Not allowed in attic		Location: Main	PASS
	Sealed		Sealed	PASS
Duct R-Value	R-value ≥ R -8 (supply in unconditioned attics)		R-Value(Supply in unc. attic) = 8.0	PASS
	or \geq R-6 (all other unconditioned duct locations).		R-Value(Others in unc. space) = 8.0	PASS
Air Leakage⁵:	,	,	· · · ·	
Duct test	Air handler installed: To	tal leakage ≤ 4 cfm/100 s.f.	Substantially Leak Free	
	Air handler Not installed	:Total leakage ≤ 3 cfm/100 s.f.	Test report required? YES	
Ducts in conditioned space	Test not required if all di	ucts and AHU are in	Location: Unconditioned	
	conditioned space.			
Air conditioning systems:	Minimum federal standa	rd required by NAECA ⁶		
Central system ≤ 65,000 Btu/h	SEER=14.0		SEER(Min)=14	PASS
	EER [from Table C403.2	2.3(3)]	. ,	
PTAC	-			
Other:				
Heating systems:	Minimum federal standa	rd required by NAECA ⁶		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2		HSPF(Min) = 8.5	PASS
Gas Furnace, non-weatherized	AFUE 78% (AFUE 80% after Nov. 2015)		Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%		Not Applicable	
Other:				
Water heating system (storage type):	Minimum federal standa	rd required by NAECA ⁶		
Electric: ⁷	50 gallons: EF=0.945		50 gallons: EF=0.95	PASS
Gas fired: ⁸	40 gallons: EF=0.62, 50	gallons: EF=0.60	Not Applicable	
Other (describe):				

R-Value Calculation Method - FAIL

NR = No requirement

(1) Each component present in the As Proposed home must meet or exceed each of the applicable criteria in order to comply with this code using this method.

(2) For impact rated fenestration complying with Section R301.2.1.2 of the Florida building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the minimum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2. An area-weighted average of U-factor and SHGC shall be accepted to meet the requirements, or up to 15 square feet of glazed fenestration area are exempted from the U-factor and SHGC requirement based on Section R402.3.1, R402.3.2 and R403.3.3.

(3) One side-hinged opaque door assembly up to 24 square feet is exempted from this U-factor requirement.

(4) R-values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls the "interior of wall" requirement must be met except if at least 50 percent of the insulation required for the "exterior of wall" is installed exterior of, or integral to, the wall.

(5) Ducts & AHU installed "substantially leak free" per Section R403.2.2. Test required by an energy rater certified in accordance with Section 553.99, Florida Statues, or as authorized by Florida Statutes. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.

(6) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the Florida Building Code, Energy Conservation.

(7) For electric storage volumes \leq 55, min. EF = 0.960 – (0.0003 * volume). For electric storage volumes > 55, min. EF = 2.057 – (0.00113 * volume).

(8) For natural gas storage volumes \leq 55, min. EF = 0.675 – (0.0015 * volume). For natural gas storage volumes > 55, min. EF = 0.8012 – (0.00078 * volume). (9) For electric tankless, min. EF = 0.93. For natural gas tankless, min. EF = 0.82

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FailCount=1

FORM R402-2014

TABLE 402B MANDATORY REQUIREMENTS				
Component	Section	Summary of Requirement(s)	Check	
Air leakage	R402.4	To be caulked, gasketed, weatherstripped or otherwise sealed per Table R402.4.1.1.		
		Recessed lighting IC-rated as having ≤ 2.0 cfm tested to ASTM E 283.		
		Windows and doors: 0.3 cfm/sq.ft. (swinging doors: 0.5 cfm/sf) when tested to NFRC 400 or		
		AAMA/WDMA/DSA 101/I.S. 2/A440.		
		Fireplaces: Tight-fitting flue dampers & outdoor combustion air.		
Programmable thermostat	R403.1.2	Where forced-air furnace is primary system, programmable thermostat is required.		
Air distribution system	R403.2.2	Ducts shall be tested to Section 803 of the RESNET standards by an energy rater certified in		
	R403.2.4	accordance with Section 553.99, Florida Statutes, or as authorized by Florida Statutes.		
		Air handling units are not allowed in attics.		
Water heaters	R403.4	Comply with efficiencies in Table C404.2. Hot water pipes insulated to ≥ R-3 to kitchen outlets,		
		other cases. Circulating systems to have an automatic or accessible manual OFF switch.		
		Heat trap required for vertical pipe risers.		
Cooling/heating equipment	R403.6	Sizing calculation performed & attached. Special occasion cooling or heating capacity		
		requires seperate system or variable capacity system.		
Swimming pools & spas	R403.9	Spas and heated pools must have vapor-retardent 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 is 82%.		
		Heat pump pool heaters minimum COP is 4.0		
Lighting equipment	R404.1	At least 75% of permanently installed lighting fixtures shall be high-efficacy lamps.		

2

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 104 The lower the EnergyPerformance Index, the more efficient the home.

12345 North 99th Street, Tampa, FL, 33614



*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.

4/13/2015 11:01 AM

EnergyGauge® USA - FlaRes2014 - Section R405.4.1 Compliant Software

Page 1 of 1

Florida Building Code, Energy Conservation

Residential Building Thermal Envelope Approach R-Value Computation Method

Climate Zone 1

Scope: Compliance with Section R402.1.1 of the Florida Building Code, Energy Conservation, shall be demonstrated by the use of Form R402 for single and multiple-family residences of three stories or less in height, additions to existing residential buildings, renovations, and building systems in existing buildings, as applicable. To comply, a building must meet or exceed all of the energy efficiency requirements on Table R402A and all applicable mandatory requirements summarized in Table R402B of this form. If a building does not comply with this method, or by the UA Alternative method, it may still comply under Section R405 of the Florida Building Code, Energy Conservation.

PROJECT NAME:	TAM Miami House 1	BUILDER: INCO	MPLETE	
AND ADDRESS:	12345 North 99th Street	PERMITTING O	FFICE:INCOMPLETE	
	Miami FL 33125	JURISDICTION NUMBER:INCOMPLETE		
OWNER:		PERMIT NUMBE	ER:INCOMPLETE	
. Fill in all the applications of the equal to or m Complete page 1 b Read the requirement. Read, sign and date	: ible spaces of the "To Be Installed" column o ore efficient than the required levels. ased on the "To Be Installed" column informa- ents of Table R402B and check each box to i e the "Prepared By" certification statement at	n Table R402A with the ation. ndicate your intent to co the bottom of page 1.	e information requested. At the Bunst omply with all applicable items. The owner or owner's egent must also	talled" values sign and date the Check
. New constructio	n, addition, or existing building		1. <u>New (From Plans)</u>	
. Single-family de	tached or multiple-family attached		2. Single amay	
. If multiple-family	, number of units covered by this submis	ssion	3.	
. Is this a worst ca	ise? (yes/no)		4. NO	
Conditioned floo	r area (sq. ft.)		5 2000	
Windows type a	nd area:			
a) U-factor		l l	6a. <u>-0.650</u>	
b) Solar H	leat Gain Coefficient (SHGC):		6b. <u>0.25</u>	
c) Area:			6c. <u>300</u>	
Skylights, type a	nd area:	X	7- 0.750	
a) U-factor			7a. <u>0.750</u>	
b) Solar F	leat Gain Coefficient (SHGC):	\sim	76. 0.25	
C) Skylign	t area:		7c. <u>10</u>	<u> </u>
Floor type, area	or perimeter, and insulation: (1 otal expo	sed and = 2000 sqft		
a) Slad-or	rejead (R-value)		86. U	
b) Wood,	common (P. value)		80. Not Applicable	<u> </u>
d) Concre	te raised (R-value)	\mathbf{N}	8d Not Applicable	
e) Concre	te, raised (it value)		8e Not Applicable	
Wall type area a	and insulation: (Total exposed area = 14	() saft)		
a) Exterio	r. 1 Wood frame (Insulation R-value))	9a1 13	
	2 Masonry (Insulation R-alue))	9a2 52	
b) Adiace	nt: 1. Wood frame (Insulation R-value	-)	9b1. Not Applicable	
	2. Masonry (Insulation R-value))	9b2. Not Applicable	
). Ceiling type, ar	ea and insulation (Total exposed area =	2000 saft)		
a) Attic (Ir	sulation R-value)	1 /	10a. 38	
b) Single	assembly (Insulation R-value)		10b. Not Applicable	
1. Air distribution	system:			
 a) Duct in 	sulation		11a. <u>R6.0</u>	
b) AHU lo	cation		11b. <u>Main</u>	
c) Total D	uct Leakage Lest report attached		11c. 0.04(Substantially leak free)
Cooling system	i: a) type:		12a. Central Unit	
	b) efficiency		12b. <u>14</u>	
Heating system	n: a) type:		13a. Electric Heat Pump	
	b) efficiency		13b. <u>HSPF = 8.20</u>	
1. HVAC sizing	culation: attached		14. Verify attachment	
5. Water heating	system: a) type		15a. Electric Storage	
X	b) efficiency		15b. <u>0.95</u>	
hereby pertify that t	the plans and specifications covered by this	Review of plans and s	specifications covered by this form indi	cate
form are in or plian	ice with the Florida Building Code,	compliance with the F	Florida Building Code, Energy Conserv	ation
Energy Conservation	n.	Before construction is	complete, this building will be inspected	ed for
PREPARED BY:	Date	compliance in accorda	ance with Section 553.908, F.S.	
hereby certify that I	his building is in compliance with the			
Horida Building Cod	e, Energy Conservation.		D-4-	
UWNER/AGENT:	Date	JODE OFFICIAL	Date	

FORM R402-2014

FORM R402-2014

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS ¹		INSTALLED VALUES	
	Climate Zone 1	Climate Zone 2	Fens. U-Factor(Ave) = 0.650	PASS
Windows	U-Factor = 0.65^2	U-Factor = 0.40^2	U-Factor(Avg)=0.65	
	SHGC= 0.25	SHGC= 0.25	SHGC(Avg) = 0.25	PASS
Skylights	U-Factor = 0.75	U-Factor = 0.65	U-Factor(Avg) = 0.75	
	SHGC= 0.30	SHGC= 0.30	SHGC(Avg) = 0.25	PASS
Doors: Exterior door	U-Factor = 0.65^3	U-Factor = 0.40^3	U-Factors(Max)=0.65 (0 sq.ft. exempt**)	PASS
Floors: Over unconditioned spaces ⁴	R-13	R-13	Not Applicable	
Common	R-11	R-11	Not Applicable	
Walls: Ext. and Adj.				
Frame	R-13	R-13	R-Value(Min) = 13	PASS
Mass(Insulation on wall interior):	R-4	R-6	R-Values = 5.2	PASS
Mass(Insulation on wall exterior):	R-3	R-4	Not Applicable	
Common(multifamily):	Fr:R-11, Mass:R-6	Fr:R-11, Mass:R-6	Not Applicable	
Ceilings: Exposed	R-30	R-38	R-Value = 38	PASS
Common	R-11	R-11	Not Applicable	
Air infiltration:	Blower door test is requi	ired on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leaka	ge ≤ 5 ACH50; test	Test report attached?	
	report provided to code	official.	□Yes □No	
Air distribution system ⁵ :				
Air handling unit	Not allowed in attic		Location: Main	PASS
5	Sealed		Sealed	PASS
Duct R-Value	R -value $\geq R$ -8 (supply in unconditioned attics)		R-Value(Supply in unc. attic) = 8.0	PASS
	or ≥R-6 (all other unconditioned duct locations).		R-Value(Others in unc. space) = 8.0	PASS
Air Leakaαe⁵:		,		
Duct test	Air handler installed: Tot	tal leakage ≤ 4 cfm/100 s.f.	Substantially Leak Free	
	Air handler Not installed	:Total leakage ≤ 3 cfm/100 s.f.	Test report required? YES	
Ducts in conditioned space	Test not required if all du	ucts and AHU are in	Location: Unconditioned	
	conditioned space.			
Air conditioning systems:	Minimum federal standa	rd required by NAECA ⁶		
Central system ≤ 65,000 Btu/h	SEER=14.0		SEER(Min)=14	PASS
	EER [from Table C403.2	2.3(3)]		
PTAC				
Other:				
Heating systems:	Minimum federal standa	rd required by NAECA ⁶		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	. ,	HSPF(Min) = 8.2	PASS
Gas Furnace, non-weatherized	AFUE 78% (AFUE 80% after Nov. 2015)		Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%		Not Applicable	
Other:				
Water heating system (storage type):	Minimum federal standa	rd required by NAECA ⁶		
Electric: ⁷	50 gallons: EF=0.945	. ,	50 gallons: EF=0.95	PASS
Gas fired: ⁸	40 gallons: EF=0.62. 50	gallons: EF=0.60	Not Applicable	
Other (describe):	. ,	-		

User entry meets requirements of R-Value Calculation Method.

NR = No requirement

(1) Each component present in the As Proposed home must meet or exceed each of the applicable criteria in order to comply with this code using this method.

(2) For impact rated fenestration complying with Section R301.2.1.2 of the Florida building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the minimum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2. An area-weighted average of U-factor and SHGC shall be accepted to meet the requirements, or up to 15 square feet of glazed fenestration area are exempted from the U-factor and SHGC requirement based on Section R402.3.1, R402.3.2 and R403.3.3.

(3) One side-hinged opaque door assembly up to 24 square feet is exempted from this U-factor requirement.

(4) R-values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls the "interior of wall" requirement must be met except if at least 50 percent of the insulation required for the "exterior of wall" is installed exterior of, or integral to, the wall.

(5) Ducts & AHU installed "substantially leak free" per Section R403.2.2. Test required by an energy rater certified in accordance with Section 553.99, Florida Statues, or as authorized by Florida Statutes. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.

(6) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the Florida Building Code, Energy Conservation.

(7) For electric storage volumes \leq 55, min. EF = 0.960 – (0.0003 * volume). For electric storage volumes > 55, min. EF = 2.057 – (0.00113 * volume).

(8) For natural gas storage volumes \leq 55, min. EF = 0.675 – (0.0015 * volume). For natural gas storage volumes > 55, min. EF = 0.8012 – (0.00078 * volume). (9) For electric tankless, min. EF = 0.93. For natural gas tankless, min. EF = 0.82

5/ዘመሬ ዓይነ መካለት የአስላት በ See Florida Code 4 መንስ Physical Code 4 መንስ

TABLE 402B MANDATORY REQUIREMENTS									
Component	Section	Summary of Requirement(s)	Check						
Air leakage	R402.4	To be caulked, gasketed, weatherstripped or otherwise sealed per Table R402.4.1.1.							
		Recessed lighting IC-rated as having ≤ 2.0 cfm tested to ASTM E 283.							
		Windows and doors: 0.3 cfm/sq.ft. (swinging doors: 0.5 cfm/sf) when tested to NFRC 400 or							
		AAMA/WDMA/DSA 101/I.S. 2/A440.							
		Fireplaces: Tight-fitting flue dampers & outdoor combustion air.							
Programmable thermostat	R403.1.2	Where forced-air furnace is primary system, programmable thermostat is required.							
Air distribution system	R403.2.2	Ducts shall be tested to Section 803 of the RESNET standards by an energy rater certified in							
	R403.2.4	accordance with Section 553.99, Florida Statutes, or as authorized by Florida Statutes.							
		Air handling units are not allowed in attics.							
Water heaters	R403.4	Comply with efficiencies in Table C404.2. Hot water pipes insulated to ≥ R-3 to kitchen outlets,							
		other cases. Circulating systems to have an automatic or accessible manual OFF switch.							
		Heat trap required for vertical pipe risers.							
Cooling/heating equipment	R403.6	Sizing calculation performed & attached. Special occasion cooling or heating capacity							
		requires seperate system or variable capacity system.							
Swimming pools & spas	R403.9	Spas and heated pools must have vapor-retardent 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 is 82%.							
		Heat pump pool heaters minimum COP is 4.0							
Lighting equipment	R404.1	At least 75% of permanently installed lighting fixtures shall be high-efficacy lamps.							

2

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 103 The lower the EnergyPerformance Index, the more efficient the home.

12345 North 99th Street, Miami, FL, 33125



*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.

4/13/2015 10:45 AM

EnergyGauge® USA - FlaRes2014 - Section R405.4.1 Compliant Software

Page 1 of 1

Florida Building Code, Energy Conservation

Residential Building Thermal Envelope Approach R-Value Computation Method

Climate Zone 1

FORM R402-2014

Scope: Compliance with Section R402.1.1 of the Florida Building Code, Energy Conservation, shall be demonstrated by the use of Form R402 for single and multiple-family residences of three stories or less in height, additions to existing residential buildings, renovations, and building systems in existing buildings, as applicable. To comply, a building must meet or exceed all of the energy efficiency requirements on Table R402A and all applicable mandatory requirements summarized in Table R402B of this form. If a building does not comply with this method, or by the UA Alternative method, it may still comply under Section R405 of the Florida Building Code, Energy Conservation.

PROJECT NAME:	TAM Miami House 3	BUILDER:INCOMPLETE						
AND ADDRESS:	12345 North 99th Street	PERMITTING OFFICE:INCOMPLETE						
	Miami FL 33125	JURISDICTION NUMBER: INCOMPLETE						
OWNER:	INCOMPLETE	PERMIT NUMBER:INCOMPLETE						
General Instructions 1. Fill in all the applica must be equal to or m 2. Complete page 1 b 3. Read the requirement 4. Read, sign and data	: able spaces of the "To Be Installed" column on ore efficient than the required levels. ased on the "To Be Installed" column informat ents of Table R402B and check each box to in e the "Prepared By" certification statement at t	n Table R402A with the information requested. At the Installed" values tion. ndicate your intent to comply with all applicable items. the bottom of page 1. The owner or owner's gent must also sign and date the for						
1 New construction	n addition or existing building	1 New From Plans)						
2 Single-family de	tached or multiple-family attached	2 Single amov						
3 If multiple-family	number of units covered by this submiss	ssion 3						
4 Is this a worst ca	, namber of anno covered by the cabined	4 -ND						
5 Conditioned floo	r area (sg. ft.)	5 200						
6 Windows type a	nd area.							
a) I l-factor	r.	0.650						
h) Solar H	leat Gain Coefficient (SHGC):	b. 0.25						
c) Area		300						
7 Skylights type a	and area.							
a) I l-factor	r.	7a 0.750						
h) Solar H	leat Gain Coefficient (SHGC)	7b 0.25						
c) Skyligh	t area:	$75. \frac{0.20}{70}$						
8 Floor type area	or perimeter and insulation. (Total expos	sed appe= 2000 soft)						
a) Slab-or	n-grade (R-value)	8a 0						
b) Wood	raised (R-value)	8b Not Applicable						
c) Wood	common (R-value)	8c Not Applicable						
d) Concre	ete raised (R-value)	8d Not Applicable						
e) Concre	ete common (R-value)	8e Not Applicable						
9 Wall type area a	and insulation. (Total exposed area = 100	() soft)						
a) Exterio	r: 1 Wood frame (Insulation R-value)	9a1 13						
u) Exterio	2 Masonry (Insulation R-value)	9a2_4						
b) Adiace	nt: 1 Wood frame (Insummer R-value)) 9b1 Not Applicable						
	2 Masonry (Insulation R-value)	9b2 Not Applicable						
10. Ceiling type, ar	rea and insulation (Total exposed area = 2	2000 sqft)						
a) Attic (Ir	nsulation R-value)	10a 30						
b) Single	assembly (Insulation R-value)	10b. Not Applicable						
11. Air distribution	system:							
a) Duct in	sulation	11a. R6.0 FAILED						
b) AHU lo	cation	11b. Main						
c) Total D	ouct Leakage lest report attached	11c. 0.04(Substantially leak free)						
12. Cooling system	n: a) type:	12a. Central Unit						
0,	b) efficiency	12b. 14						
13. Heating system	n:	13a. Electric Heat Pump						
0,	b) efficiency	13b. HSPF = 8.20						
14. HVAC sizing	securation: attached	14. Verify attachment						
15. Water heating	system: a) type	15a. Electric Storage						
V	b) efficiency	15b. <u>0.95</u>						
I hereby sertify that I	the plans and specifications covered by this	Review of plans and specifications covered by this form indicate						
Energy Conservation	ונב אונו נוופ רוטווטם Duildirig Code,	Before construction is complete, this building will be inspected for						
PREPARED RY	Date	compliance in accordance with Section 553 908 F S						
I hereby certify that I	this building is in compliance with the							
Florida Building Cod	le, Energy Conservation.							

OWNER/AGENT:

Date

Date

CODE OFFICIAL:

FORM R402-2014

BUILDING COMPONENT	PRESCRIPTIVE R		INSTALLED VALUES					
	Climate Zone 1	Climate Zone 2	Fens. U-Factor(Ave) = 0.650	PASS				
Windows	U-Factor = 0.65^2	U-Factor = 0.40^2	U-Factor(Avg)=0.65					
	SHGC= 0.25	SHGC= 0.25	SHGC(Avg) = 0.25	PASS				
Skylights	U-Factor = 0.75	U-Factor = 0.65	U-Factor(Avg) = 0.75					
	SHGC= 0.30	SHGC= 0.30	SHGC(Avg) = 0.25	PASS				
Doors: Exterior door	U-Factor = 0.65^3	U-Factor = 0.40^3	U-Factors(Max)=0.65 (0 sq.ft. exempt**)	PASS				
Floors: Over unconditioned spaces ⁴	R-13	R-13	Not Applicable					
Common	R-11	R-11	Not Applicable					
Walls: Ext. and Adj.								
Frame	R-13	R-13	R-Value(Min) = 13	PASS				
Mass(Insulation on wall interior):	R-4	R-6	R-Values = 4	PASS				
Mass(Insulation on wall exterior):	R-3	R-4	Not Applicable					
Common(multifamily):	Fr:R-11, Mass:R-6	Fr:R-11, Mass:R-6	Not Applicable					
Ceilings: Exposed	R-30	R-38	R-Value = 30	PASS				
Common	R-11	R-11	Not Applicable					
Air infiltration:	Blower door test is requi	red on the building	Total leakage(ACH50) = 5.000	PASS				
	envelope to verify leaka	ge ≤ 5 ACH50; test	Test report attached?					
	report provided to code	official.	□Yes □No					
Air distribution system ⁵ :	· ·							
Air handling unit	Not allowed in attic		Location: Main PA					
	Sealed		Sealed					
Duct R-Value	R-value ≥ R-8 (supply in	unconditioned attics)	R-Value(Supply in unc. attic) = 6.0	FAIL				
	or ≥R-6 (all other uncon	ditioned duct locations).	R-Value(Others in unc. space) = 6.0	PASS				
Air Leakage⁵:								
Duct test	Air handler installed: Tot	al leakage ≤ 4 cfm/100 s.f.	Substantially Leak Free					
	Air handler Not installed	:Total leakage ≤ 3 cfm/100 s.f.	Test report required? YES					
Ducts in conditioned space	Test not required if all du	ucts and AHU are in	Location: Unconditioned					
	conditioned space.							
Air conditioning systems:	Minimum federal standa	rd required by NAECA ⁶						
Central system ≤ 65,000 Btu/h	SEER=14.0		SEER(Min)=14	PASS				
	EER [from Table C403.2	2.3(3)]						
PTAC								
Other:								
Heating systems:	Minimum federal standa	rd required by NAECA ⁶						
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2		HSPF(Min) = 8.2	PASS				
Gas Furnace, non-weatherized	AFUE 78% (AFUE 80%	after Nov. 2015)	Not Applicable					
Oil Furnace, non-weatherized	AFUE 83%		Not Applicable					
Other:								
Water heating system (storage type):	Minimum federal standa	rd required by NAECA ⁶						
Electric: ⁷	50 gallons: EF=0.945		50 gallons: EF=0.95	PASS				
Gas fired: ⁸	40 gallons: EF=0.62, 50	gallons: EF=0.60	Not Applicable					
Other (describe):								

R-Value Calculation Method - FAIL

NR = No requirement

(1) Each component present in the As Proposed home must meet or exceed each of the applicable criteria in order to comply with this code using this method.

(2) For impact rated fenestration complying with Section R301.2.1.2 of the Florida building Code, Residential or Section 1609.1.2 of the Florida Building Code, Building the minimum U-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2. An area-weighted average of U-factor and SHGC shall be accepted to meet the requirements, or up to 15 square feet of glazed fenestration area are exempted from the U-factor and SHGC requirement based on Section R402.3.1, R402.3.2 and R403.3.3.

(3) One side-hinged opaque door assembly up to 24 square feet is exempted from this U-factor requirement.

(4) R-values are for insulation material only as applied in accordance with manufacturers' installation instructions. For mass walls the "interior of wall" requirement must be met except if at least 50 percent of the insulation required for the "exterior of wall" is installed exterior of, or integral to, the wall.

(5) Ducts & AHU installed "substantially leak free" per Section R403.2.2. Test required by an energy rater certified in accordance with Section 553.99, Florida Statues, or as authorized by Florida Statutes. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.

(6) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the Florida Building Code, Energy Conservation.

(7) For electric storage volumes \leq 55, min. EF = 0.960 – (0.0003 * volume). For electric storage volumes > 55, min. EF = 2.057 – (0.00113 * volume).

(8) For natural gas storage volumes \leq 55, min. EF = 0.675 – (0.0015 * volume). For natural gas storage volumes > 55, min. EF = 0.8012 – (0.00078 * volume). (9) For electric tankless, min. EF = 0.93. For natural gas tankless, min. EF = 0.82

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FailCount=1

FORM R402-2014

TABLE 402B MANDATORY REQUIREMENTS									
Component	Section	Summary of Requirement(s)	Check						
Air leakage	R402.4	To be caulked, gasketed, weatherstripped or otherwise sealed per Table R402.4.1.1.							
		Recessed lighting IC-rated as having ≤ 2.0 cfm tested to ASTM E 283.							
		Windows and doors: 0.3 cfm/sq.ft. (swinging doors: 0.5 cfm/sf) when tested to NFRC 400 or							
		AAMA/WDMA/DSA 101/I.S. 2/A440.							
		Fireplaces: Tight-fitting flue dampers & outdoor combustion air.							
Programmable thermostat	R403.1.2	Where forced-air furnace is primary system, programmable thermostat is required.							
Air distribution system	R403.2.2	Ducts shall be tested to Section 803 of the RESNET standards by an energy rater certified in							
	R403.2.4	accordance with Section 553.99, Florida Statutes, or as authorized by Florida Statutes.							
		Air handling units are not allowed in attics.							
Water heaters	R403.4	Comply with efficiencies in Table C404.2. Hot water pipes insulated to ≥ R-3 to kitchen outlets,							
		other cases. Circulating systems to have an automatic or accessible manual OFF switch.							
		Heat trap required for vertical pipe risers.							
Cooling/heating equipment	R403.6	Sizing calculation performed & attached. Special occasion cooling or heating capacity							
		requires seperate system or variable capacity system.							
Swimming pools & spas	R403.9	Spas and heated pools must have vapor-retardent 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 is 82%.							
		Heat pump pool heaters minimum COP is 4.0							
Lighting equipment	R404.1	At least 75% of permanently installed lighting fixtures shall be high-efficacy lamps.							

2

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 100 The lower the EnergyPerformance Index, the more efficient the home.

12345 North 99th Street, Miami, FL, 33125



*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.

4/13/2015 11:42 AM

EnergyGauge® USA - FlaRes2014 - Section R405.4.1 Compliant Software

Page 1 of 1

RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST

Florida Department of Business and Professional Regulation Residential Total UA Prescriptive Method

Applications for compliance with the 2014 Florida Building Code, Energy Conservation via the residential Total UA Alternative prescriptive method should include

- □ This Checklist
- **D** Total UA Report including Total UA Alternative Prescriptive Requirements Checklist(two pages)
- □ Input Summary Report (usually 4 pages/may be greater)
- **Energy Performance Level (EPL) Display Card (one page)**
- □ *Mandatory requirements(three pages)*

Required prior to CO for the Total UA method:

- A completed Air Distribution System Test Report (usually one page), unless all duct work and air handler units are located within the building thermal envelope.
- □ A completed Envelope Leakage Test Report(usually one page)
- A completed Air Barrier and Insulation Inspection Component Criteria checklist (Table 402.4.1.1 of the 2014 Florida Building Code, Energy Conservation with added checkboxes one page)

Total UA ALTERNATIVE Report (2014) - R402.1.4 Compliance FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method



EnergyGauge® / USRRIB v4.0

Total UA Alternative Report - R402.1.4 Compliance

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS	INSTALLED VALUES	
Air infiltration:	Blower door test is required on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage ≤ 5 ACH50; test	Test report attached?	
	report provided to code official.	□Yes □No	
Air distribution system ¹ :			
Air handling unit	Not allowed in attic	Location: Main	PASS
	Sealed	Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in attics)	R-Value(Supply in unc. attic)	PASS
	or \geq R-6 (all other duct locations).	R-Value(Others in unc. space) = 8.0	PASS
Air Leakage ¹ :			
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.	4.00 cfm/100 s.f.	PASS
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.	Test report required? YES	
Ducts in conditioned space	Test not required if all ducts and AHU are in	Location: Unconditioned	
	conditioned space.		
Air conditioning systems:	Minimum federal standard required by NAECA ²	C	
Central system ≤ 65,000 Btu/h	SEER=14.0	SEER(Nip)=14	PASS
	EER [from Table C403.2.3(3)]	1,5	
Room unit or PTAC	See Tables C403.2.3(1)-(11)	N/	
Other:			
Heating systems:	Minimum federal standard required by NAECA ²		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	SPF(Min) = 8.5	PASS
Gas Furnace, non-weatherized	AFUE 78 % (AFUE 80% after Nov. 2015)	Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%	Not Applicable	
Other:	\sim		
Water heating system (storage type):	Minimum federal standard required by NAE		
Electric: ³	50 gallons: EF=0.945	50 gallons: EF=0.95	PASS
Gas fired: ^₄	40 gallons: EF=0.62, 50 gallons: EF=0.60	Not Applicable	
Other (describe):	\sim		

NR = No requirement.

- (1) Ducts & AHU installed "substantially leak free" per Section R403.2 Test required by an energy rater certified in accordance with Section 553.99, *Florida Statues*, or as authorized by *Florida Statues*. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.
- (2) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the , *Florida Building Code*, *Energy Conservation*.
- (3) For other electric storage volumes \geq 55, min. E 2.057 (0.00113 * volume).
- (4) For other natural gas storage volumes ≥ 55 min F = 0.8012 (0.00078 * volume).



PROJECT												
Title:TAM Tampa House 1Bedrooms:3Address Type:Street AdBuilding Type:UserBathrooms:0Lot #Owner:Conditioned Area:2000 sq.ft.Block/SubDivision:# of Units:1Total Stories:1PlatBook:Builder Name:Worst Case:NoStreet:12345 NPermit Office:Rotate Angle:0County:HillsboroJurisdiction:Cross Ventilation:City, State, Zip:Tampa ,Family Type:Single-familyWhole House Fan:FL ,SuburbanYear Construct:2015Shielding:SuburbanSuburban	Idress orth 99th Street ugh 33614											
CLIMATE												
DesignDesign TempInt Design TempHeatingDesignLocationTmy Site97.5 %2.5 %WinterSummerDegree DaysMoisture	Daily Temp e Range											
FL, Tampa FL_TAMPA_INTERNATIONAL_AP 39 91 70 75 645.5 54	Medium											
UTILITY RATES												
Fuel Unit Utility Name Monthly Fixed Cost	\$/Unit											
ElectricitykWhEnergyGauge Default0Natural GasThermEnergyGauge Default0Fuel OilGallonEnergyGauge Default0PropaneGallonEnergyGauge Default0	0.1188 1.72 1.1 1.4											
SURROUNDINGS												
Shade Trees Adjacent Buildings Ornt Type Height Width Distance Exist Height Width	Distance											
N None Oft Oft	O ft O ft O ft											
SENoneOftOftOftOftOftSNoneOftOftOftOftOftSWNoneOftOftOftOftOft	O ft O ft O ft											
WNone0 ft0 ft0 ft0 ftWNone0 ft0 ft0 ft0 ftNWNone0 ft0 ft0 ft0 ft	0 ft 0 ft											
BLOCKS												
Number Name Area Volume												
1 Block1 2000 20000												
SPACES												
Number Name Area Volume Kitchen Occupants Bedrooms Finished Cool	ed Heated											
1 Main 2000 20000 No 1 3 Yes Ye	s Yes											
FLOORS												
# Floor Type Space Perimeter R-Value Area Tile	Nood Carpet											

	ROOF														
#	Ту	pe			Materials	F A	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul	Pitch (deg)
1	Ga	ble or	shed	Composition shingles 2166			66 ft ²	416 ft ²	Medium	0.75	No	0.9	No	0	22.6
	ATTIC														
#	: 1	Гуре			Ventilatio	n	Vent Ra	itio (1 in)	Area	R	BS	IRCC			
1	F	- ull atti	ic		Vented		30	00	2000 f	t ²	N	N			
	CEILING														
	# C	Ceiling	Туре			Space	R	-Value	Are	ea	Framing Fr	action		Truss Ty	ре
	1 L	Jnder	Attic ()			Main	:	38	200	00 ft ²	0.0	7		Wood	
	WALLS														
			Wall ori Adiacent	entation below is	as entered.	Actual orie	ntation is n Cavitv	nodified b Width	y rotate ar Hei	ngle shown i aht	n "Project" s Shea	section a athing F	above. Framing	Solar	Below
#	0	rnt	To	Wall Type		Space	R-Value	Ft In	Ft	Ĭn Aı	rea R-V	/alue F	raction	Absor.	Grade%
1		N	Exterior	Concrete Block	- Int Insul	Main	7.22	50	10	500	.0 ft ²		0	0.5	0
2		E	Exterior	Concrete Block	- Int Insul	Main	7.22	40	10	400	.0 ft ²		0	0.75	0
3		S	Exterior		- Int Insul	Main	7.22	40	10	400	.0 ft ²		0	0.5	0
4		5	Exterior	Frame - wood	lat la sul	Iviain	13	10	10	100	.0 π²		0.25	0.5	0
5		VV	Exterior	Concrete Block	- Int Insul	Iviain	7.22	40	10	400	.0 ft²		0	0.5	0
							DOO	RS							
	#		Ornt	Door Type	ç	Space		Storms		U-Value	Width Ft	In	Height Ft I	n /	Area
	1		N	Wood		Main		None	.4		8		3 24		4 ft ²
							WIND	ows							
		Wall								0	erhang				
#	Ornt	ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Depth	Separatior	n Interi	ior Shade	Scr	eening
1	Ν	1	Vinyl	Low-E Double	Yes	0.4	0.25	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
2	Е	2	Vinyl	Low-E Double	Yes	0.4	0.25	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
3	S	3	Vinyl	Low-E Double	Yes	0.4	0.25	Ν	15.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
4	S	4	Vinyl	Low-E Double	Yes	0.4	0.25	Ν	60.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
5	W	5	Vinyl	Low-E Double	Yes	0.4	0.25	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
6	W	Skyl	t None	Double (Clear)	Yes	0.65	0.25	Ν	10.0 ft ²	2 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
							INFILTR	ATION							
	_			4 - (ll.	<i></i>	0514		_	-1.0				~		
#	Sco		- N		SLA		ELA		4∟A				Spa	ce(s)	
1	Whole	house	e Propo	osed ACH(50)	.000318	1666.7	91.5 MAS	5 17: SS	2.08	.2383	5			All	
	Ma		he		Area		Thick	mess	Fur	niture Fractiv	on	Snac	<u>م</u>		
	No.	Adde	d Mass		0 ft ²		0	ft	Full				ain		
					0.10		0	••		0.0					

HEATING SYSTEM														
#	System Type		Sub	type			Efficienc	y Capao	city	Geotherr Entry Po	mal HeatF wer Vo	Pump olt. Ci	Du urr	icts Block
1	Electric Heat P	ump	Non	e			HSPF:8.	5 21 kE	3tu/hr		0 () () sy	s#1 1
COOLING SYSTEM														
#	System Type		Sub	type			Efficienc	у	Capacity	Air Flo	WC	SHR	Ducts	Block
1	Central Unit		Non	ie			SEER:1	4 2	1 kBtu/hr	630 c	fm	0.75	sys	#1 1
HOT WATER SYSTEM														
#	System Type	Sub	Type Lo	ocation		I	EF	Сар	Use	Set	Pnt		Credits	
1	Electric	Non	e M	ain		0	.95	50 gal	60 gal	120 c	deg		None	
SOLAR HOT WATER														
Collecto	or Type	Coll F	lector Filt Azi	S imuth	urface Area	Loss Coef.	Absorp. Prod.	Trans Corr.	Tank Volume	Tank U-Value	Tank Surf Area	Hea a Exch I	t P\ Eff Pum	/ Pump ped Energy
							DUCTS							
DUCT #	Location	Supply R-Value	Area L	I .ocation	Return Area	Number	Leaka	је Туре	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat Cool
1	Attic	8 4	400 ft ²	Main	100 ft ²	1	Propo	sed Qn	Main	cfm	cfm	0.04	0.00	1 1
						TEM	PERATU	RES						
Progr	ramable Thermo	ostat: N			(Ceiling Fans	5: N							
Coolir Heatir Ventir	ng []Jan ng [X]Jan ng []Jan	[] Feb [X] Feb [] Feb	[_] Ma [X] Ma [X] Ma	r [.] r [X]	Apr Apr Apr	[] May [] May [] May	[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] Se Se Se Se		Oct Oct Oct	[] Nov [X] Nov [X] Nov	[] Dec [X] Dec [] Dec
Thermo	stat Schedule:	HERS 200	6 Referer	nce				Н	lours					
Schedu	ile Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling	g (WD)	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
Cooling	g (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	g (WD)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
Heating	g (WEH)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68

APPLIANCES & LIGHTING														
Appliance Schedule: HERS 2006 Reference Hours														
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12	
Ceiling Fans (Summer)	AM	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.33	0.33	0.33	0.33	0.33	
% Released: 100	PM	0.33	0.33	0.33	0.33	0.33	1	0.9	0.9	0.9	0.9	0.9	0.65	
Annual Use: 0 kwn/Yr		0.405	Peak		vvatts	0.004	0.400	0.050	0.57	0.040	4	0.077	0.070	
% Released: 60	AM PM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	0 488	0.977	0.872	
Annual Use: 0 kWh/Yr		0.170	Peak	Value: 0	Watts	0.001	0.01	0.07	0.07	0.01	0.100	0.10	0.100	
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443	
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281	
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts									
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1	
% Released: 10	PM	0.875	0.85 Rook	0.8 Value: 0	0.625 Wotte	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375	
Annual Use. 0 KWN/11	~ • • •	0.16	reak		0.40	0.00	0.45	0.4	0.00	0.40	0.46	0.12	0.11	
% Released: 90	PM	0.16	0.15	0.16	0.18	0.23	0.45	0.4	0.26	0.19	0.16	0.12	0.11	
Annual Use: 2055 kWh/	/Yr	0.10	Peak	Value: 67	71 Watts	0.01	0.00	0.00	0.00	•	0.00	0.01	0.20	
Miscellaneous	AM	0.48	0.47	0.47	0.47	0.47	0.47	0.64	0.71	0.67	0.61	0.55	0.53	
% Released: 90	PM	0.52	0.5	0.5	0.5	0.59	0.73	0.79	0.99	1	0.96	0.77	0.55	
Annual Use: 3364 kWh/	/Yr		Peak	Value: 61	7 Watts									
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1	
% Released: 0	PM	1	1 Deels 1	1	1	0	0	0	0	0	0	0	0	
Annual Use: 0 kwn/11		0.057	Peak			0.057	0.444	0.474	0.000	0.040	0.040	0.040	0.4	
Range % Released: 100	AM PM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4	
Annual Use: 0 kWh/Yr	1 101	0.407	Peak	Value: 0	Watts	0.071		0.007	0.420	0.200	0.225	0.171	0.114	
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8	
% Released: 100	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85	
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts									
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1	
% Released: 0	PM	0.1	0.1	0.1 Valuer 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Annual Use. 0 kwn/ fr			Реак	value: 0										
					REFRI	GERAT	JRS							
ID Type	Screen		Locati	on Q	uantity	Vol	FrZ. V	'ol	Make	Model	Scheo	lule	kWhPerYr	
1	Default	New	Main	1										
CLOTHES WASHERS														
ID Type	Screen		Locati	on	Capacity			Make	Мос	del	Schedule	Load	sPerYr	
1 1 Main	Default	New	Main		2.847					ł	HERS201	(inva	lid)	
					CLOTH	ES DRY	ERS							
ID Type	Screen		Locati	on	Capacity	Fuel T	уре	Make	Мос	del	Schedule	Load	sPerYr	
1 Dryers	Dryers Default New Main					Electr	icity							
				DIS	HWASH	IERS								
----	---------------------	--------------------	----------	--------	----------	----------	--------------	-------------	-------------	----------------	--	--	--	--
ID	Туре	Screen	Location	Capaci	ity Vir	ntage	Make	Model	Schedule	kWhPerYr				
1	Dishwash	Default New	Main	12	20(04 or N			HERS201	372				
				R/	ANGE O	VEN								
ID	Туре	Screen	Location	Туре		Fueltype	Make	Model	Cooktop	Oven				
1	Ranges	Default New	Main	Cooktc	pOven C	Electric			Electric Fl	Not Conv				
	HARD WIRED LIGHTING													
ID	Туре	Screen	Location	Total#	Qualify#	Comp Fl	All Other FL	txtBulbtype	Schedule	Watts per bulb				
1	Hard-Wir	By Count - Qualify	Main	100	10	0	10							
2	Hard-Wir	Default New	Exterior											
3	Hard-Wir	Default New	Garage											
			M	ISC EL	ECTRIC	AL LOADS	;							
ID	Туре	Screen	Item	Quanti	ty Ca	tagory	Operating	Location	Schedule	Off Standby				
1	Misc Elec	Simple Default		1			1 1	Main	HERS201	1				

Total UA ALTERNATIVE Report (2014) - R402.1.4 Compliance FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method



EnergyGauge® / USRRIB v4.0

Total UA Alternative Report - R402.1.4 Compliance

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS	INSTALLED VALUES	
Air infiltration:	Blower door test is required on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage ≤ 5 ACH50; test	Test report attached?	
	report provided to code official.	□Yes □No	
Air distribution system ¹ :			
Air handling unit	Not allowed in attic	Location: Main	PASS
	Sealed	Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in attics)	R-Value(Supply in unc. attic)	PASS
	or \geq R-6 (all other duct locations).	R-Value(Others in unc. space) = 8.0	PASS
Air Leakage ¹ :			
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.	4.00 cfm/100 s.f.	PASS
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.	Test report required? KES	
Ducts in conditioned space	Test not required if all ducts and AHU are in	Location: Unconditioned	
	conditioned space.		
Air conditioning systems:	Minimum federal standard required by NAECA ²	C	
Central system ≤ 65,000 Btu/h	SEER=14.0	SEER(Nip)=14	PASS
	EER [from Table C403.2.3(3)]	1,5	
Room unit or PTAC	See Tables C403.2.3(1)-(11)	N/	
Other:		\sim	
Heating systems:	Minimum federal standard required by NAECA ²		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	SPF(Min) = 8.5	PASS
Gas Furnace, non-weatherized	AFUE 78 % (AFUE 80% after Nov. 2015)	Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%	Not Applicable	
Other:	\sim		
Water heating system (storage type):	Minimum federal standard required by NAE		
Electric: ³	50 gallons: EF=0.945	50 gallons: EF=0.95	PASS
Gas fired: ⁴	40 gallons: EF=0.62, 50 gallons: Ef=0.60	Not Applicable	
Other (describe):	\sim		

NR = No requirement.

- (1) Ducts & AHU installed "substantially leak free" per Section R403.2 Test required by an energy rater certified in accordance with Section 553.99, *Florida Statues*, or as authorized by *Florida Statues*. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.
- (2) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the , *Florida Building Code*, *Energy Conservation*.
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- (4) For other natural gas storage volumes ≥ 55 min F = 0.8012 (0.00078 * volume).



					PROJ	ECT					
Title: Buildi Owne # of L Builde Perm Jurisc Famil New// Year Comr	ng Type: er: Jnits: er Name: it Office: diction: y Type: Existing: Construct: nent:	TAM Tampa User 1 Single-family New (From F 2015	House 2 / Plans)	Bedroom Bathroor Condition Total Sto Worst Ca Rotate A Cross Ve Whole H Terrain: Shielding	ns: ned Area: ories: ase: ngle: entilation: ouse Fan: g:	3 0 2000 sq.ft. 1 No 0 Suburban Suburban		A L P S C C	ddress Type: ot # lock/SubDivision: latBook: treet: county: city, State, Zip:	Street Ad 12345 No Hillsboro Tampa , FL , 3	ddress orth 99th Street ugh 33614
					CLIM	ATE					
	Design Location		Tmy Site		Design 97.5 %	Temp 2.5 %	Int Desig Winter	gn Temp Summer	Heating Degree Days	Design Moisture	Daily Temp e Range
	FL, Tampa	a F	L_TAMPA_INTERNAT	IONAL_AP	39	91	70	75	645.5	54	Medium
					UTILITY	RATES					
Fuel		Unit	Utility Name					Mont	hly Fixed Cost		\$/Unit
Electi Natur Fuel (Propa	ricity ral Gas Oil ane	kWh Therm Gallon Gallon	EnergyGauge Defau EnergyGauge Defau EnergyGauge Defau EnergyGauge Defau	t t t					0 0 0 0		0.1188 1.72 1.1 1.4
				5	SURROU	NDINGS					
Ornt	Туре		Shade T He	Trees light	Width	Distance	e E	xist	Adjacent B Height	uildings Width	Distance
N NE F	None None None		0 0 0	ft ft ft	O ft O ft O ft	0 ft 0 ft 0 ft			O ft O ft O ft	0 ft 0 ft 0 ft	O ft O ft O ft
SE S SW	None None None		0	ft ft ft	O ft O ft O ft	0 ft 0 ft 0 ft			O ft O ft O ft	0 ft 0 ft 0 ft	O ft O ft O ft
W NW	None None		0	ft ft	0 ft 0 ft	0 ft 0 ft			0 ft 0 ft	0 ft 0 ft	0 ft 0 ft
					BLOC	CKS					
Nur 1	mber	Name Block1	Area 2000	Volum 20000	9						
					SPAC	CES					
Nur	mber	Name	Area	Volume	Kitchen	Occupants	Bed	lrooms	Finished	Cool	ed Heated
1	ľ	Main	2000	20000	No	1		3	Yes	Ye	s Yes
					FLOC	ORS					
#	Floor Ty		Space	Perime	eter	R-Value	Are	ea		Tile \	Nood Carpet
1	Slad-On-G	rade Edge Ins	Sulation Main	18	180 ft 0 2000 ft ²					U	0 1

	ROOF Roof Gable Roof Solar SA Emitt Emitt Deck Pitch														
#	Тур	be			Materials	ج م	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Decł Insul	x Pitch . (deg)
1	Ga	ble or	shed	Comp	osition shingle	es 21	66 ft ²	416 ft ²	Medium	0.75	No	0.9	No	0	22.6
							ATT	'IC							
#	Т	vpe			Ventilatior	n	Vent Ra	tio (1 in)	Area	R	3S	IRCC			
1	F	Full att	ic		Vented		30	00	2000 f	t ²	 N	N			
							CEIL	ING							
	# C	Ceiling	Туре			Space	R	Value	Ar	ea	Framing Fi	action		Truss Ty	ре
	1 L	Inder	Attic ()			Main	:	38	200	00 ft ²	0.0	7		Wood	
							WAL	LS							
			Wall ori Adjacent	entation below is	as entered. A	Actual orie	ntation is n Cavity	width	y rotate ar Hei	igle shown i ght	n "Project" s She	section a athing F	above. Framing	Solar	Below
#	O	rnt	То	Wall Type	3		R-Valúe	Ft In	Ft	Ĭn Aı	ea R-\	/alue F	raction	Absor.	Grade%
1		N F	Exterior	Concrete Block -	Int Insul	Main	7.22	50	10	500	0 ft ²		0	0.5	0
2		E	Exterior	Concrete Block -		Main	7.22	40	10	400	0 112		0	0.75	0
3		3 6	Exterior	Eromo Wood	int insul	Main	1.22	40	10	400	0 11-		0.25	0.5	0
4		3	Exterior	Caparata Black	Int Incud	Main	13	10	10	100	0 11-		0.25	0.5	0
c		vv	Exterior	Concrete Block -	int insul	Main	1.22	40	10	400	0 II 2		0	0.5	0
							DOO	RS							
	#		Ornt	Door Type	s	pace		Storms		U-Value	Width Ft	In	Height Ft I	n /	Area
	1		N	Wood		Main		None		.8	8		3	2	24 ft ²
							WIND	ows							
		Wall								0	erhang				
#	Ornt	ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Depth	Separatior	n Interi	or Shade	s Sci	eening
1	Ν	1	Metal	Double (Clear)	Yes	0.68	0.46	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	None
2	Е	2	Vinyl	Low-E Double	Yes	0.27	0.17	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	None
3	S	3	Metal	Single (Clear)	Yes	1.2	0.8	Ν	15.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	None
4	S	4	Vinyl	Low-E Double	Yes	0.27	0.17	Ν	60.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	None
5	W	5	Vinyl	Low-E Double	Yes	0.27	0.17	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
6	W	Skyl	t None	Double (Clear)	Yes	0.65	0.25	Ν	10.0 ft ²	2 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
							INFILTR	ATION							
#	S ~⁄	ne	R.	lethod				E,	A In	АСН			Sno	(c)	
4	What-	hours			000040	1666 7		47	1 ∽ ^		E		Opa	AII	
	vvriole	nouse		лаец АСП(ЭU)	.000318	1000.7	MAS	SS 17.	2.00	.2303	5			All	
-	Ma	ss Tv)e		Area		Thick	iness	Furr	niture Fractio	n	Snac	e		
	No	Adde	d Mass		0 ft ²		0	ft	1 011	0.3		Ma	ain		
# Scope Method SLA CFM 1 Wholehouse Proposed ACH(50) .000318 1666 Mass Type Area No Added Mass 0 ft²							DELA 91.5 MA: Thick	ATION Economic 172 SS cness ft	qLA 2.08 Furr	ACH /	ACH 50 5	Spac	Spar e ain	ce(s) All	

						HEAT	ING SYS	бтем						
#	System Type		Sub	type			Efficienc	y Capao	city	Geotherr Entry Po	mal HeatF wer Vo	Pump olt. Ci	Du urr	ucts Block
1	Electric Heat P	ump	Non	e			HSPF:8.	5 21 kE	3tu/hr		0 () () sy	s#1 1
						COOL	ING SYS	STEM						
#	System Type		Sub	type			Efficienc	у	Capacity	Air Flo	ow S	SHR	Ducts	Block
1	Central Unit		Non	ie			SEER:1	4 2	1 kBtu/hr	630 c	fm	0.75	sys	#1 1
						HOT W	ATER S	YSTEM						
#	System Type	Sub	Type Lo	ocation		I	EF	Сар	Use	Set	Pnt		Credits	
1	Electric	Non	e M	ain		0	.95	50 gal	60 gal	120 c	deg		None	
						SOLAF	R HOT W	ATER						
Collecto	or Type	Coll F	lector Filt Azi	S imuth	urface Area	Loss Coef.	Absorp. Prod.	Trans Corr.	Tank Volume	Tank U-Value	Tank Surf Area	Hea a Exch I	t P [\] Eff Pum	V Pump ped Energy
	DUCTS													
DUCT #	Location	Supply R-Value	Area L	I .ocation	Return Area	Number	Leaka	је Туре	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat Cool
1	Attic	8 4	400 ft ²	Main	100 ft ²	1	Propo	sed Qn	Main	cfm	cfm	0.04	0.00	1 1
						TEM	PERATU	RES						
Progr	ramable Thermo	ostat: N			(Ceiling Fans	5: N							
Coolir Heatir Ventir	ng []Jan ng [X]Jan ng []Jan	[] Feb [X] Feb [] Feb	[_] Ma [X] Ma [X] Ma	r [.] r [X]	Apr Apr Apr	[] May [] May [] May	[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] Se [] Se [] Se	р [] р [Х]	Oct Oct Oct	[] Nov [X] Nov [X] Nov	[] Dec [X] Dec [] Dec
Thermo	stat Schedule:	HERS 200	6 Referer	nce				Н	lours					
Schedu	ile Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling	g (WD)	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
Cooling	g (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	g (WD)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
Heating	g (WEH)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68

				AP	PLIANC	ES & LI	GHTING	ì					
Appliance Schedule: HER	S 2006 R	Reference)				ŀ	lours					
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.33	0.33	0.33	0.33	0.33
% Released: 100	PM	0.33	0.33	0.33	0.33	0.33	1	0.9	0.9	0.9	0.9	0.9	0.65
Annual Use: 0 kvvn/ Yr		0.405	Реак	value: 0	vvatts	0.004	0.400	0.050	0.57	0.040		0.077	0.070
% Released: 60	AM PM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1 0 488	0.977	0.872
Annual Use: 0 kWh/Yr	1 101	0.110	Peak	Value: 0	Watts	0.001	0.07	0.07	0.07	0.07	0.400	0.40	0.100
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts								
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 10	РМ	0.875	0.85 Peak	0.8 `0 • میںاد/\	0.625 Watts	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Lighting	ΔN/	0.16	0.15	0.16	0.18	0.23	0.45	0.4	0.26	0 10	0.16	0 12	0.11
% Released: 90	PM	0.16	0.13	0.10	0.10	0.23	0.45	0.4	0.20	0.13	0.10	0.12	0.11
Annual Use: 2055 kWh	/Yr		Peak	Value: 67	71 Watts								
Miscellaneous	AM	0.48	0.47	0.47	0.47	0.47	0.47	0.64	0.71	0.67	0.61	0.55	0.53
% Released: 90	PM	0.52	0.5	0.5	0.5	0.59	0.73	0.79	0.99	1	0.96	0.77	0.55
Annual Use: 3364 kWh	/Yr		Peak	Value: 61	7 Watts								
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	РМ	1	1 Poak	1 Value: 0	1 Watte	0	0	0	0	0	0	0	0
Rongo	0 N A	0.057	0.057		0.057	0.057	0 11 4	0 171	0.296	0 242	0.242	0 242	0.4
% Released: 100	PM	0.457	0.343	0.037	0.037	0.057	0.114	0.171	0.200	0.343	0.343	0.343	0.4
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts								••••
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 100	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts								
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0 Annual Use: 0 kWh/Yr	PIN	0.1	0.1 Peak	0.1 Value: 01	0.1 Watts	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
					REFRI	GERAT	ORS						
ID Type	Screen		Locati	on Q	uantity	Vol	FrZ. V	′ol	Make	Model	Scheo	lule	kWhPerYr
1	Default	New	Main	1									
				C	CLOTHE	S WAS	HERS						
ID Type Screen Location Capacity						Make	Мос	del	Schedule	Load	sPerYr		
1 1 Main	Default	New	Main		2.847					ŀ	HERS201	(inva	lid)
					CLOTH	ES DRY	ERS						
ID Type	Screen		Locati	on	Capacity	Fuel 1	уре	Make	Мос	del	Schedule	Load	sPerYr
1 Dryers	Default	New	Main			Electr	icity						

				DIS	HWASH	IERS								
ID	Туре	Screen	Location	Capaci	ity Vir	ntage	Make	Model	Schedule	kWhPerYr				
1	Dishwash	Default New	Main	12	20(04 or N			HERS201	372				
				R/	ANGE O	VEN								
ID	Туре	Screen	Location	Туре		Fueltype	Make	Model	Cooktop	Oven				
1	Ranges	Default New	Main	Cooktc	pOven C	Electric			Electric Fl	Not Conv				
	HARD WIRED LIGHTING													
ID	Туре	Screen	Location	Total#	Qualify#	Comp Fl	All Other FL	txtBulbtype	Schedule	Watts per bulb				
1	Hard-Wir	By Count - Qualify	Main	100	10	0	10							
2	Hard-Wir	Default New	Exterior											
3	Hard-Wir	Default New	Garage											
			M	ISC EL	ECTRIC	AL LOADS	;							
ID	Туре	Screen	Item	Quanti	ty Ca	tagory	Operating	Location	Schedule	Off Standby				
1	Misc Elec	Simple Default		1			1 1	Main	HERS201	1				

Total UA ALTERNATIVE Report (2014) - R402.1.4 Compliance FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method



EnergyGauge® / USRRIB v4.0

Total UA Alternative Report - R402.1.4 Compliance

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS	INSTALLED VALUES	
Air infiltration:	Blower door test is required on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage ≤ 5 ACH50; test	Test report attached?	
	report provided to code official.	□Yes □No	
Air distribution system ¹ :			
Air handling unit	Not allowed in attic	Location: Main	PASS
	Sealed	Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in attics)	R-Value(Supply in unc. attic)	PASS
	or \geq R-6 (all other duct locations).	R-Value(Others in unc. space) = 8.0	PASS
Air Leakage ¹ :			
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.	4.00 cfm/100 s.f.	PASS
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.	Test report required? YES	
Ducts in conditioned space	Test not required if all ducts and AHU are in	Location: Unconditioned	
	conditioned space.		
Air conditioning systems:	Minimum federal standard required by NAECA ²	C	
Central system ≤ 65,000 Btu/h	SEER=14.0	SEER(Nip)=14	PASS
	EER [from Table C403.2.3(3)]	1,5	
Room unit or PTAC	See Tables C403.2.3(1)-(11)	N/	
Other:			
Heating systems:	Minimum federal standard required by NAECA ²		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	SPF(Min) = 8.5	PASS
Gas Furnace, non-weatherized	AFUE 78 % (AFUE 80% after Nov. 2015)	Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%	Not Applicable	
Other:	\sim		
Water heating system (storage type):	Minimum federal standard required by NAE		
Electric: ³	50 gallons: EF=0.945	50 gallons: EF=0.95	PASS
Gas fired: ⁴	40 gallons: EF=0.62, 50 gallons: EF=0.60	Not Applicable	
Other (describe):	\sim		

NR = No requirement.

- (1) Ducts & AHU installed "substantially leak free" per Section R403.2 Test required by an energy rater certified in accordance with Section 553.99, *Florida Statues*, or as authorized by *Florida Statues*. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.
- (2) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the , *Florida Building Code*, *Energy Conservation*.
- (3) For other electric storage volumes \geq 55, min. E 2.057 (0.00113 * volume).
- (4) For other natural gas storage volumes ≥ 55 min F = 0.8012 (0.00078 * volume).



					PROJ	ECT					
Title: Build Øwne # of U Build Perm Jurise Fami New/ Year Com	ing Type: er: Jnits: er Name: iit Office: diction: ly Type: Existing: Construct: ment:	TAM Tampa User 1 Single-family New (From F 2015	House 3 , Plans)	Bedroom Bathroor Condition Total Sto Worst Ca Rotate A Cross Ve Whole H Terrain: Shielding	ns: ned Area: nries: ase: ngle: entilation: ouse Fan: g:	3 0 2000 sq.ft. 1 No 0 Suburban Suburban		A L P S C C	ddress Type: ot # lock/SubDivision: latBook: itreet: county: city, State, Zip:	Street Ad 12345 No hillsborou Tampa , FL , 3	dress orth 99th Street gh 3614
					CLIM	ATE					
	Design Location		Tmy Site		Design 97.5 %	Temp 2.5 %	Int Desig Winter	gn Temp Summer	Heating Degree Days	Design Moisture	Daily Temp Range
	FL, Tampa	a F	L_TAMPA_INTERNAT	IONAL_AP	39	91	70	75	645.5	54	Medium
					UTILITY	RATES					
Fuel		Unit	Utility Name					Mont	hly Fixed Cost	:	\$/Unit
Elect Natur Fuel Propa	ricity ral Gas Oil ane	kWh Therm Gallon Gallon	EnergyGauge Defau EnergyGauge Defau EnergyGauge Defau EnergyGauge Defau	t t t					0 0 0 0	C).1188 1.72 1.1 1.4
				5	SURROUI	NDINGS					
Ornt	туре		Shade T He	rees ight	Width	Distance	e E	xist	Adjacent B Height	uildings Width	Distance
N NE F	None None None		0 0	ft ft ft	O ft O ft O ft	O ft O ft O ft			0 ft 0 ft 0 ft	0 ft 0 ft 0 ft	0 ft 0 ft 0 ft
SE S SW	None None None		0 0 0	ft ft ft	O ft O ft O ft	O ft O ft O ft			O ft O ft O ft	O ft O ft O ft	O ft O ft O ft
W NW	None None		0	ft ft	0 ft 0 ft	0 ft 0 ft			0 ft 0 ft	0 ft 0 ft	O ft O ft
					BLOC	CKS					
Nu 1	mber	Name Block1	Area 2000	Volum 20000	e						
					SPAC	ES					
Nu	mber	Name	Area	Volume	Kitchen	Occupants	Bed	lrooms	Finished	Coole	ed Heated
1		Main	2000	20000	No	1		3	Yes	Yes	s Yes
					FLOC	ORS					
#	Floor Ty	pe irade Edge Ins	Space ulation Main	Perime	eter 30 ft	R-Value	Are	ea		Tile V	Vood Carpet
						÷	_000	-			- '

	ROOF Roof Gable Roof Solar SA Emitt Emitt Deck Pitch														
#	Ту	ре			Materials	R A	loof Irea	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul	E Pitch (deg)
1	Ga	ble or	shed	Comp	osition shingle	es 216	66 ft ² 4	416 ft ²	Medium	0.75	No	0.9	No	0	22.6
							ATT	IC							
#	: T	Гуре			Ventilatior	า	Vent Rat	tio (1 in)	Area	R	BS	IRCC			
1	F		ic		Vented		30	00	2000 f	t ²	N	N			
							CEILI	ING							
	# C	Ceiling	Туре			Space	R-	Value	Are	ea	Framing Fi	raction		Truss Ty	ре
	1 L	Jnder	Attic ()			Main	:	30	200	00 ft ²	0.0	7		Wood	
							WAL	LS.							
			Wall or Adjacent	ientation below is	as entered. A	Actual orier	ntation is m Cavity	nodified b Width	y rotate ar Hei	igle shown ght	in "Project" s She	section a athing F	above. Framing	Solar	Below
#	0	rnt	То	Wall Type	3		R-Valúe	Ft Ir	n Ft	Ĭn A	rea R-\	/alue F	Fraction	Absor.	Grade%
1		N F	Exterior	Frame - Wood		Main	13	50	10	500	.0 ft ²	5	0.25	0.5	0
2		E	Exterior	Frame - Wood		Main	13	40	10	400	.0 ft ²	5	0.25	0.5	0
3	•	5	Exterior	Frame - Wood		Main	13	40	10	400	.0 ft ²	5 F	0.25	0.5	0
4		3 W	Exterior	Frame - Wood		Main	13	10	10	400	0 ft2	5	0.25	0.5	0
		vv	Exterior	Traine - Wood		Iviaiii	15	40	10	400	.0 11	5	0.20	0.5	0
	DOORS														
	#		Ornt	Door Type	S	pace		Storms		U-Value	Width Ft	In	Height Ft I	n /	Area
	1		Ν	Wood		Main		None		.4	8		3	2	4 ft ²
							WINDO	ows							
		Wall								O	/erhang				
#	Ornt	ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Depth	Separation	n Interi	ior Shade	e Scr	eening
1	Ν	1	Vinyl	Low-E Double	Yes	0.35	0.25	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
2	E	2	Vinyl	Low-E Double	Yes	0.35	0.25	Ν	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
3	S	3	Metal	Single (Clear)	Yes	1.2	0.8	Ν	15.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
4	S	4	Vinyl	Low-E Double	Yes	0.35	0.25	N	60.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
5	W	5	Vinyl	Low-E Double	Yes	0.35	0.25	N	75.0 ft ²	0 ft 0 in	0 ft 0 in	Drap	es/blinds	1	lone
6	W	Skyl	t None	Double (Clear)	Yes	0.65	0.25	N	10.0 ft ²	2 ft 0 in	0 ft 0 in	Drap	bes/blinds	l l	lone
							NFILTR	ATION							
#	Sco	ope	N	lethod	SLA	CFM 50	ELA	E	qLA	ACH	ACH 50		Spa	ce(s)	
1	Whole	house	e Propo	osed ACH(50)	.000318	1666.7	91.5	17	2.08	.2383	5			All	
				x/			MAS	SS							
	Ма	ass Tyr	ре		Area		Thick	iness	Furr	niture Fracti	on	Spac	e		
	No	Adde	d Mass		0 ft ²		0	ft		0.3		Ma	ain		

						HEAT	ING SYS	бтем						
#	System Type		Sub	type			Efficienc	y Capao	city	Geotherr Entry Po	mal HeatF wer Vo	Pump olt. Ci	Du urr	ucts Block
1	Electric Heat P	ump	Non	e			HSPF:8.	5 21 kE	3tu/hr		0 () () sy	s#1 1
						COOL	ING SYS	STEM						
#	System Type		Sub	type			Efficienc	у	Capacity	Air Flo	ow S	SHR	Ducts	Block
1	Central Unit		Non	ie			SEER:1	4 2	1 kBtu/hr	630 c	fm	0.75	sys	#1 1
						HOT W	ATER S	YSTEM						
#	System Type	Sub	Type Lo	ocation		I	EF	Сар	Use	Set	Pnt		Credits	
1	Electric	Non	e M	ain		0	.95	50 gal	60 gal	120 c	deg		None	
						SOLAF	R HOT W	ATER						
Collecto	or Type	Coll F	lector Filt Azi	S imuth	urface Area	Loss Coef.	Absorp. Prod.	Trans Corr.	Tank Volume	Tank U-Value	Tank Surf Area	Hea a Exch I	t P [\] Eff Pum	V Pump ped Energy
	DUCTS													
DUCT #	Location	Supply R-Value	Area L	I .ocation	Return Area	Number	Leaka	је Туре	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat Cool
1	Attic	8 4	400 ft ²	Main	100 ft ²	1	Propo	sed Qn	Main	cfm	cfm	0.04	0.00	1 1
						TEM	PERATU	RES						
Progr	ramable Thermo	ostat: N			(Ceiling Fans	5: N							
Coolir Heatir Ventir	ng []Jan ng [X]Jan ng []Jan	[] Feb [X] Feb [] Feb	[_] Ma [X] Ma [X] Ma	r [.] r [X]	Apr Apr Apr	[] May [] May [] May	[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] Se [] Se [] Se	р [] р [Х]	Oct Oct Oct	[] Nov [X] Nov [X] Nov	[] Dec [X] Dec [] Dec
Thermo	stat Schedule:	HERS 200	6 Referer	nce				Н	lours					
Schedu	ile Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling	g (WD)	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
Cooling	g (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	g (WD)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
Heating	g (WEH)	AM PM	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68

				AP	PLIANC	ES & LI	GHTING	ì					
Appliance Schedule: HER	S 2006 R	Reference)				ŀ	lours					
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.33	0.33	0.33	0.33	0.33
% Released: 100	PM	0.33	0.33	0.33	0.33	0.33	1	0.9	0.9	0.9	0.9	0.9	0.65
Annual Use: 0 kvvn/ Yr		0.405	Реак	value: 0	vvatts	0.004	0.400	0.050	0.57	0.040		0.077	0.070
% Released: 60	AM PM	0.105	0.081	0.046	0.046	0.081	0.128	0.256	0.57	0.849	1 0 488	0.977	0.872
Annual Use: 0 kWh/Yr	1 101	0.110	Peak	Value: 0	Watts	0.001	0.07	0.07	0.07	0.07	0.400	0.40	0.100
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts								
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 10	РМ	0.875	0.85 Peak	0.8 `0 •مباد/	0.625 Watts	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Lighting	ΔN/	0.16	0.15	0.16	0.18	0.23	0.45	0.4	0.26	0 10	0.16	0 12	0.11
% Released: 90	PM	0.16	0.13	0.10	0.10	0.23	0.45	0.4	0.20	0.13	0.10	0.12	0.11
Annual Use: 2055 kWh	/Yr		Peak	Value: 67	71 Watts								
Miscellaneous	AM	0.48	0.47	0.47	0.47	0.47	0.47	0.64	0.71	0.67	0.61	0.55	0.53
% Released: 90	PM	0.52	0.5	0.5	0.5	0.59	0.73	0.79	0.99	1	0.96	0.77	0.55
Annual Use: 3364 kWh	/Yr		Peak	Value: 61	7 Watts								
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	РМ	1	1 Poak	1 Value: 0	1 Watte	0	0	0	0	0	0	0	0
Rongo	0.N.4	0.057	0.057		0.057	0.057	0 11 4	0 171	0.296	0 242	0.242	0 242	0.4
% Released: 100	PM	0.457	0.343	0.037	0.037	0.057	0.114	0.171	0.200	0.343	0.343	0.343	0.4
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts								••••
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 100	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 0 kWh/Yr			Peak	Value: 0	Watts								
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0 Annual Use: 0 kWh/Yr	PIN	0.1	0.1 Peak	0.1 Value: 01	0.1 Watts	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
					REFRI	GERAT	ORS						
ID Type	Screen		Locati	on Q	uantity	Vol	FrZ. V	′ol	Make	Model	Scheo	lule	kWhPerYr
1	Default	New	Main	1									
				C	CLOTHE	S WAS	HERS						
ID Type Screen Location Capacity						Make	Мос	del	Schedule	Load	sPerYr		
1 1 Main	Default	New	Main		2.847					ŀ	HERS201	(inva	lid)
					CLOTH	ES DRY	ERS						
ID Type	Screen		Locati	on	Capacity	Fuel 1	уре	Make	Мос	del	Schedule	Load	sPerYr
1 Dryers	Default	New	Main			Electr	icity						

	DISHWASHERS													
ID	Туре	Screen	Location	Capaci	ity Vir	ntage	Make	Model	Schedule	kWhPerYr				
1	Dishwash	Default New	Main	12	20(04 or N			HERS201	372				
				R/	ANGE O	VEN								
ID	Туре	Screen	Location	Туре		Fueltype	Make	Model	Cooktop	Oven				
1	Ranges	Default New	Main	Cooktc	pOven C	Electric			Electric Fl	Not Conv				
	HARD WIRED LIGHTING													
ID	Туре	Screen	Location	Total#	Qualify#	Comp FI	All Other FL	txtBulbtype	Schedule	Watts per bulb				
1	Hard-Wir	By Count - Qualify	Main	100	10	0	10							
2	Hard-Wir	Default New	Exterior											
3	Hard-Wir	Default New	Garage											
	MISC ELECTRICAL LOADS													
ID	Туре	Screen	Item	Quanti	ty Ca	tagory	Operating	Location	Schedule	Off Standby				
1	Misc Elec	Simple Default		1			1 1	Main	HERS201	1				

				PROJ	ECT					
Title: Building Type Owner: # of Units: Builder Name Permit Office: Jurisdiction: Family Type: New/Existing: Year Construe Comment:	TAM Miami : User 1 : Single-fami New (From ct: 2015	House 1 ly Plans)	Bedroon Bathroo Conditio Total St Worst C Rotate A Cross V Whole H Terrain: Shieldir	ms: oms: oned Area: tories: Case: Angle: /entilation: House Fan: : ng:	3 0 2000 sq.ft. 1 No 0 Suburban Suburban			Address Type: Lot # Block/SubDivision: PlatBook: Street: County: City, State, Zip:	Street Addre 12345 North Miami-Dade Miami , FL , 3312	99th Street 25
				CLIMA	ATE					
Desig Locatio	n on	Tmy Site		Design 97.5 %	Temp 2.5 %	Int Design Winter S	Temp umme	Heating r Degree Days	Design Moisture	Daily Temp Range
FL, Mi	ami	FL_MIAMI_INTL_	AP	51	90	70	75	149.5	56	Low
				UTILITY	RATES					
Fuel	Unit	Utility Name					Mor	hthly Fixed Cost	\$/U	Init
Electricity Natural Gas Fuel Oil Propane	kWh Therm Gallon Gallon	EnergyGauge Default EnergyGauge Default EnergyGauge Default EnergyGauge Default						0 0 0 0	0.11 1.7 1. 1.	188 72 1 4
				SURROUM	NDINGS					
Ornt Typ	e	Shade T Hei	rees ght	Width	Distance	e Exis	st	Adjacent B Height	uildings Width	Distance
N Nor NE Nor E Nor SE Nor S Nor SW Nor W Nor NW Nor	ne ne ne ne ne ne ne		ft ft ft ft ft ft ft	O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft			O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft
				BLOC	KS					
Number	Name	Area	Volun	ne						
1	Block1	2722	22166							
				SPAC	ES					
Number	Name	Area	Volume	Kitchen	Occupants	Bedro	oms	Finished	Cooled	Heated
1	Main	2000	20000	No	1	3		Yes	Yes	Yes
2	Attic	722	2166	No	0	0		Yes	No	No

	FLOORS # Floor Type Space Perimeter R-Value Area Tile Wood Carpet													
#	Floor	Туре	Spac	e Per	rimeter	R-Value	e Are	a			Tile	Wood	Carpet	
1	Slab-O	n-Grade Edg	je Insulation Mair	1	180 ft	0	2000	ft²			0	0	1	
					RC	DOF								
#	Туре		Materials	3	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Decl Insu	< Pitch I. (deg)	
1	Gable	or shed	Composition s	ningles	2166 ft ²	416 ft ²	Medium	0.75	No	0.9	No	0	22.6	
					A	TIC								
#	Туре		Venti	lation	Vent F	Ratio (1 in)	Area	RBS		IRCC				
1	1 Full attic Vented 300 2000 ft² N N													
	CEILING													
#	Ceilir	ng Type		Space	e	R-Value	Area	Fr	aming F	raction		Truss Ty	/pe	
1	Unde	er Attic ()		Main		38	2000 f	t ²	0.0)7		Wood		
		Wall or	ientation below is as enter	ed. Actual	WA orientation is	ALLS a modified b	y rotate angle	shown in "	Project"	section a	bove.			
#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft In	Height Ft In	Area	She R-	eathing F Value F	raming raction	Solar Absor.	Below Grade%	
1	N	Exterior	Concrete Block - Int Insul	Main	5.22	50	10	500.0 f	t ²		0	0.5	0	
2	Е	Exterior	Concrete Block - Int Insul	Main	5.22	40	10	400.0 f	t ²		0	0.75	0	
3	S	Exterior	Concrete Block - Int Insul	Main	5.22	40	10	400.0 f	t²		0	0.5	0	
4	S	Exterior	Frame - Wood	Main	13	10	10	100.0 f	t²		0.25	0.5	0	
5	W	Exterior	Concrete Block - Int Insul	Main	5.22	40	10	400.0 f	t ²		0	0.5	0	
					DO	ORS								
#		Ornt	Door Type	Space		Storms	U-\	/alue	Width Ft	In	Height Ft	In	Area	
1		Ν	Wood	Main		None		65	8		3	2	24 ft ²	

	WINDOWS																
		Wall										Overhand	1				
#	Ornt	ID	Frame	Panes	NFR	c u	-Factor	SHGC	Storm	Area	Dep	th Separ	ration	Interior Sh	ade	Scre	ening
1	Ν	1	Vinyl	Low-E Doub	le Yes	6	0.65	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft 0) in	Drapes/bli	nds	No	one
2	Е	2	Vinyl	Low-E Doub	le Yes	3	0.65	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft 0) in	Drapes/bli	nds	No	one
3	S	3	Vinyl	Low-E Doub	le Yes	3	0.65	0.25	Ν	15.0 ft ²	0 ft 0	in 0 ft 0) in	Drapes/bli	nds	No	one
4	S	4	Vinyl	Low-E Doub	le Yes	6	0.65	0.25	Ν	60.0 ft ²	0 ft 0	in 0 ft 0) in	Drapes/bli	nds	No	one
5	W	5	Vinyl	Low-E Doub	le Yes	6	0.65	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft 0) in	Drapes/bli	nds	No	one
6	W	Skylt	None	Double (Clea	ar) Yes	6	0.75	0.25	Ν	10.0 ft ²	2 ft 0	in 0 ft 0) in	Drapes/bli	nds	No	one
							I	NFILTR	ATION								
#	Sco	ре		Method	:	SLA	CFM 50	ELA	E	qLA	ACH	ACH 50)	S	Space(s	.)	
1	Whole	house	Prop	posed ACH(50).00	00318	1666.7	91.5	1	72.08	.2192	5			ŀ	All	
								MAS	SS								
	Ма	ss Type	e			Area		Thick	ness	Fur	niture Fra	ction	ę	Space			
	No Added Mass 0 ft ² 0 ft 0.3 Main																
	No Added Mass 0 ft ² 0 ft 0.3 Attic																
	HEATING SYSTEM																
#	Sys	stem Ty	/pe		Subtype			Effic	iency	Capacity	 Ei	-Geotheri htry Po	mal Hea	tPump /olt. Cu	D ırr	ucts	Block
1	Ele	ctric He	eat Pum	р	None			HSF	PF:8.2	21 kBtu/ł	nr		0	0 0) s	ys#1	1
							CO	OLING	SYSTI	EM							
#	Sys	stem Ty	/pe		Subtype			Effic	iency	Cap	acity	Air Fl	ow	SHR	Duct	S	Block
1	Ce	ntral Ur	nit		None			SEE	R:14	21 k	Btu/hr	630 c	fm	0.75	sy	s#1	1
							нот	WATE	R SYS	ГЕМ							
#	Sys	stem Ty	/pe	SubType	Location			EF	C	ap	Use	Set	Pnt		Credit	s	
1	Ele	ctric		None	Main			0.95	50	gal	60 gal	120 0	deg		None		
							SOL	AR HO	Τ WA٦	ER							
Colle	ector Ty	/ne		Collector Tilt	Azimuth	Surface Area	Loss Co	Abso bef Proc	rp. Tr	ans Ta orr Vol	ank ume l	Tank -Value	Tank Surf Ar	Heat ea Exch F	F Ff Pun	∾V nned	Pump Energy
		770			, , , , , , , , , , , , , , , , , , , ,	71100	2003 00			UI. VU		- Fuide	Sun Al			ipou	Liidiy
								DUC	тѕ								
DUC	т		Sur	oply		Return -					Air	CFM 25	CFM2	5		Н	VAC #
#	I	Locatio	n R-\	/alue Area	Location	Area	Numb	ber Le	akage T	уре	Handler	тот	OUT	QN	RLF	Hea	t Cool
1		Attic		8 400 ft ²	Main	100 ft ²	1	P	roposed	Qn	Main	cfm	cfm	n 0.04	0.00	1	1

	TEMPERATURES											
Programable Thermo	stat: N			Ceiling Fan	s: N							
Cooling [] Jan Heating [X] Jan Venting [] Jan	[] Feb [X] Feb [] Feb	[] Mar [X] Mar [X] Mar	[] Apr Apr [X] Apr	[] May [] May [] May	[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] S [] S [] S	ep [ep [ep [X] Oct Oct] Oct	[] Nov [X] Nov [X] Nov	[] Dec [X] Dec [] Dec
Thermostat Schedule: Schedule Type	HERS 200	06 Reference 1	e 2	3 4	5	Ho 6	urs 7	8	9	10	11	12
Cooling (WD)	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
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	68 68	68 68	68 68 68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
Heating (WEH)	AM PM	68 68	68 68	68 68 68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
				APPLIAN	ICES & L	GHTING	ì					
Appliance Schedule: H Schedule Type	IERS 2006	Reference 1	2	3 4	5	F 6	lours 7	8	9	10	11	12
Ceiling Fans (Summer) % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.65 0.33	0.65 0 0.33 0 Peak Valu	.65 0.65 .33 0.33 le: 0 Watts	0.65 0.33	0.65 1	0.65 0.9	0.33 0.9	0.33 0.9	0.33 0.9	0.33 0.9	0.33 0.65
Clothes Washer % Released: 60 Annual Use: 0 kWh/	AM PM Yr	0.105 0.779	0.081 0 0.698 0 Peak Valu	046 0.046 605 0.57 e: 0 Watts	6 0.081 0.581	0.128 0.57	0.256 0.57	0.57 0.57	0.849 0.57	1 0.488	0.977 0.43	0.872 0.198
Dishwasher % Released: 60 Annual Use: 0 kWh/	AM PM Yr	0.139 0.377	0.05 0 0.396 0 Peak Valu	028 0.024 335 0.323 e: 0 Watts	4 0.029 3 0.344	0.09 0.448	0.169 0.791	0.303 1	0.541 0.8	0.594 0.597	0.502 0.383	0.443 0.281
Dryer % Released: 10 Annual Use: 0 kWh/	AM PM Yr	0.2 0.875	0.1 0 0.85 Peak Valu	0.05 0.05 0.8 0.628 ne: 0 Watts	0.05 5 0.625	0.075 0.6	0.2 0.575	0.375 0.55	0.5 0.625	0.8 0.7	0.95 0.65	1 0.375
Lighting % Released: 90 Annual Use: 2633 k ¹	AM PM Wh/Yr	0.16 0.16	0.15 0 0.17 0 Peak Valu	.16 0.18 .25 0.27 e: 860 Watts	0.23 0.34	0.45 0.55	0.4 0.55	0.26 0.88	0.19 1	0.16 0.86	0.12 0.51	0.11 0.28
Miscellaneous % Released: 90 Annual Use: 4764 k ¹	AM PM Wh/Yr	0.48 0.52	0.47 0 0.5 Peak Valu	.47 0.47 0.5 0.5 le: 874 Watts	0.47 0.59	0.47 0.73	0.64 0.79	0.71 0.99	0.67 1	0.61 0.96	0.55 0.77	0.53 0.55
Pool Pump % Released: 0 Annual Use: 0 kWh/	AM PM Yr	0 1	0 1 Peak Valu	0 0 1 1 e: 0 Watts	0 0	0 0	0 0	0 0	0 0	1 0	1 0	1 0
Range % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.057 0.457	0.057 0 0.343 0 Peak Valu	057 0.057 286 0.4 e: 0 Watts	7 0.057 0.571	0.114 1	0.171 0.857	0.286 0.429	0.343 0.286	0.343 0.229	0.343 0.171	0.4 0.114
Refrigeration % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.85 0.88	0.78 0 0.85 0 Peak Valu	.75 0.73 .85 0.83 e: 0 Watts	0.73 0.88	0.73 0.95	0.75 1	0.75 0.98	0.8 0.95	0.8 0.93	0.8 0.9	0.8 0.85
Well Pump % Released: 0 Annual Use: 0 kWh/	AM PM Yr	0.05 0.1	0.05 0 0.1 Peak Valu	0.05 0.05 0.1 0.1 ne: 0 Watts	0.05 0.1	0.05 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1

	REFRIGERATORS												
ID	Туре	Screen	Location	Quantity	Vol	FrZ. V	'ol M	lake Mode	el Schedule	kWhPerYr			
1		Default New	Main	1									
				CLOT	HES WA	SHERS							
ID	Туре	Screen	Location	Capaci	ty		Make	Model	Schedule	LoadsPerYr			
1	1 Main	Default New	Main	2.847					HERS201	(invalid)			
				CLO	THES DI	RYERS							
ID	Туре	Screen	Location	Capaci	ty Fu	el Type	Make	Model	Schedule	LoadsPerYr			
1	Dryers	Default New	Main		Ele	ectricity							
				DIS	HWASH	IERS							
ID	Туре	Screen	Location	Capaci	ty Vir	itage	Make	Model	Schedule	kWhPerYr			
1	Dishwash	Default New	Main	12	20	04 or N			HERS201	372			
				RA	NGE O	VEN							
ID	Туре	Screen	Location	Туре		Fueltype	Make	Model	Cooktop	Oven			
1	Ranges	Default New	Main	Cookto	pOven C	Electric			Electric Fl	Not Conv			
				HARD	VIRED L	IGHTING							
ID	Туре	Screen	Location	Total#	Qualify#	Comp Fl	All Other	FL txtBulbtype	Schedule	Watts per bulb			
1	Hard-Wir	By Count - Qualify	Main	100	10	0	10						
2	Hard-Wir	Default New	Exterior										
3	Hard-Wir	Default New	Garage										
	MISC ELECTRICAL LOADS												
ID	Туре	Screen	ltem	Quanti	iy Ca	tagory	Operating	Location	Schedule	Off Standby			
1	Misc Elec	Simple Default		1			1	Main	HERS201	1			

Total UA ALTERNATIVE Report (2014) - R402.1.4 Compliance FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method



5/15/2015 4:12:59 PM

EnergyGauge® / USRRIB v4.0

Total UA Alternative Report - R402.1.4 Compliance

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS	INSTALLED VALUES	
Air infiltration:	Blower door test is required on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage ≤ 5 ACH50; test	Test report attached?	
	report provided to code official.	□Yes □No	
Air distribution system ¹ :			
Air handling unit	Not allowed in attic	Location: Main	PASS
	Sealed	Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in attics)	R-Value(Supply in unc. attic)	PASS
	or \geq R-6 (all other duct locations).	R-Value(Others in unc. space) = 8.0	PASS
Air Leakage ¹ :			
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.	4.00 cfm/100 s.f.	PASS
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.	Test report required? KES	
Ducts in conditioned space	Test not required if all ducts and AHU are in	Location: Unconditioned	
	conditioned space.		
Air conditioning systems:	Minimum federal standard required by NAECA ²	C	
Central system ≤ 65,000 Btu/h	SEER=14.0	SEER(Nip)=14	PASS
	EER [from Table C403.2.3(3)]		
Room unit or PTAC	See Tables C403.2.3(1)-(11)	N/	
Other:		\sim	
Heating systems:	Minimum federal standard required by NAECA ²		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	SPF(Min) = 8.2	PASS
Gas Furnace, non-weatherized	AFUE 78 % (AFUE 80% after Nov. 2015)	Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%	Not Applicable	
Other:	\sim		
Water heating system (storage type):	Minimum federal standard required by NAE		
Electric: ³	50 gallons: EF=0.945	50 gallons: EF=0.95	PASS
Gas fired: ⁴	40 gallons: EF=0.62, 50 gallons: Ef=0.60	Not Applicable	
Other (describe):	\sim		

NR = No requirement.

- (1) Ducts & AHU installed "substantially leak free" per Section R403.2 Test required by an energy rater certified in accordance with Section 553.99, *Florida Statues*, or as authorized by *Florida Statues*. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.
- (2) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the , *Florida Building Code*, *Energy Conservation*.
- (3) For other electric storage volumes \geq 55, min. E 2.057 (0.00113 * volume).
- (4) For other natural gas storage volumes ≥ 55 min F = 0.8012 (0.00078 * volume).



Total UA ALTERNATIVE Report (2014) - R402.1.4 Compliance FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method



EnergyGauge® / USRRIB v4.0

Total UA Alternative Report - R402.1.4 Compliance

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS	INSTALLED VALUES	
Air infiltration:	Blower door test is required on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage ≤ 5 ACH50; test	Test report attached?	
	report provided to code official.	□Yes □No	
Air distribution system ¹ :			
Air handling unit	Not allowed in attic	Location: Main	PASS
	Sealed	Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in attics)	R-Value(Supply in unc. attiched	PASS
	or \geq R-6 (all other duct locations).	R-Value(Others in unc. space) = 8.0	PASS
Air Leakage ¹ :			
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.	4.00 cfm/100 s.f.	PASS
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.	Test report required? KES	
Ducts in conditioned space	Test not required if all ducts and AHU are in	Location: Unconditioned	
	conditioned space.		
Air conditioning systems:	Minimum federal standard required by NAECA ²	C	
Central system ≤ 65,000 Btu/h	SEER=14.0	SEER(Nip)=14	PASS
	EER [from Table C403.2.3(3)]	1,5	
Room unit or PTAC	See Tables C403.2.3(1)-(11)	N/	
Other:			
Heating systems:	Minimum federal standard required by NAECA ²		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	SPF(Min) = 8.2	PASS
Gas Furnace, non-weatherized	AFUE 78 % (AFUE 80% after Nov. 2015)	Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%	Not Applicable	
Other:	\sim		
Water heating system (storage type):	Minimum federal standard required by NAE		
Electric: ³	50 gallons: EF=0.945	50 gallons: EF=0.95	PASS
Gas fired: ⁴	40 gallons: EF=0.62, 50 gallons: Ef=0.60	Not Applicable	
Other (describe):	\sim		

NR = No requirement.

- (1) Ducts & AHU installed "substantially leak free" per Section R403.2 Test required by an energy rater certified in accordance with Section 553.99, *Florida Statues*, or as authorized by *Florida Statues*. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.
- (2) Minimum efficiencies are those set by the National Appliance Energy Conservation Act of 1987 for typical residential equipment and are subject to NAECA rules and regulations. For other types of equipment, see Tables C403.2.3 (1-11) of the Commercial Provisions of the , *Florida Building Code*, *Energy Conservation*.
- (3) For other electric storage volumes \geq 55, min. E 2.057 (0.00113 * volume).
- (4) For other natural gas storage volumes \geq 55 min F = 0.8012 (0.00078 * volume).



					PROJ	ЕСТ					
Title: Building Owner: # of Unit Builder N Permit C Jurisdicti Family T New/Exis Year Con Commer	Type: ts: Name: Office: ion: Type: sting: nstruct: nt:	TAM Miami User 1 Single-family New (From I 2015	House 2 / Plans)	Bedroon Bathroo Conditio Total St Worst C Rotate A Cross V Whole H Terrain: Shieldir	ms: oms: oned Area: cories: Case: Angle: /entilation: House Fan: 	3 0 2000 sq.ft. 1 No 0 Suburban Suburban			Address Type: Lot # Block/SubDivision: PlatBook: Street: County: City, State, Zip:	Street Addre 12345 North Miami-Dade Miami , FL , 3312	ss 99th Street 25
					CLIMA	ΔTE					
E L	Design ocation		Tmy Site		Design 97.5 %	Temp 2.5 %	Int Desigr Winter	n Temp Summe	Heating er Degree Days	Design Moisture	Daily Temp Range
F	⁻ L, Miami	i	FL_MIAMI_INTL_	AP	51	90	70	75	149.5	56	Low
					UTILITY F	RATES					
Fuel		Unit	Utility Name					Мо	nthly Fixed Cost	\$/U	nit
Electricit Natural (Fuel Oil Propane	ty Gas	kWh Therm Gallon Gallon	EnergyGauge Default EnergyGauge Default EnergyGauge Default EnergyGauge Default						0 0 0 0	0.11 1.7 1. 1.	88 72 1 4
					SURROUN	DINGS					
Ornt	Туре		Shade T Hei	rees ght	Width	Distance	e Ex	st	Adjacent Br Height	uildings Width	Distance
× Ε μ Ε σ S × Σ	None None None None None None			ft ft ft ft ft ft ft	O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft			O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft
					BLOC	KS					
Numbe	er	Name	Area	Volun	ne						
1		Block1	2722	22166							
					SPAC	ES					
Numbe	er	Name	Area	Volume	Kitchen	Occupants	Bedro	oms	Finished	Cooled	Heated
1 2	۲ /	Main Attic	2000 722	20000 2166	No No	1 0	3 0		Yes Yes	Yes No	Yes No

	FLOORS # Floor Type Space R-Value Area Tile Wood Carpet													
#	Floor	Туре		Space	······	R-Value	e Are	a			Tile	Wood	Carpet	
1	Raised	Floor		Main			2000	ft²	19		0	0	1	
					RC	OF		·						
#	Туре		N	laterials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insu	< Pitch I. (deg)	
1	Gable o	or shed	Compos	sition shingles	2166 ft ²	416 ft ²	Medium	0.75	No	0.9	No	0	22.6	
					AT	TIC								
#	Туре			Ventilation	Vent F	₹atio (1 in)	Area	RBS		IRCC				
1	Full a	ittic		Vented		300	2000 ft ²	N		Ν			 	
	CEILING													
#	# Ceiling Type Space R-Value Area Framing Fraction Truss Type													
1	Unde	r Attic ()		Main	AceR-ValueAreaFraming FractionTruss Typein382000 ft²0.07Wood									
		Wall or	ientation below is a	s entered. Actual	WA orientation is	LLS	y rotate angle	shown in "	Project"	section a	above.			
#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft In	Height Ft In	Area	She R-'	athing F Value F	raming raction	Solar Absor.	Below Grade%	
1	N	Exterior	Frame - Steel	Main	13	50	10	500.0 f	t²		0.125	0.5	0	
2	Е	Exterior	Frame - Steel	Main	13	40	10	400.0 f	t²		0.125	0.75	0	
3	S	Exterior	Frame - Steel	Main	13	40	10	400.0 f	t²		0.125	0.5	0	
4	S	Exterior	Frame - Wood	Main	13	10	10	100.0 f	t²		0.25	0.5	0	
5	W	Exterior	Frame - Steel	Main	13	40	10	400.0 f	t²		0.125	0.5	0	
					DO	ORS								
#		Ornt	Door Type	Space		Storms	U-\	/alue	Width Ft	In	Height Ft	In	Area	
1		Ν	Wood	Main		None	.(65	8		3	2	24 ft ²	

	WINDOWS																
		Wall										Overhand	1				
#	Ornt	ID	Frame	Panes	NFR	c u	-Factor	SHGC	Storm	Area	Dep	th Sepa	, ration I	nterior Sh	ade	Scre	ening
1	Ν	1	Vinyl	Low-E Doub	le Yes	5	0.75	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft 0) in l	Drapes/bli	nds	No	one
2	Е	2	Vinyl	Low-E Doub	le Yes	6	0.75	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft 0) in I	Drapes/bli	nds	No	one
3	S	3	Vinyl	Low-E Doub	le Yes	5	0.75	0.25	Ν	15.0 ft ²	0 ft 0	in 0 ft 0) in l	Drapes/bli	nds	No	one
4	S	4	Vinyl	Low-E Doub	le Yes	6	0.75	0.25	Ν	60.0 ft ²	0 ft 0	in 0 ft 0) in I	Drapes/bli	nds	No	one
5	W	5	Vinyl	Low-E Doub	le Yes	;	0.75	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft 0) in l	Drapes/bli	nds	No	one
6	W	Skyl	t None	Double (Clea	ar) Yes	5	0.75	0.25	Ν	10.0 ft ²	0 ft 0	in 0 ft 0) in l	Drapes/bli	nds	No	one
							I	NFILTR		l							
#	Sco	оре		Method	\$	SLA	CFM 50	ELA	. I	EqLA	ACH	ACH 50)	S	Space(s	.)	
1	Whole	house	e Pro	posed ACH(50).00	0318	1666.7	91.5	5 1	72.08	.2192	5			A	All	
								MAS	SS								
	Ma	iss Ty	ре			Area		Thick	ness	Fur	niture Fra	ction	ę	Space			
	No Added Mass 0 ft ² 0 ft 0.3 Main																
	No Added Mass 0 ft ² 0 ft 0.3 Attic																
	HEATING SYSTEM																
#	Sys	stem 7	Гуре		Subtype			Effic	ciency	Capacity	 Ei	Geother ntry Po	mal Hea wer \	tPump /olt. Cu	D ırr	ucts	Block
1	Ele	ectric H	Heat Pum	ıp	None			HSF	PF:8.2	21 kBtu/ł	۱r		0	0 0	S	ys#1	1
							CO	OLING	SYST	EM							
#	Sys	stem 7	Гуре		Subtype			Effic	ciency	Cap	acity	Air Fl	ow	SHR	Duct	S	Block
1	Ce	ntral L	Jnit		None			SEI	ER:14	21 k	Btu/hr	630 c	fm	0.75	sy	s#1	1
							НОТ	WATE	R SYS	TEM							
#	Sys	stem 7	Гуре	SubType	Location			EF	(Cap	Use	Set	Pnt		Credit	s	
1	Ele	ectric		None	Main			0.95	50	gal	60 gal	120 (deg		None		
							SOL	AR HO	T WA	ΓER							
Colle	ector T	vne		Collector	Azimuth	Surface		Abso	orp. T	rans Ta	ank ume I	Tank I-Value	Tank	Heat	F Ff Pun	vV nned	Pump
		100		1111		Alca	2033 00		u. C	vui. vui						npou	LIGIGY
								DUC	TS								
DUC	т		Su	vlaa		Return -					Air	CFM 25	CFM2	5		Н	VAC #
#		Locati	ion R-	Value Area	Location	Area	Numb	ber Le	eakage -	уре	Handler	TOT	OUT	QN	RLF	Hea	t Cool
1		Attic	>	8 400 ft ²	Main	100 ft ²	1	Р	roposec	Qn	Main	cfm	cfm	0.04	0.00	1	1

	TEMPERATURES											
Programable Thermo	stat: N			Ceiling Fan	s: N							
Cooling [] Jan Heating [X] Jan Venting [] Jan	[] Feb [X] Feb [] Feb	[] Mar [X] Mar [X] Mar	[] Apr Apr [X] Apr		[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] S [ep [ep [ep [X] Oct Oct] Oct	[] Nov [X] Nov [X] Nov	[] Dec [X] Dec [] Dec
Thermostat Schedule: Schedule Type	HERS 200	06 Referenc 1	e 2	3 4	5	Ho 6	urs 7	8	9	10	11	12
Cooling (WD)	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
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	68 68	68 68	68 68 68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
Heating (WEH)	AM PM	68 68	68 68	68 68 68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
				APPLIAN	ICES & LI	GHTING	ì					
Appliance Schedule: H Schedule Type	IERS 2006	Reference 1	2	3 4	5	F 6	lours 7	8	9	10	11	12
Ceiling Fans (Summer) % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.65 0.33	0.65 (0.33 (Peak Valu	0.65 0.65 0.33 0.33 ue: 0 Watts	0.65 0.33	0.65 1	0.65 0.9	0.33 0.9	0.33 0.9	0.33 0.9	0.33 0.9	0.33 0.65
Clothes Washer % Released: 60 Annual Use: 0 kWh/	AM PM Yr	0.105 0.779	0.081 0 0.698 0 Peak Valu	.046 0.046 .605 0.57 ue: 0 Watts	6 0.081 0.581	0.128 0.57	0.256 0.57	0.57 0.57	0.849 0.57	1 0.488	0.977 0.43	0.872 0.198
Dishwasher % Released: 60 Annual Use: 0 kWh/	AM PM Yr	0.139 0.377	0.05 0 0.396 0 Peak Valu	.028 0.024 .335 0.323 ue: 0 Watts	0.029 0.344	0.09 0.448	0.169 0.791	0.303 1	0.541 0.8	0.594 0.597	0.502 0.383	0.443 0.281
Dryer % Released: 10 Annual Use: 0 kWh/	AM PM Yr	0.2 0.875	0.1 (0.85 Peak Valu	0.05 0.05 0.8 0.625 ue: 0 Watts	0.05 0.625	0.075 0.6	0.2 0.575	0.375 0.55	0.5 0.625	0.8 0.7	0.95 0.65	1 0.375
Lighting % Released: 90 Annual Use: 2633 k ¹	AM PM Wh/Yr	0.16 0.16	0.15 (0.17 (Peak Valu	0.16 0.18 0.25 0.27 ue: 860 Watts	0.23 0.34	0.45 0.55	0.4 0.55	0.26 0.88	0.19 1	0.16 0.86	0.12 0.51	0.11 0.28
Miscellaneous % Released: 90 Annual Use: 4764 k'	AM PM Wh/Yr	0.48 0.52	0.47 (0.5 Peak Valu	0.47 0.47 0.5 0.5 ue: 874 Watts	0.47 0.59	0.47 0.73	0.64 0.79	0.71 0.99	0.67 1	0.61 0.96	0.55 0.77	0.53 0.55
Pool Pump % Released: 0 Annual Use: 0 kWh/	AM PM Yr	0 1	0 1 Peak Valu	0 0 1 1 ue: 0 Watts	0 0	0 0	0 0	0 0	0 0	1 0	1 0	1 0
Range % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.057 0.457	0.057 0 0.343 0 Peak Valu	.057 0.057 .286 0.4 ue: 0 Watts	0.057 0.571	0.114 1	0.171 0.857	0.286 0.429	0.343 0.286	0.343 0.229	0.343 0.171	0.4 0.114
Refrigeration % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.85 0.88	0.78 (0.85 (Peak Valu	0.75 0.73 0.85 0.83 ue: 0 Watts	0.73 0.88	0.73 0.95	0.75 1	0.75 0.98	0.8 0.95	0.8 0.93	0.8 0.9	0.8 0.85
Well Pump % Released: 0 Annual Use: 0 kWh/	AM PM Yr	0.05 0.1	0.05 (0.1 Peak Valu	0.05 0.05 0.1 0.1 ue: 0 Watts	0.05 0.1	0.05 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1

	REFRIGERATORS											
ID	Туре	Screen	Location	Quantity	Vol	FrZ. V	ol N	lake Mode	el Schedule	kWhPerYr		
1		Default New	Main	1								
				CLOTI	HES WA	SHERS						
ID	Туре	Screen	Location	Capaci	ty		Make	Model	Schedule	LoadsPerYr		
1	1 Main	Default New	Main	2.847					HERS201	(invalid)		
CLOTHES DRYERS												
ID	Туре	Screen	Location	Capaci	ty Fu	el Type	Make	Model	Schedule	LoadsPerYr		
1	Dryers	Default New	Main		Ele	ectricity						
	DISHWASHERS											
ID	Туре	Screen	Location	Capaci	ty Vir	itage	Make	Model	Schedule	kWhPerYr		
1	Dishwash	Default New	Main	12	20	04 or N			HERS201	372		
				RA	NGE O	VEN						
ID	Туре	Screen	Location	Туре		Fueltype	Make	Model	Cooktop	Oven		
1	Ranges	Default New	Main	Cookto	pOven C	Electric			Electric Fl	Not Conv		
				HARD V	VIRED L	IGHTING						
ID	Туре	Screen	Location	Total#	Qualify#	Comp Fl	All Other	FL txtBulbtype	Schedule	Watts per bulb		
1	Hard-Wir	By Count - Qualify	Main	100	10	0	10					
2	Hard-Wir	Default New	Exterior									
3	Hard-Wir	Default New	Garage									
			N		ECTRIC	AL LOADS	6					
ID	Туре	Screen	ltem	Quantit	iy Ca	tagory	Operating	Location	Schedule	Off Standby		
1	Misc Elec	Simple Default		1			1	Main	HERS201	1		

Total UA ALTERNATIVE Report (2014) - R402.1.4 Compliance FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method



EnergyGauge® / USRRIB v4.0

Total UA Alternative Report - R402.1.4 Compliance

BUILDING COMPONENT	PRESCRIPTIVE REQUIREMENTS	INSTALLED VALUES	
Air infiltration:	Blower door test is required on the building	Total leakage(ACH50) = 5.000	PASS
	envelope to verify leakage ≤ 5 ACH50; test	Test report attached?	
	report provided to code official.	□Yes □No	
Air distribution system ¹ :			
Air handling unit	Not allowed in attic	Location: Main	PASS
	Sealed	Sealed	PASS
Duct R-Value	R-value ≥ R-8 (supply in attics)	R-Value(Supply in unc. attic	FAIL
	or ≥R-6 (all other duct locations).	R-Value(Others in unc. space) = 6.0	PASS
Air Leakage ¹ :			
Duct test	Air handler installed: Total leakage ≤ 4 cfm/100 s.f.	4.00 cfm/100 s.f.	PASS
	Air handler Not installed:Total leakage ≤ 3 cfm/100 s.f.	Test report required? XES	
Ducts in conditioned space	Test not required if all ducts and AHU are in	Location: Unconditioned	
	conditioned space.		
Air conditioning systems:	Minimum federal standard required by NAECA ²	C	
Central system ≤ 65,000 Btu/h	SEER=14.0	SEER(Nip)=14	PASS
	EER [from Table C403.2.3(3)]	1,5	
Room unit or PTAC	See Tables C403.2.3(1)-(11)	N/	
Other:		\sim	
Heating systems:	Minimum federal standard required by NAECA ²		
Heating Pump ≤ 65,000 Btu/h	HSPF= 8.2	SPF(Min) = 8.2	PASS
Gas Furnace, non-weatherized	AFUE 78 % (AFUE 80% after Nov. 2015)	Not Applicable	
Oil Furnace, non-weatherized	AFUE 83%	Not Applicable	
Other:	\sim		
Water heating system (storage type):	Minimum federal standard required by NAE		
Electric: ³	50 gallons: EF=0.945	50 gallons: EF=0.95	PASS
Gas fired: ⁴	40 gallons: EF=0.62, 50 gallons: Ef=0.60	Not Applicable	
Other (describe):	\sim		

NR = No requirement.

- (1) Ducts & AHU installed "substantially leak free" per Section R403.2 Test required by an energy rater certified in accordance with Section 553.99, *Florida Statues*, or as authorized by *Florida Statues*. The total leakage test is not required for ducts and air handlers located entirely within the thermal envelope.
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- (3) For other electric storage volumes \geq 55, min. E 2.057 (0.00113 * volume).
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	PROJECT												
Title:TAM MiamiBuilding Type:UserOwner:User# of Units:1Builder Name:Permit Office:Jurisdiction:Jurisdiction:Family Type:Single-familyNew/Existing:New (From IYear Construct:2015Comment:Family		łouse 3 Plans)	Bedrooms: Bathrooms: Conditioned Area: Total Stories: Worst Case: Rotate Angle: Cross Ventilation: Whole House Fan: Terrain: Shielding:		3 0 2000 sq.ft. 1 No 0 Suburban Suburban		Addi Lot # Bloc Platt Stree Cou City,	ress Type: # k/SubDivision: Book: et: et: nty: , State, Zip:	Street Addre 12345 North Miami-Dade Miami , FL , 3312	ss 99th Street 25			
	CLIMATE												
Design Location		Tmy Site		Design 97.5 %	Temp 2.5 %	Int Design T Winter Su	emp mmer [Heating Degree Days	Design Moisture	Daily Temp Range			
FL, Miam	i	FL_MIAMI_INTL_/	١P	51	90	70	75	149.5	56	Low			
UTILITY RATES													
Fuel	Unit	Utility Name					Monthly	Fixed Cost	\$/U	nit			
Electricity Natural Gas Fuel Oil Propane	kWh Therm Gallon Gallon	EnergyGauge Default EnergyGauge Default EnergyGauge Default EnergyGauge Default				0 0 0 0		0 0 0 0	0.1188 1.72 1.1 1.4				
SURROUNDINGS													
Ornt Type		Shade Tr Heig	ees jht	Width	Distance	e Exist	ł	Adjacent Bu Height	iildings Width	Distance			
N None NE None E None SE None SW None W None NW None		0 f 0 f 0 f 0 f 0 f 0 f 0 f 0 f		O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft			0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft 0 ft	O ft O ft O ft O ft O ft O ft O ft O ft	O ft O ft O ft O ft O ft O ft O ft O ft			
				BLOC	KS								
Number	Name	Area	Volum	IE									
1	Block1	2722	22166										
				SPAC	ES								
Number	Name	Area	Volume	Kitchen	Occupants	Bedrooi	ms	Finished	Cooled	Heated			
1	Main	2000	20000	No	1	3		Yes	Yes	Yes			
2	Attic	722	2166	No	0	0		Yes	No	No			

	FLOORS													
#	Floor	r Туре		Space	Perii	meter	R-Value	e Are	a			Tile	Wood	Carpet
1	Slab-O	n-Grade Edg	ge Insulation	Main		180 ft	0	2000	ft²			0	0	1
	ROOF													
#	Туре			Materials		Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul	< Pitch I. (deg)
1	Gable	or shed	Corr	position shin	gles	s 2166 ft ² 416 ft ² Medium 0.7				No	0.9	No	0	22.6
	ATTIC													
#	# Туре			Ventilati	on	Vent F	Ratio (1 in)	Area	RB	8	IRCC			
1	Full a	attic		Ventee	b	300 2000 ft ² N				Ν				
	CEILING													
#	# Ceiling Type Space R-Value Area Framing Fraction Truss Type										/pe			
1	1 Under Attic ()				Main	30		2000 f	t²	0.0)7		Wood	
		Wall or	ientation below i	is as entered.	Actual c	WA prientation is	ALLS s modified by	y rotate angle	shown in	"Project"	section	above.		
#	Ornt	Adjacent To	Wall Type		Space	Cavity R-Value	Width Ft In	Height Ft In	Are	She a R-	eathing F Value F	raming raction	Solar Absor.	Below Grade%
1	Ν	Exterior	Concrete Block	- Polystyren	Main	4	50	10	500.0	ft²	0	0	0.5	0
2	Е	Exterior	Concrete Block	- Polystyren	Main	4	40	10	400.0	ft²	0	0	0.75	0
3	S	Exterior	Concrete Block	- Polystyren	Main	4	40	10	400.0	ft²	0	0	0.5	0
4	S	Exterior	Frame - Wood		Main	13	10	10	100.0	ft²		0.25	0.5	0
5	W	Exterior	Concrete Block	: - Polystyren	Main	4	40	10	400.0	ft²	0	0	0.5	0
						DO	ORS							
#		Ornt	Door Type		Space		Storms	U-\	/alue	Width Ft	ı In	Height Ft I	In	Area
1		Ν	Wood		Main		None		65	8		3	2	24 ft ²

	WINDOWS																
	Wall Overhang																
#	Ornt	ID	Frame	Panes	NFR	c u	-Factor	SHGC	Storm	Area	Dep	th Sepa	ration	Interior Sh	ade	Scre	ening
1	Ν	1	Vinyl	Low-E Doub	le Yes	5	0.65	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft () in	Drapes/bli	nds	No	one
2	Е	2	Vinyl	Low-E Doub	le Yes	6	0.65	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft () in	Drapes/bli	nds	No	one
3	S	3	Vinyl	Low-E Doub	le Yes	5	0.65	0.25	Ν	15.0 ft ²	0 ft 0	in 0 ft () in	Drapes/bli	nds	No	one
4	S	4	Vinyl	Low-E Doub	le Yes	6	0.65	0.25	Ν	60.0 ft ²	0 ft 0	in 0 ft () in	Drapes/bli	nds	No	one
5	W	5	Vinyl	Low-E Doub	le Yes	6	0.65	0.25	Ν	75.0 ft ²	0 ft 0	in 0 ft () in	Drapes/bli	nds	No	one
6	W	Skyl	t None	Double (Clea	ar) Yes	6	0.75	0.25	Ν	10.0 ft ²	0 ft 0	in 0 ft () in	Drapes/bli	nds	No	one
	INFILTRATION																
#	# Scope Method SLA				SLA	CFM 50	ELA	. I	EqLA	ACH	ACH 50)	S	Space(s	.)		
1	Whole	house	e Pro	posed ACH(50).00	0318	1666.7	91.5	5 1	72.08	.2192	5			ŀ	All	
	MASS																
	Mass Type Area					Area		Thick	ness	Fur	niture Fra	ction	:	Space			
	No Added Mass					0 ft ²		0	ft		0.3			Main			
	No Added Mass 0 ft ²						0	ft		0.3			Attic				
HEATING SYSTEM																	
#	Sys	stem 7	Гуре		Subtype			Effic	ciency	Capacity	 Ei	Geother ntry Po	mal Hea	itPump Volt. Cւ	D ırr	ucts	Block
1	Ele	ectric H	leat Pun	ιp	None			HSF	PF:8.2	21 kBtu/ł	۱r		0	0 0) s <u>y</u>	ys#1	1
							СО	OLING	SYST	EM							
#	Sys	stem 7	Гуре		Subtype			Effic	ciency	Cap	acity	Air Fl	ow	SHR	Duct	S	Block
1	Ce	ntral L	Jnit		None			SEI	ER:14	21 k	Btu/hr	630 c	fm	0.75	sy	s#1	1
							НОТ	WATE	R SYS	TEM							
#	Sys	stem 7	Гуре	SubType	Location			EF	(Cap	Use	Set	Pnt		Credit	s	
1	Ele	ectric		None	Main			0.95	50	gal	60 gal	120	deg		None		
							SOL	AR HO	T WA	ΓER							
Colly	octor T	VDe		Collector	Δzimuth	Surface		Abso	orp. T	rans Ta	ank	Tank	Tank Surf Ar	Heat	F F	v∨ oped	Pump
		ype		1111	AZIMUUT	AICa	2035 00	ю. гі0	u. C	v01. v01			Sun Al		. Ful	npeu	Linergy
								DUC	TS								
סווס	т		<u></u>			Return -					Air	CEM 25	CEM2	25		н	VAC. #
#		Locati	on R-	Value Area	Location	Area	Numb	ber Le	eakage -	уре	Handler	TOT	OUT	QN	RLF	Hea	t Cool
1		Attic	;	6 400 ft ²	Main	100 ft ²	1	Р	roposec	Qn	Main	cfm	cfn	า 0.04	0.00	1	1

	TEMPERATURES											
Programable Thermostat: N Ceiling Fans: N												
Cooling [] Jan Heating [X] Jan Venting [] Jan	[] Feb [X] Feb [] Feb	[] Mar [X] Mar [X] Mar	[] Apr Apr [X] Apr		[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] S [ep [ep [ep [X	Oct Oct Oct	[] Nov [X] Nov [X] Nov	[] Dec [X] Dec [] Dec
Thermostat Schedule: Schedule Type	HERS 200	06 Referenc 1	e 2	3 4	5	Ho 6	urs 7	8	9	10	11	12
Cooling (WD)	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
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	68 68	68 68	68 68 68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
Heating (WEH)	AM PM	68 68	68 68	68 68 68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68	68 68
				APPLIAN	ICES & LI	GHTING	ì					
Appliance Schedule: H Schedule Type	IERS 2006	Reference 1	2	3 4	5	F 6	lours 7	8	9	10	11	12
Ceiling Fans (Summer) % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.65 0.33	0.65 (0.33 (Peak Valu	0.65 0.65 0.33 0.33 ue: 0 Watts	0.65 0.33	0.65 1	0.65 0.9	0.33 0.9	0.33 0.9	0.33 0.9	0.33 0.9	0.33 0.65
Clothes Washer % Released: 60 Annual Use: 0 kWh/	AM PM Yr	0.105 0.779	0.081 0 0.698 0 Peak Valu	.046 0.046 .605 0.57 ue: 0 Watts	6 0.081 0.581	0.128 0.57	0.256 0.57	0.57 0.57	0.849 0.57	1 0.488	0.977 0.43	0.872 0.198
Dishwasher % Released: 60 Annual Use: 0 kWh/	AM PM Yr	0.139 0.377	0.05 0 0.396 0 Peak Valu	.028 0.024 .335 0.323 ue: 0 Watts	0.029 0.344	0.09 0.448	0.169 0.791	0.303 1	0.541 0.8	0.594 0.597	0.502 0.383	0.443 0.281
Dryer % Released: 10 Annual Use: 0 kWh/	AM PM Yr	0.2 0.875	0.1 (0.85 Peak Valu	0.05 0.05 0.8 0.625 ue: 0 Watts	0.05 0.625	0.075 0.6	0.2 0.575	0.375 0.55	0.5 0.625	0.8 0.7	0.95 0.65	1 0.375
Lighting % Released: 90 Annual Use: 2633 k ¹	AM PM Wh/Yr	0.16 0.16	0.15 (0.17 (Peak Valu	0.16 0.18 0.25 0.27 ue: 860 Watts	0.23 0.34	0.45 0.55	0.4 0.55	0.26 0.88	0.19 1	0.16 0.86	0.12 0.51	0.11 0.28
Miscellaneous % Released: 90 Annual Use: 4764 k'	AM PM Wh/Yr	0.48 0.52	0.47 (0.5 Peak Valu	0.47 0.47 0.5 0.5 Je: 874 Watts	0.47 0.59	0.47 0.73	0.64 0.79	0.71 0.99	0.67 1	0.61 0.96	0.55 0.77	0.53 0.55
Pool Pump % Released: 0 Annual Use: 0 kWh/	AM PM Yr	0 1	0 1 Peak Valu	0 0 1 1 ue: 0 Watts	0 0	0 0	0 0	0 0	0 0	1 0	1 0	1 0
Range % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.057 0.457	0.057 0 0.343 0 Peak Valu	.057 0.057 .286 0.4 ue: 0 Watts	0.057 0.571	0.114 1	0.171 0.857	0.286 0.429	0.343 0.286	0.343 0.229	0.343 0.171	0.4 0.114
Refrigeration % Released: 100 Annual Use: 0 kWh/	AM PM Yr	0.85 0.88	0.78 (0.85 (Peak Valu	0.75 0.73 0.85 0.83 ue: 0 Watts	0.73 0.88	0.73 0.95	0.75 1	0.75 0.98	0.8 0.95	0.8 0.93	0.8 0.9	0.8 0.85
Well Pump % Released: 0 Annual Use: 0 kWh/	AM PM Yr	0.05 0.1	0.05 (0.1 Peak Valu	0.05 0.05 0.1 0.1 ue: 0 Watts	0.05 0.1	0.05 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1	0.1 0.1

	REFRIGERATORS											
ID) Тур	pe	Screen	Location G	uantity	Vol		FrZ. Vol	Ма	ke Mod	el Schedule	kWhPerYr
1			Default New	Main 1								
	CLOTHES WASHERS											
ID	о Тур	ре	Screen	Location	Capacity	/			Make	Model	Schedule	LoadsPerYr
1	1 N	<i>l</i> lain	Default New	Main	2.847						HERS201	(invalid)
	CLOTHES DRYERS											
ID) Тур	ре	Screen	Location	Capacity	/ F	uel Type)	Make	Model	Schedule	LoadsPerYr
1	Dry	yers	Default New	Main		E	lectricity					
	DISHWASHERS											
ID) Ту	ре	Screen	Location	Capacity	/ V	intage		Make	Model	Schedule	kWhPerYr
1	Dis	shwash	Default New	Main	12	2	004 or N				HERS201	372
					RAI	NGE	OVEN					
ID) Тур	ре	Screen	Location	Туре		Fuelty	/pe	Make	Model	Cooktop	Oven
1	Ra	inges	Default New	Main	Cooktop	Oven C	Electr	ic			Electric Fl	Not Conv
				Н	ARD W	IRED	LIGHT	ING				
ID) Тур	ре	Screen	Location	Total#	Qualify	# Cor	np Fl	All Other Fl	_ txtBulbtype	e Schedule	Watts per bulb
1	На	rd-Wir	By Count - Qualify	Main	100	10	0		10			
2	На	rd-Wir	Default New	Exterior								
3	На	rd-Wir	Default New	Garage								
				MIS	SC ELE	CTRI	CALLO	OADS				
ID) Тур	ре	Screen	ltem	Quantity	C	atagory		Operating	Location	Schedule	Off Standby
1	Mis	sc Elec	Simple Default		1				1	Main	HERS201	1