FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Example Residence Street: 123 Anywhere Street City, State, Zip: Jacksonville, FL 32241 Owner: Example House Design Location: FL, Jacksonville Intl	Builder Name: Permit Office: Nassau County Permit Number: Jurisdiction: County: (Florida Climate Zone 2)
1. New construction or existing New (From Plans) 2. Single family or multiple family Single-Family 3. Number of units, if multiple family 1 4. Number of bedrooms 2 5. Is this a worst case? No 6. Conditioned floor area above grade (ft²) 1600.00 Conditioned floor area below grade (ft²) 0 7. Windows (225 ft²) Description Area (ft²) a. U-Factor: Dbl, 0.400 152.50 SHGC: 0.25 b. U-Factor: Dbl, 0.400 72.00 SHGC: 0.32 c. U-Factor: SHGC: 0.32 c. U-Factor: SHGC: 0.32 c. U-Factor: SHGC: 0.25 d. U-Factor: SHGC: 0.32 d. U-Factor: SHGC: 0.32 SHGC: 0.32 C. U-Factor: SHGC: 0.32 SHGC: 0.32 SHGC: 0.32 C. U-Factor: SHGC: 0.32 S	9. Wall types (1312 ft²) Insulation (R) Area (ft²) a. 2x6 Wood Framed 19.0 1312.00 b. N/A c. N/A d. N/A 10. Ceiling types (1600 ft²) Insulation (R) Area (ft²) a. Shingles Vented Attic 38.0 1600.00 b. N/A c. N/A 11. Ducts R Area (ft²) a.Sup: House Attic, Ret: House Attic, AH: House Attic 6.0 319.73 b. 12. Cooling systems kBtu/hr a.Split air source heat pump 26.8 14.3 SEER2 b. 13. Heating systems kBtu/hr Efficiency a.Split air source heat pump 21.3 7.8 HSPF2 b. 14. Hot water systems a.Electric instantaneous (0 gal) Cap: 0 gal UEF: 0.99 b.Conservation features
a. Crawlspace 13.0 1600.00 b. N/A c. N/A	(None) 15. Credits Ceiling Fan,Pstat
Glass/Floor area: 0.140 Total Proposed Modifie	
I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. Prepared By Florida Energy Calcs LLC Signature Date I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. Owner/Agent Name	Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed, this building will be inspected for compliance with Section 553.908 Florida Statutes. Building Official Name

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

Date

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 7.0 ACH50 (R402.4.1.2).

Signature

- Compliance with a proposed duct leakage Qn requires a Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with Section 803 of RESNET Standards, is not greater than 0.040 Qn for whole house.



Signature

Date

Building Input Summary Report

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				PR	OJECT							
Owner # of Ur Builde Permit Jurisdi	ng Type: FLAsBuilt it: Example of the following control of the following construct: PLAsBuilt it is the following construct construct it is the following construct it is the fol	House County	Condi Total	ooms: itioned Are Stories: t Case: e Angle: s Ventilation e House Fa	n: No n: No an: No) urban urban	Lot#: Block/\$ Platbo Street: County City, S	ss type: Subdivis ok: /: tate, Zip	sion: 123 <i>F</i>	et addres Anywher sonville,	e Stre	
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				BL	OCKS							
#	Name		Area	Volume	:							
1	House		1600.00 ft ²	12800.00	ft³							
				SF	ACES							
#		Area	Volume	Kitchen	Occupar	ts B	edrooms I	nfil ID	Finished	Cooled	Hea	ated
1 2 3 4 5 6 7 8 9 10 11 12 13	Kitchen Bathroom Laundry Entry Guest Bedroom Living Room M Bedroom Pantry M Bath o Hers M Bath i Shower His	93.33 ft ² 67.56 ft ² 168.89 ft ²	1920.00 ft ³ 604.44 ft ³ 746.67 ft ³ 1351.11 ft ³ 3235.56 ft ³ 2339.56 ft ³ 533.33 ft ³ 448.00 ft ³ 312.89 ft ³ 234.67 ft ³ 306.67 ft ³ 226.67 ft ³	Yes No No No No No No No No No	200004000000000000000000000000000000000		0 0 0 1 1 0 0 0 0 0	1 1 1 1 1 1 1 1 1 1	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes	Y6 Y6 Y6 Y6 Y6 Y6 Y6 Y6	es
				FL	OORS			Total E	xposed A	rea = 16	00 sq	.ft.)
✓ #	Flo	oor Type		Space	Perime	ter R-	-Value A	rea	U-Factor	Tile V	Vood (Carpet
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√ #	Type		Ventilation		t Ratio (1 in)		Area	RBS	IRCC			
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FORM R405-2023

					TEMP	PERAT	URES						
Programmable The	rmostat: Y			Ceiling	Fans:								
Cooling [X]Jan [Heating [X]Jan [Venting [X]Jan [X] Feb X] Feb X] Feb	X] Mar X] Mar X] Mar	[X]	Apr [X] Apr [X] Apr [X]	May [X] Jun X] Jun X] Jun	[X] Jul [X] Jul [X] Jul	[X] Aug [X] Aug [X] Aug	[X]	Sep [X] Sep [X] Sep [X]	Oct	X] Nov X] Nov X] Nov	[X] Dec [X] Dec [X] Dec
Thermostat Schedule Schedule Type	: Florida E (2023)	Building C	ode, 8th 2	Edition 3	4	5	Hour 6	rs 7	8	9	10	11	12
Cooling (WD)	AM	75	75	75	75	75	75	75	75	75	75	75	75
	PM	75	75	75	75	75	75	75	75	75	75	75	75
Cooling (WEH)	AM	75	75	75	75	75	75	75	75	75	75	75	75
	PM	75	75	75	75	75	75	75	75	75	75	75	75
Heating (WD)	AM	72	72	72	72	72	72	72	72	72	72	72	72
	PM	72	72	72	72	72	72	72	72	72	72	72	72
Heating (WEH)	AM	72	72	72	72	72	72	72	72	72	72	72	72
	PM	72	72	72	72	72	72	72	72	72	72	72	72

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD ESTIMATED ENERGY PERFORMANCE INDEX = 91

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

1. New home or addition	1. New (From Plans)	12. Ducts, location & insulation level	0.0				
2. Single-family or multiple-family	2. Single-Family	a. Supply ducts: R b. Return ducts: R	6.0 6.0 House Attic				
3. Number of units, if multiple-family	31	c. AHU location:					
4. Number of bedrooms	42	13. Cooling systems Capacity a. Split system: SEER2 b. Single package: SEER2	26.8 14.30				
5. Is this a worst case? (yes/no)	5. <u>No</u>	b. Single package: SEER2 c. Ground/water source: SEER/COP d. Room unit/PTAC: EER					
6. Conditioned floor area (ft²)	61600.00	e. Other:					
 7. Windows, type and area* a. U-Factor: b. Solar Heat Gain Coefficient (SHGC): c. Area (ft²) 8. Skylights 	7a. Dbl(Avg), 0.400 7b. 0.27 7c. 225	d. Gas furnace, natural gas: AFUE	7.80				
a. U-Factor: b. Solar Heat Gain Coefficient (SHGC):	8a 8b	f. Other:					
9. Floor type, insulation level a. Slab-on-grade (R-value): b. Wood, raised (R-value): c. Concrete, raised (R-value)	9a	15. Water heating systems a. Electric resistance: b. Gas fired, natrual gas: c. Gas fired, LPG: d. Solar system with tank:	0.99 UEF				
10 Wall type and insulation: a. Exterior: 1. Wood/mtl frame (Insulation R-value): 2. Masonry (Insulation R-value): b. Adjacent: 1. Wood/mtl frame (Insulation R-value):	10a1. <u>19.0</u> 10a2 10b1	e. Dedicated heat pump with tank: f. Heat recovery unit:					
2. Masonry (Insulation R-value):	10b2	c. Whole house fan: d. Multizone cooling credit:					
11. Ceiling type and insulation levela. Under attic (R-value):b. Single assembly (R-value):c. Knee walls/skylight walls (R-value)d. Radiant barrier installed	11a. 38.0 11b. 11c. No	e. Multizone heating credit: f. Programmable thermostat: Yes					
*Label required by Section R303.1.3 of the Flo	rida Building Code, Ene	rgy Conservation, if not DEFAULT.					
I certify that this home has complied with the F	lorida Building Code, Er	nergy Conservation,through the above energy sav on. Otherwise, a new EPL Display Card will be co					
Builder Signature:		Date:					
Address of New Home: 123 Anywhere Street City/FL Zip: Jacksonville, FL 32241							

Florida Building Code, Energy Conservation, 8th Edition (2023) Mandatory Requirements for Residential Performance, Prescriptive and ERI Methods

	ADDRESS: 123 Anywhere Street	PERMIT #:
	Jacksonville, FL 32241	
N	IANDATORY REQUIREMENTS - See individual code	sections for full details.
/	SECTION F	R401 GENERAL
Ď	(Section 553.9085, Florida Statues) requires the EPL display card to be nonpresold residential buildings. The EPL display card contains information	Id correct before final approval of the building for occupancy. Florida law included as an addendum to each sales contract for both presold and attion indicating the energy performance level and efficiencies of components ilding official shall verify that the EPL display card accurately reflects the
	SECTION R402 BUIL	DING THERMAL ENVELOP
	R402.4 Air leakage (Mandatory). The building thermal envelope st Sections R402.4.1 through R402.4.5.	nall be constructed to limit air leakage in accordance with the requirements of
	Exception: Dwelling units of R-2 Occupancies and multiple comply with Section C402.5.	attached single family dwellings shall be permitted to
	R402.4.1 Building thermal envelope. The building thermal envelopmethods between dissimilar materials shall allow for differential expans	e shall comply with Sections R402.4.1.1 and R402.4.1.2. The sealing ion and contraction.
	R402.4.1.1 Installation. The components of the building thermal env with the manufacturer's instructions and the criteria listed in Table R4 by the code official, an approved third party shall inspect all component	02.4.1.1, as applicable to the method of construction. Where required
	per hour in Climate Zones 1 and 2, and three air changes per hour in C than three air changes per hour shall be provided with whole-house me	chanical ventilation in accordance with Section R403.6.1 of this code conducted in accordance with ANSI/RESNET/ICC 380 and reported at a their individual as defined in Section 553.993(5) or (7), Florida Statutes, an approved third party. A written report of the results of the
	Exception: Testing is not required for additions, alterations, buildings in which the new construction is less the	renovations, or repairs, of the building thermal envelope of existing nan 85 percent of the building thermal envelope.
	 During testing: Exterior windows and doors, fireplace and stove doors shall weatherstripping or other infiltration control measures. Dampers including exhaust, intake, makeup air, backdraft a intended infiltration control measures. Interior doors, if installed at the time of the test, shall be open to the test of the test of	and flue dampers shall be closed, but not sealed beyond en. recovery ventilators shall be closed and sealed. est, shall be turned off. st, shall be fully open. nterior access doors and hatches between the conditioned space volume e of the attic shall be added to the conditioned space volume for purposes
	R402.4.2 Fireplaces. New wood-burning fireplaces shall have tight-using tight-fitting doors on factory-built fireplaces listed and labeledin ac fireplace. Where using tight-figging doors on masonry fireplaces,the do	
	R402.4.3 Fenestration air leakage. Windows, skylights and sliding square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per AAMA/WDMA/CSA 101/l.S.2/A440 by an accredited, independent labo	
	Exception: Site-built windows, skylights and doors.	
	air to open combustion fuel burning appliances, the appliances and con or enclosed in a room, isolated from inside the thermal envelope. Such	all meet not less than the basement wall R-value requirement. The door not need to be room insulated in accordance with Section R403. The combustion



Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.
 Fireplaces and stoves complying with Section R402.4.2 and Section R1006 of the Florida Building Code, Residential.

	R402.4.5 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 E283 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.
	R402.4.6 Air-Sealed Electrical and Communication Boxes. Air-sealed electrical and communication boxes that penetrate the air barrier of the building thermal envelope shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. Air-sealed boxes shall be buried in or surrounded by insulation. Air-sealed boxes shall be marked in accordance with NEMA OS 4. Air-sealed boxes shall be installed in accordance with the manufacturer's instructions.
	SECTION R403 SYSTEMS
	R403.1 Controls
	R403.1.1 Thermostat provision (Mandatory). At least one thermostat shall be provided for each separate heating and cooling system.
	R403.1.3 Heat pump supplementary heat (Mandatory). Heat pumps having supplementary electric-resistance heat shall have controls that limit supplemental heat operation to only those times when one of the following applies:
	 The vapor compression cycle cannot provide the necessary heating energy to satisfy the thermostat setting. The heat pump is operating in defrost mode. The vapor compression cycle malfunctions. The thermostat malfunctions.
	R403.3.2 Sealing (Mandatory). All ducts, air handlers, filter boxes and building cavities that form the primary air containment passageways for air distribution systems shall be considered ducts and plenum chambers, shall be constructed and sealed in accordance with Section C403.2.9.2 of the Commercial Provisions of this code and shall be shown to meet duct tightness criteria below. Duct tightness shall be verified by testing in accordance with ANSI/RESNET/ICC 380 by either individuals as defined in Section 553.993(5) or (7) Florida Statutes, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i), Florida Statutes, to be "substantially leak free" in accordance with Section R403.3.3.
	R403.3.2.1 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.
	R403.3.3 Duct testing (Mandatory). Ducts shall be pressure tested to determine air leakage by one of the following methods:
	 Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test. Post construction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All registers shall be taped or otherwise sealed during the test.
	 Exceptions: 1. A duct leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope. 2. Duct testing is not mandatory for buildings complying by Section 405 of this code. Duct leakage testing is required for Section R405 compliance where credit is taken for leakage, and a duct air leakage Qn to the outside of less than 0.080 (where Qn = duct leakage to the outside in cfm per 100 square feet of conditioned floor area tested at 25 Pascals) is indicated in the compliance report for the proposed design. A written report of the results of the test shall be signed by the party conducting the test and provided to the code official.
П	R403.3.5 Building Cavities (Mandatory). Building framing cavities shall not be used as ducts or plenums.
	R403.4 Mechanical system piping insulation (Mandatory). or below 55°F (13°C) shall be insulated to a minimum of R-3. Mechanical system piping capable of carrying fluids above 105°F (41°C)
	R403.4.1 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.
	R403.5.1 Heated water circulation and temperature maintenance systems (Mandatory). Heated water circulation systems shall be in accordance with Section R403.5.1.1. Heat trace termperature maintenance systems shall be in accordance with Section R403.5.1.2. Automatic controls, temperature sensors and pumps shall be accessible. Manual controls shall be readily accessible.
	R403.5.1.1 Circulation systems. Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be dedicated return pipe or a cold water supply pipe. Gravity and thermosiphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for how water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water.
	R403.5.1.2 Heat trace systems. Electric heat trace systems shall comply with IEEE 515.1 or UL 515. Controls for such systems shall automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping in accordance with the times when heated water is used in the occupancy.
	R403.5.2 Demand recirculation water systems (Mandatory). have controls that comply with both of the following:
	 The controls shall start the pump upon receiving a signal from the action of a user of a fixture or appliance, sensing the presence of a user of a fixture or sensing the flow of hot or tempered water to a fixture fitting or appliance. The controls shall limit the temperature of the water entering the cold water piping to not greater than 104°F (40°C).



MANDATORY REQUIREMENTS - (Continued)

R403.5.5	5 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 1/2 inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.
R403.5.6	6 Water heater efficiencies (Mandatory).
	R403.5.6.1 Storage water heater temperature controls.
	R403.5.6.1.1 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).
	R403.5.6.1.2 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.
	R403.5.6.2 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 of Section R403.5.6.2.1.
	R403.5.6.2.1 Solar water heating system. 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:
	 Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and Be installed at an orientation within 45 degrees of true south.
Building Natural,	Mechanical ventilation (Mandatory). The building shall be provided with ventilation that meets the requirements of the Florida Code, Residential or Florida Building Code, Mechanical, as applicable, or with other approved means of ventilation, including: Infiltration or Mechanical means. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the on system is not operating.
	R403.6.1 Whole-house mechanical ventilation system fan efficacy. When installed to function as a whole-house mechanical ventilation system, fans shall meet the efficacy requirements of Table R403.6.1.
	Exception: Where mechanical ventilation fans are integral to tested and listed HVAC equipment, they shall be powered by an electronically commutated motor.
	R403.6.2 Ventilation air. Residential buildings designed to be operated at a positive indoor pressure of for mechanical ventilation shall meet the following criteria:
	 The design air change per hour minimums for residential buildings in ASHRAE 62.2, Ventilation for Acceptable Indoor Air Quality, shall be the maximum rates allowed for residential applications. No ventilation or air-conditioning system make-up air shall be provided to conditioned space from attics, crawlspaces, attached enclosed garages or outdoor spaces adjacent to swimming pools or spas. 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.
R403.7 I	Heating and cooling equipment.
	R403.7.1 Equipment sizing (Mandatory). 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 methodologies, heating and cooling calculation 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 that affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed.

TABLE R403.6.1 WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY

FAN LOCATION	AIRFLOW RATE MINIMUM	MINIMUM EFFICACY (a)	AIRFLOW RATE MAXIMUM
	CFM	CFM/WATT	CFM
HRV or ERV	Any	1.2 cfm/watt	Any
Range hoods	Any	2.8 cfm/watt	Any
In-line fan	Any	3.8 cfm/watt	Any
Bathroom, utility room	10	2.8 cfm/watt	< 90
Bathroom, utility room	90	3.5 cfm/watt	Any

For SI: 1 cfm - 28.3 L/min.

(a) When tested in accordance HVI Standard 916



MANDATORY REQUIREMENTS - (Continued)

than the Section	1.1 Cooling equipment capacity. Cooling only equipment shall be selected so that its total capacity is not less calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in 403.7, or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the ent shall not be less than the calculated latent load.
The pub expande tempera performa Design v	is stall for the less that the calculated latent load. It is held value for AHRI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's deperformance data shall be used to select cooling-only equipment. This selection shall be based on the outdoor design dry-bulb ture for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded ance data, the design value for entering wet-bulb temperature and the design value for entering dry-bulb temperature ralues for entering wet-bulb and dry-bulb temperatures shall be for the indoor dry bulb and relative humidity used for the load on and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space.
	Exceptions: 1. Attached single- and multiple-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 multiple-family units, the capacity of equipment may be sized in accordance with good design practice.
R403.7.	1.2 Heating equipment capacity.
	R403.7.1.2.1 Heat pumps. Heat pump sizing shall be based on the cooling requirements as calculated according to Section R403.7.1.1, and the heat pump total cooling capacity shall not be more than 1.15 times greater than the design cooling load even if the design heating load is 1.15 times greater than the design cooling load.
	R403.7.1.2.2 Electric resistance furnaces. Electric resistance furnaces shall be sized within 4 kW of the design requirements calculated according to the procedure selected in Section R403.7.1
	R403.7.1.2.3 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 R403.7.1.
intermitte	1.3 Extra capacity required for special occasions. Residences requiring excess cooling or heating equipment capacity on an ent basis, such as anticipated additional loads caused by major entertainment events, shall have equipment sized or controlled to 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.
	Systems serving multiple dwelling units (Mandatory). Systems serving multiple dwelling units shall comply with Sections d C404 of the IECC—Commercial Provisions in lieu of Section R403.
shall inc	Snow melt and ice system controls (Mandatory). Snow- and ice-melting systems, supplied through energy service to the building, lude automatic controls capable of shutting off the system when the pavement temperature is above 50°F (10°C), and no tion is falling and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F (4.8°C).
R403.10 shall be	Pools and permanent spa energy consumption (Mandatory). The energy consumption of pools and permanent spas in accordance with Sections R403.10.1 through R403.10.5.
	R403.10.1 Heaters. The electric power to heaters shall be controlled by a readily accessible on-off switch that is an integral part of the heater mounted on the exterior of the heater, or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. Gas-fired heaters shall not be equipped with continuously burning ignition pilots.
	R403.10.2 Time switches. Time switches or other control methods that can automatically turn off and on according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.
	Exceptions: 1. Where public health standards require 24-hour pump operations. 2. Pumps that operate solar- and waste-heat-recovery pool heating systems. 3. Where pumps are powered exclusively from on-site renewable generation.
	R403.10.3 Covers. Outdoor heated swimming pools and outdoor permanent 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: Where more than 70 percent of the energy for heating, computed over an operation season, is from site-recovered energy, such as from a heat pump or solar energy source, covers or other vapor-retardant means shall not be required.
	R403.10.4 Gas- and oil-fired pool and spa heaters. All gas- and oil-fired pool and spa 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 or LP gas shall not have continuously burning pilot lights.
	R403.10.5 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.

MANDATORY REQUIREMENTS - (Continued)

R404.1.1 Lighting equipment (Mandatory).

R403.11 Portable spas (Mandatory). requirements of APSP-14.	The energy consumption of electric-powered portable spas shall be controlled by the
R403.13 Dehumidifiers (Mandatory).	If installed, a dehumidifier shall conform to the following requirements:
is less than 75 pints/day and gre 75 pints/day. 2. The dehumidifier shall be contromagnet. 3. Any dehumidifier unit located in 4. Condensate disposal shall be in the conform to the following requirements: 1. If a ducted dehumidifier is configured damper shall be installed in the conformation of the con	the dehumidifier shall be greater than 1.7 liters/ kWh if the total dehumidifier capacity for the house eater than 2.38 liters/kWh if the total dehumidifier capacity for the house is greater than or equal to solled by a sensor that is installed in a location where it is exposed to mixed house air. unconditioned space that treats air from conditioned space shall be insulated to a minimum of R-2. accordance with Section M1411.3.1 of the Florida Building Code, Residential. In addition to conforming to the requirements of Section R403.13, gured with return and supply ducts both connected into the supply side of the cooling system, a backdraft supply air duct between the dehumidifier inlet and outlet duct. gured with only its supply duct connected into the supply side of the central heating and cooling system, alled in the dehumidifier supply duct between the dehumidifier and central supply duct. be ducted to or from a central ducted cooling system on the return duct side upstream from the umidifier located in unconditioned space shall be insulated to a minimum of R-6.
SECTION	R404 ELECTRICAL POWER AND LIGHTING SYSTEMS
R404.1 Lighting equipment (Mandatory efficacy of at least 45 lumens-per-watt or). All permanently installed luminaires, excluding those in kitchen appliances, shall have an shall utilize lamps with an efficacy of not less than 65 lumens-per-watt.
Exception: Low-voltage ligh	ting.

Fuel gas lighting systems shall not have continuously burning pilot lights.

TABLE 402.4.1.1 AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

Project Name: Street: City, State, Zip: Owner:	Example Residence 123 Anywhere Street Jacksonville, FL 32241 Example House	Builder Name Permit Office: Permit Number: Jurisdiction:	Nassau County	
	Example House	Julisaiction.		
Design Location:	FL. Jacksonville Intl			

Owner: E		urisdiction:	
COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA	✓
General requirements	A continuous air barrier shall be installed in the building envelope. The 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 attics paces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.	
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities with corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier	
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.	Rim joists shall be insulated.	
Floors (including above-garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity Insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top sideof sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.	
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided in lieu of floor insulation, insulation shall be permanently attached to the crawlspace walls.	
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 sealed to the finished. surface.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.	
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	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.	Exterior walls adjacent to showers and tubs shall be insulated.	
Electrical, communication, and other equipment boxes, housings, and enclosures	Boxes, housings, and enclosures that penetrate the air barrier shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. All concealed openings into the box, housing, or enclosure shall be sealed. The continuity of the air barrier shall be maintained around boxes, housings, and enclosures that penetrate the air barrier. Alternatively, air-sealed boxes shall be installed in accordance with R402.4.6.	Boxes, housings, and enclosures shall be buried in or surrounded by tightly fitted insulation.	
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the subfloor, wall covering or ceiling penetrated by the boot.		
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.		

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.



Envelope Leakage Test Report (Blower Door Test) Residential Prescriptive, Performance or ERI Method Compliance

2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction:	Permit Number:				
Job Information					
Builder: Community:	Lot:				
Address: 123 Anywhere Street Unit:					
City: Jacksonville State: FL	Zip: 32241				
Air Leakage Test Results Passing results must meet eith	ner the Performance, Prescriptive, or ERI Method.				
PRESCRIPTIVE METHOD The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 pascals) in Climate Zones 1 and 2.					
The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on FORM R405-2023 (Performance) or R406-2023 (ERI), section labeled as Infiltration, sub-section ACH50. ACH(50) specified on Form R405-2023-Energy Calc (Performance) or R406-2023 (ERI): 7.000					
Total Achieves Test Service	Method for calculating building volume: Retrieved from architectural plans Code software calculated Field measured and calculated				
R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding seven air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Dwelling units with an air leakage rate less than three air changes per hour shall be provided with whole-house mechanical ventilation in accordance with Section R403.6.1 of this code and M1507.3 of the Florida Building Code, Residential. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 pascals). Testing shall be conducted by either individual as defined in Section 553.993(5) or (7), Florida Statutes, or individuals licensed as set forth in Section 489.105(3)(f), (g) or (i) or 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.					
Exception: Testing is not required for additions, alterations, renovation existing buildings in which the new construction is less than 85 percent					
 During testing: Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures. Interior doors, if 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. Supply and return registers, if installed at the time of the test, shall be fully open. If an attic is both air sealed and insulated at the roof deck, interior access doors and hatches between the conditioned space volume and the attic shall be opened during the test and the volume of the attic shall be added to the conditioned space volume for purposes of reporting an infiltration volume and calculating the air leakage of the home. 					
Testing Company					
Company Name:					
I hereby verify that the above Air Leakage results are in accordance with the 2023 8th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.					
Signature of Tester: Date of Test:					
Printed Name of Tester:					
License/Certification #: Issuing Authority:					



Duct Leakage Test Report

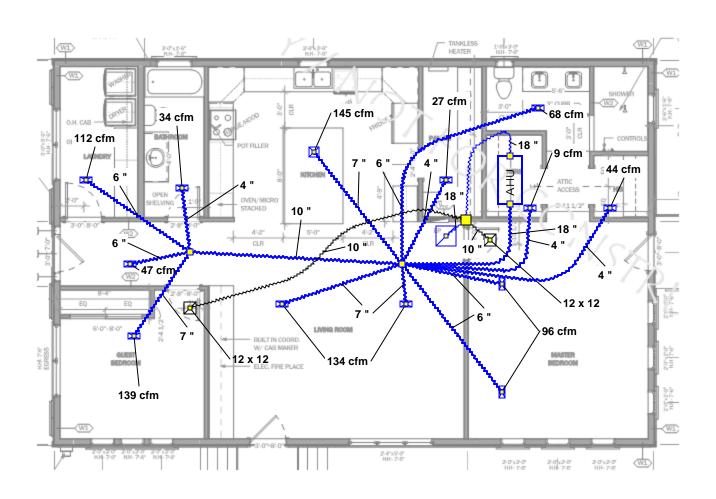
Residential Perscriptive, Performance or ERI Method Compliance 2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction:		Permit Number:				
Job Information						
Builder: Con	nmunity:	Lot:				
Address: 123 Anywhere Street	Unit:					
City: Jacksonville	State: FL	Zip: 32241				
Duct Leakage Test Results						
System 1 cfm25 System 2 cfm25 System 3 cfm25 Sum of any additional systems cfm25 Total of all systems cfm25	To qualify than or ed unit is not 0.03. Thi accordan Is the during	scriptive Method cfm25 (Total) y as "substantially leak free" Qn Total must be less qual to 0.04 if air handler unit is installed. If air handler trinstalled, Qn Total must be less than or equal to so testing method meets the requirements in ce with Section R403.3.3. air handler unit installed YES (<= 0.04 Qn) t testing?				
Performance / ERI Method cfm25 (Out or Total) Total of all systems Square Footage FAIL Performance / ERI Method cfm25 (Out or Total) To qualify using this method, Qn must be not greater than the proposed duct leakage Qn specified on Form R405-2023 or R406-2023. Leakage Type selected on Form Qn specified on Form R405-2023 (Energy Calc) or R406-2023 (Energy Calc) or R406-2023 Proposed Qn Duct tightness shall be verified by testing in accordance with ANSI/RESNET/ICC380 by either individuals as defined in Section 553.993(5) or (7), Florida Statutes, or individuals licensed as set forth in Section 489.105(3)(f), (g) or (i), Florida Statutes.						
Testing Company						
Company Name: Phone: Phone: I hereby verify that the above duct leakage test results are in accordance with the 2023 8th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above. Signature of Tester: Date of Test: Printed Name of Tester:						
License/Certification #: Issuing Authority:						





House



Job #: Example Performed by Florida Energy Calcs LLC... Example House

Example House 123 Anywhere Street Jacksonville, FL 32241

FLORIDA ENERGY CALCS LLC

PO Box 57412 Jacksonville, FL 32241 Scale: 1/8" = 1'0" Page 1

Right-Suite® Universal 2024 24.0.01 RSU62358 2024-Sep-17 06:09:54 ...-story SFR\Example Residence.rup