FORM R405-2023

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Copeland Mini	Builder Name:	Copeland
Street:	134 S.W. Sedgefield Farms Glen	Permit Office:	Columbia
City, State, Zip:	Ft White, FL, 32038	Permit Number:	
Owner:	Copeland	Jurisdiction:	221000
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	1
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	1000
Conditioned floor area below grade (ft²)	0

7. Windows(50.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.47	30.00 ft²
SHGC:	SHGC=0.31	
b. U-Factor:	Dbl, U=0.49	20.00 ft²
SHGC:	SHGC=0.32	
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		6.400 ft
Area Weighted Average SHGC:		0.314

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	1000.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1400.0 sqft.)	Insulation	Area
a. Frame - Steel, Exterior	R=19.0	1400.00 ft²
b. N/A		
c. N/A		
d. N/A		

11. Ceiling Types(1000.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	1000.00 ft²
b. N/A		
c. N/A		

12. Roof(Metal, Vented)	Deck R=0.0	1083 ft²
13. Ducts, location & insulation level	R	ft²
a.		
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	18.0	SEER2:20.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	18.0	HSPF2:9.30

16. Hot Water Systems	
a. ElectricTankless	Cap: 1 gallons
	EF: 0.990
b. Conservation features	
	None
17. Credits	CF, Pstat

Glass/Floor Area: 0.050

Total Proposed Modified Loads: 19.63

Total Baseline Loads: 30.31

PASS

NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or equal to 95 percent of the annual total loads of the standard reference design in order to comply.

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

PREPARED BY: __John Pirkl_____

DATE: __03/04/2024_____

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

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

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

- Homes without ducts do not require duct testing.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 5.06 ACH50 (R402.4.1.2).

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Copeland Mini			Address type:	Street Address
Building Type:	User	Bedrooms:	1	Lot #:	---
Owner:	Copeland	Conditioned Area:	1000	Block/SubDivision:	---
Builder Home ID:		Total Stories:	1	PlatBook:	---
Builder Name:	Copeland	Worst Case:	No	Street:	134 S.W. Sedgefield Farms Glen
Permit Office:	Columbia	Rotate Angle:	0	County:	Columbia
Jurisdiction:	221000	Cross Ventilation:	No	City, State, Zip:	Ft White,
Family Type:	Detached	Whole House Fan:	No		FL, 32038
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2024	Shielding:	Suburban		
Comment:					

CLIMATE

√	Design Location	Tmy Site	Design Temp 97.5%	Design Temp 2.5%	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily temp Range
___	FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Entire House	1000	10000 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	Bedroom	330	3300	No	1	1	Yes	Yes	Yes
___	2	Main Living	670	6700	Yes	1		Yes	Yes	Yes

FLOORS (Total Exposed Area = 1000 sq.ft.)

√	#	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	R-Value Joist	U-Factor	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	Bedroom	53	330 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00
___	2	Slab-On-Grade Edge Ins	Main Living	87	670 sqft	0	---	0.473	2 (ft)/0 (ft)	0.00	1.00	0.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Gable or Shed	Metal	1083 ft²	208 ft²	Unfinished, Galvalum	N	0.9	No	0.4	No	0	22.62

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Full attic	Vented	150	1000 ft²	N	N

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

CEILING (Total Exposed Area = 1000 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Vented)	Bedroom	38.0	Blown	330.0ft²	0.049	0.10	Wood
___	2	Flat ceiling under attic(Vented)	Main Living	38.0	Blown	670.0ft²	0.049	0.10	Wood

WALLS (Total Exposed Area = 1400 sq.ft.)

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___	1	N	Exterior	Frame - Steel	Bedroom	19.0	16.0	6	10.0	0	165.0	0.183	0	0.25	0.23	0 %
___	2	S	Exterior	Frame - Steel	Bedroom	19.0	16.0	6	10.0	0	165.0	0.183	0	0.25	0.23	0 %
___	3	W	Exterior	Frame - Steel	Bedroom	19.0	20.0	0	10.0	0	200.0	0.183	0	0.25	0.23	0 %
___	4	N	Exterior	Frame - Steel	Main Living	19.0	33.0	6	10.0	0	335.0	0.183	0	0.25	0.23	0 %
___	5	E	Exterior	Frame - Steel	Main Living	19.0	20.0	0	10.0	0	200.0	0.183	0	0.25	0.23	0 %
___	6	S	Exterior	Frame - Steel	Main Living	19.0	33.0	6	10.0	0	335.0	0.183	0	0.25	0.23	0 %

DOORS (Total Exposed Area = 0 sq.ft.)

√	#	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___	1	N(Front)	Exterior	Wood	Bedroom	None	0.20	0.10	0	0.10	0	0.1ft²

WINDOWS (Total Exposed Area = 50 sq.ft.)

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen
___	1	W	3	Vinyl	Low-E Double	Y	0.47	0.31	N	N	15.0	1	3.00	5.00	1.3	6.0	Drapes/blinds	Ex. 50%
___	2	W	3	Vinyl	Low-E Double	Y	0.47	0.31	N	N	15.0	1	3.00	5.00	1.3	8.0	Drapes/blinds	Ex. 50%
___	3	E	5	Vinyl	Low-E Double	Y	0.49	0.32	N	N	20.0	1	3.00	6.67	14.0	1.0	None	None

INFILTRATION

√	#	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___	1	Wholehouse	Proposed ACH(50)	0.00032	843	46.27	86.86	0.1084	5.1	All	10000 cu ft

MASS

√	#	Mass Type	Area	Thickness	Furniture Fraction	Space
___	1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Bedroom
___	2	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Main Living

HEATING SYSTEM

√	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	Split/Single		HSPF2: 9.30	18.0		0.00	0.00	0.00	sys#0	1

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

COOLING SYSTEM

√	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	Split/Single		SEER2:20.0	18.0	600	0.70	Ductless	1

HOT WATER SYSTEM

√	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	Tankless	Exterior	0.99 (0.99)	1.00 gal	55 gal	120 deg	Low	None	73

		Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___	1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

√	Duct #	Supply Location	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	RLF	HVAC # Heat	HVAC # Cool

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

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

√ Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
___ Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
___ Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
___ Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
___ Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM R405-2023

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 65

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

134 S.W. Sedgefield Farms Glen,Ft White,FL,32038

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		1
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		1000
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.47	30.00 ft²
SHGC:	SHGC=0.31	
b. U-Factor:	Dbl, U=0.49	20.00 ft²
SHGC:	SHGC=0.32	
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		6.400 ft
Area Weighted Average SHGC:		0.314

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	1000.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1400.0 sqft.)	Insulation	Area
a. Frame - Steel, Exterior	R=19.0	1400.00 ft²
b. N/A		
c. N/A		
d. N/A		

11. Ceiling Types(1000.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	1000.00 ft²
b. N/A		
c. N/A		

12. Roof(Metal, Vented)	Deck R=0.0	1083 ft²
13. Ducts, location & insulation level	R	ft²
a.		
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	18.0	SEER2:20.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	18.0	HSPF2:9.30

16. Hot Water Systems	
a. ElectricTankless	Cap: 1 gallons
	EF: 0.990
b. Conservation features	
	None
17. Credits	CF, Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: 134 S.W. Sedgefield Farms Glen City/FL Zip: Ft White,FL,32038

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. 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.

2023 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA-TABLE 402.4.1.1[a]

Project Name:	Copeland Mini	Builder Name:	Copeland
Street:	134 S.W. Sedgefield Farms Glen	Permit Office:	Columbia
City, State, Zip:	Ft White, FL, 32038	Permit Number:	
Owner:	Copeland	Jurisdiction:	221000
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA	CHECK
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air 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.	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 within 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 shall include the 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 side of 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 instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.	
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening 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 installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	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 sub-floor, 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 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.

Potential Eligibility for IRA Tax Credit*

Certificate of Product Ratings

AHRI Certified Reference Number : 209836189 Date : 03-04-2024 Model Status : Active

AHRI Type : HMSV-A-CB-O (Multi-Split Heat Pump, Free Delivery)

Series Name : NV-Series

Outdoor Unit Brand Name : Trane / Mitsubishi Electric

Outdoor Unit Model Number : NTXMMX20A122B*

Indoor Type : Non-Ducted Indoor Units

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2017 with Addendum 1, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A2) - Single or High Stage (95F), btuh : 18000

SEER : 20.00

EER (A2) - Single or High Stage (95F) : 12.70

Heating Capacity (H12) - Single or High Stage (47F) : 22000

HSPF (Region IV) : 10.00

Rated as follows in accordance with the latest edition of AHRI 210/240 – 2023, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A_{Full}) – Single or High Stage (95F), btuh : 18000

SEER2 : 20.00

EER2 (A_{Full}) – Single or High Stage (95F) : 12.70

Heating Capacity ($H1_{Full}$) – Single or High Stage (47F), btuh : 22000

HSPF2 (Region IV) : 9.30

Sold in? : USA

†"Active" Model Status are those that an AHRI Certification Program Participant is currently producing AND selling or offering for sale; OR new models that are being marketed but are not yet being produced.“Production Stopped” Model Status are those that an AHRI Certification Program Participant is no longer producing BUT is still selling or offering for sale.

Ratings that are accompanied by WAS indicate an involuntary re-rate. The new published rating is shown along with the previous (i.e. WAS) rating.

The Department of Energy has published updated energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 430.32(c). Please refer to www.AHRInet.org for more information about updated energy efficiency metrics.

*This refers to the federal tax credit that may be known to consumers as "Inflation Reduction Act (IRA) of 2022 Tax Credit," "25C Tax Credit," or "Energy Efficient Home Improvement Credit." This is not intended to constitute tax or legal advice. Instead, it is for general informational purposes only. AHRI makes no representation or warranty, express or implied or assumes any legal liability or responsibility for the accuracy, completeness, any third party's use of, or the results of the use of potential eligibility for tax credit disclosed on the AHRI Directory of Certified Product Performance and AHRI Certificate of Product Ratings. Potential eligibility for tax credit may not constitute the most up to date information. AHRI is unable to advise or confirm tax credit eligibility. Individuals considering eligibility for the tax credit are advised to confirm eligibility with their equipment installers, tax attorneys or preparers.

AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE

we make life better™

CERTIFICATE NO.: 133540415655226058