

# 2020 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

TABLE 402.4.1.1

## AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA<sup>a</sup>

Project Name: J-8100 - C-1309		Builder Name:		CHECK
Street:		Permit Office:		
City, State, Zip: Columbia County, FL,		Permit Number:		
Owner: Plumb/Windham Residence		Jurisdiction:		
Design Location: FL, Gainesville		County: Columbia(Florida Climate Zone 2)		
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 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/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.		✓	
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 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.



**FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION**

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: J-8100 - C-1309 Street: City, State, Zip: Columbia County, FL, Owner: Plumb/Windham Residence Design Location: FL, Gainesville	Builder Name: Permit Office: Permit Number: Jurisdiction: County: Columbia(Florida Climate Zone 2)
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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      3 5. Is this a worst case?      No 6. Conditioned floor area above grade (ft²)      1500 Conditioned floor area below grade (ft²)      0 7. Windows(148.0 sqft.)      Description      Area a. U-Factor:      Dbl, U=0.35      148.00 ft² SHGC:      SHGC=0.25 b. U-Factor:      N/A      ft² SHGC: c. U-Factor:      N/A      ft² SHGC: Area Weighted Average Overhang Depth:      1.649 ft Area Weighted Average SHGC:      0.250 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      1500.00 ft² b. N/A      R=      ft² c. N/A      R=      ft²	10. Wall Types(1280.0 sqft.)      Insulation      Area a. Frame - Wood, Exterior      R=13.0      1280.00 ft² b. N/A      R=      ft² c. N/A      R=      ft² d. N/A      R=      ft² 11. Ceiling Types(1500.0 sqft.)      Insulation      Area a. Under Attic (Vented)      R=38.0      1500.00 ft² b. N/A      R=      ft² c. N/A      R=      ft² 12. Ducts, location & insulation level      R      ft² a. Sup: Attic, Ret: Attic, AH: Attic      6      200 b. c. 13. Cooling Systems      kBtu/hr      Efficiency a. Central Unit      28.0      SEER:14.00 14. Heating Systems      kBtu/hr      Efficiency a. Electric Heat Pump      28.0      HSPF:8.50 15. Hot Water Systems a. Electric      Cap: 40 gallons EF: 0.950 b. Conservation features 16. Credits      None Pstat
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Glass/Floor Area: 0.099	Total Proposed Modified Loads: 37.63	PASS
	Total Baseline Loads: 38.65	

  

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.  PREPARED BY: <u>LaTisha Furmon</u>  DATE: <u>March 15, 2022</u>  I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. OWNER/AGENT: <u>[Signature]</u> DATE: <u>3-17-2022</u>	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: _____
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- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Compliance with a proposed duct leakage Qn requires a PERFORMANCE Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.030 Qn for whole house.
- 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 6.00 ACH50 (R402.4.1.2).

## INPUT SUMMARY CHECKLIST REPORT

## PROJECT

Title:	J-8100 - C-1309	Bedrooms:	3	Address type:	Street Address
Building Type:	User	Conditioned Area:	1500	Lot #:	---
Owner:	Plumb/Windham Residence	Total Stories:	1	Block/SubDivision:	---
Builder Name:		Worst Case:	No	PlatBook:	---
Permit Office:		Rotate Angle:	0	Street:	
Jurisdiction:		Cross Ventilation:	No	County:	Columbia
Family Type:	Detached	Whole House Fan:	No	City, State, Zip:	Columbia County, FL,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:		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	Block1	1500	12000

## SPACES

✓ Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___ 1	Main	1500	12000	Yes	4	3	Yes	Yes	Yes

## FLOORS

(Total Exposed Area = 1500 sq.ft.)

✓ #	Floor Type	Space	Exposed Perim	Perimeter R-Value	Area	U-Factor	Joist R-Value	Tile	Wood	Carpet
___ 1	Slab-On-Grade Edge Ins	Main	160		1500 ft	0.304	---	0.00	0.00	1.00

## ROOF

✓ #	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
___ 1	Gable or Shed	Metal	1677 ft²	376 ft²	Medium	N	0.9	N	0.9	No	0	26.57

## ATTIC

✓ #	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___ 1	Full attic	Vented	150	1500 ft²	N	N

## CEILING

(Total Exposed Area = 1500 sq.ft.)

✓ #	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___ 1	Under Attic(Vented)	Main	38.0	Blown	1500.0ft²	0.049	0.10	Wood



# INPUT SUMMARY CHECKLIST REPORT

## WALLS

(Total Exposed Area = 1280 sq.ft.)

✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
1	N	Exterior	Frame - Wood	Main	13.0	30.0	0	8.0	0	240.0	0.095	0	0.25	0.80	0 %
2	E	Exterior	Frame - Wood	Main	13.0	50.0	0	8.0	0	400.0	0.095	0	0.25	0.80	0 %
3	S	Exterior	Frame - Wood	Main	13.0	30.0	0	8.0	0	240.0	0.095	0	0.25	0.80	0 %
4	W	Exterior	Frame - Wood	Main	13.0	50.0	0	8.0	0	400.0	0.095	0	0.25	0.80	0 %

## DOORS

(Total Exposed Area = 40 sq.ft.)

✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
1	E	Exterior	Wood	Main	None	0.39	3.00	0	6.00	8	20.0ft²
2	W	Exterior	Wood	Main	None	0.47	3.00	0	6.00	8	20.0ft²

## WINDOWS

(Total Exposed Area = 148 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	e	2	Metal	Low-E Double	Y	0.35	0.25	N	N	60.0	4	3.00	5.00	1.0	1.0	Drapes/blinds	Ex. 50%
2	S	3	Metal	Low-E Double	Y	0.35	0.25	N	N	9.0	1	3.00	3.00	5.0	1.0	Drapes/blinds	Ex. 50%
3	s	3	Metal	Low-E Double	Y	0.35	0.25	N	N	15.0	1	3.00	5.00	5.0	1.0	Drapes/blinds	Ex. 50%
4	w	4	Metal	Low-E Double	Y	0.35	0.25	N	N	15.0	1	3.00	5.00	1.0	1.0	Drapes/blinds	Ex. 50%
5	w	4	Metal	Low-E Double	Y	0.35	0.25	N	N	9.0	1	3.00	3.00	1.0	1.0	Drapes/blinds	Ex. 50%
6	W	4	Metal	Low-E Double	Y	0.35	0.25	N	N	40.0	1	6.00	6.67	1.0	1.0	Drapes/blinds	Ex. 50%

## INFILTRATION

✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)
1	Wholehouse	Proposed ACH(50)	0.00030	1200	65.84	123.60	0.1176	6.0	All

## MASS

✓ #	Mass Type	Area	Thickness	Furniture Fraction	Space
1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Main

## 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		HSPF: 8.50	28.0	0.00 0.00 0.00	sys#1	1

## COOLING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
1	Central Unit	Split/Single		SEER:14.0	28.0	0	0.80	sys#1	1

# INPUT SUMMARY CHECKLIST REPORT

## HOT WATER SYSTEM

✓ #	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
1	Electric	None	Main	0.95 (0.93)	40.00 gal	60 gal	120 deg	Standard	=>R-3	99
	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 #	Location	Supply R-Value	Area	Return R-Value	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN	RLF	HVAC # Heat	HVAC # Cool	
1	Attic	6.0	200 ft²	Attic	6.0	100 ft²	Prop. Leak Free	Attic	—	—	0.03	0.50	1	1

## TEMPERATURES

Programable Thermostat: Y				Ceiling Fans: N											
Cooling	[ ] Jan	[ ] Feb	[ ] Mar	[ ] Apr	[ ] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[ ] Oct	[ ] Nov	[ ] Dec			
Heating	[X] Jan	[X] Feb	[X] Mar	[ ] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[ ] Oct	[X] Nov	[X] Dec			
Venting	[ ] Jan	[ ] Feb	[X] Mar	[X] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[X] Oct	[X] Nov	[ ] Dec			
✓ Thermostat Schedule: HERS 2006 Reference															
Schedule Type	1	2	3	4	5	6	Hours 7	8	9	10	11	12			
— Cooling (WD)	AM PM	78 80	78 80	78 78	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 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			
— Heating (WD)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66			
— Heating (WEH)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66			