City of Seneca Building Codes

2009 Energy Code Checklist For Residential Construction

(Required for all New Single-Family and Multi-Family Dwellings, Additions and Renovations)

The State of South Carolina has adopted the 2009 International Energy Conservation Code (IECC), which goes into effect beginning January 1st, 2013. This form is required to be filled out and submitted prior to issuance of the Certificate of Occupancy.

Project Address:	Permit #			
Builder:	License #			
Phone: Email:	Date			
Project Type: Single-Family Dwelling Townhome Duplex Addition	Renovation			
Required Documentation:				
1. Energy Compliance – Choose One method . All methods must meet the Mandat	ory Requirements (2).			
Prescriptive - Includes Mandatory Requirements (2), Prescriptive Requirement	ts (3) and Energy Certificate (4).			
Trade Off - Includes Mandatory Requirements (2) and Energy Certificate (4). A to show compliance. Go to: www.energycodes.gov/rescheck (It's easy and free				
Performance — Includes Mandatory Requirements (2), Energy Certificate (4). Attach documentation to show compliance. Documentation must include standard reference design and proposed design.				
2. Mandatory Requirements – Building envelope air tightness and insulation installation shall be demonstrated to comply with the following.				
Mandatory Requirements				
1. Building Thermal Envelope (402.4.1) - Building thermal envelope shall be durably sealed to limit infiltration.	Complied			
2. Air Sealing and Insulation (402.4.2) – Building envelope air tightness and insulation shall be demonstrated to comply with one of the following options - CHOOSE ONE				
Blower Door Test – Individual performing the test is required to be HERS or BPI Certified	Complied N/A			
Air leakage is less than (7) seven air changes per hour at a pressure of 50 pascals.				
Test Performed By:				
Address:				
Date Test Was Performed:				
☐ HERS Certified ☐ BPI Certified				
To locate a certified professional log onto: http://www.energy.sc.gov/ http://www.resnet.us/trade/home-energy-raters-hers-raters http://www.bpi.org/				
Visual Inspection – Building envelope tightness and insulation inspection shall be considered acceptable when items listed in Table 402.4.2 are field verified.	Complied with Table 402.4.2			

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Print	Form

Mandatory Requirements .	- Continued				
3. Fireplaces (State Amendment) outdoor combustion air.	Wood burning fi	ireplaces shall have tight-fitting flue dampers ar	nd Complied	□ N/A	
4. Fenestration Air Leakage (402.4.4	Complied	N/A			
5. Fenestration Air Leakage (402.4.4	4) – Swinging Do	pors < 0.5 cfm/sf	Complied	N/A	
6. Recessed Lighting (402.4.5) – IC	Rated, Sealed w	/ Gasket or Caulk and Air Tight	Complied	N/A	
7. Heating/Cooling System Controls	, (403.1) – Progra	ammable Thermostat Required	Complied	N/A	
8. HVAC Duct Sealing (403.2) – All	ducts sealed wi	th approved material	Complied	N/A	
		OSE ONE Note: Individual performing test			
is required to be HERS or BPI C		02 01.2 1.000			
Post Construction Test – Lea conditiond floor area or a tota floor area at a pressure differe		N/A			
Rough_In Test - Total leakage	e is less than or e	equal to 6 cfm per 100 ft2 of conditioned floor	area area		
at a pressure differential of 25	pascals includin	ng Manufacturer's Air Handler Enclosure. If Air less than or equal to 4 cfm per 100 ft2.	('omplied	∏ N/A	
Test Performed By:					
Address:			_		
Date Test Was Performed:		HERS Certified BPI Certified	ed		
		avities shall not be used as supply ducts.	Complied	N/A	
11. Mechanical Piping Insulation (40			Сотриеа	IN/A	
12. Circulating Hot Water System (4			Complied	N/A	
13. Mechanical Ventilation (403.5)	– Outdoor air inta	akes/exhaust require dampers.	Complied	∏ N/A	
	0% of the bulbs in	nstalled in permanent lighting fixtures shall be	Complied	□ N/A	
15. HVAC Equipment Sizing (403.6) – HVAC equipment shall be sized based on building loads calculated in accordance with ACCA Manual J. Complied N/A					
Builder Signature: Date:					
3. Prescriptive Requirements Minimum Fenestration, Insulation and Energy Requirements					
(Clina	ate Zone 3)				
Fenestration U-Factor	0.50	Windows, Opaque Doors, Glazed Doors U = Thermal Transmittance Factor	Complied	□ N/A	
Glazed Fenestration SHGC	0.30	SHGC = Solar Heat Gain Coefficient	Complied	N/A	
Skylight U-Factor	0.65		Complied	N/A	
Ceiling Insulation	R30		Complied	N/A	
Exterior Wood Frame Wall	R13		Complied	N/A	
Floor Over Un-Conditioned Space	R19		Complied	∏ N/A	
HVAC Ducts in Attics	R8	R6 required in unconditioned basements and crawl spaces	Complied	N/A	
Conditioned Basement Wall	R 5/13	R5 Continuous or R13 Cavity	Complied	N/A	
Mass Wall	R 5/8		Complied	N/A	
Crawl Space Wall (Closed)	R 5/13	R5 Continuous or R13 Cavity	Complied	N/A	
Slab on Grade Floors	0	R5 For Heated Slabs on Grade	Complied	N/A	
Cold Formed Steel Framing	Table 402.2.5	Cold Formed Steel Framing R Values meet the requirements of Table 402.2.5	Complied	□ N/A	
Access Hatches and Doors - Doors f stripped and insulated.	rom conditoned	to unconditioned spaces shall be weather	Complied	∏ N/A	
Builder Signature:			Date:		

4. Energy Certificate – This form is required to be filled out complete and posted on or in the electrical panel box.

	ergy Efficiency Certificat	-
Permit #		
Address:		
Insulation Ratings		R-Value
ROOF/CEILING	With Attic	R -
	Without Attic	R
WALLS		
Frame R	Basement	R
	Crawlspace	R
FLOORS	Over Unconditioned Space	R
HVAC DUCTS	Attice Space	R
F	Basements and Crawl Space	R -
Fenestration Ratin	gs U - Factor	SHGC
Opaque Doors		
Windows		
Skylights		
Equipment Perfor	mance	Efficienc
Heating System	HSPF/AFUE	
Cooling System	SEER/COP	
Water Heater/Boile	r EF/Ec or E1	
Builder Signature		
Date:		
Adopted Energy Co	ode Edition:	
THIS CERTIFICAT	TE SHALL BE PERMANENTLE TRICAL PANEL BOX	Y POSTED

Print Form

AFUE = Annual fuel utilization efficiency. Standard measurement of efficiency for gas and oil-fired furnaces. (*Minimum Efficiency of 78% Required*)

COP = Coefficient of Performance

EF = Energy Factor

SHGC = Solar Heat Gain Coefficient

SEER = Seasonal Energy Efficiency Ratio is a measure of the cooling efficiency of your air conditoner or Heat Pump. (*Minimum 13 SEER Required*)

HSPF = Heating Seasonal Performance Factor is a measure of the heating efficiency of a heat pump. (*Minimum 7.7 HSPF Required*)

Table 402.4.2 identifies the items required to be field verified if "**Visual Inspection**" is checked under the Mandatory Requirements (Item #2)

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Table 402.4.2			
	Complied N/A	Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier.	
Air Barrier and Thermal Barrier	Complied N/A	Breaks or joints in the air barrier are filled or repaired.	
	Complied N/A	Air permeable insulation is not used as a sealing material	
	Complied N/A	Air permeable insulation is inside of an air barrier	
Ceiling/Attic	Complied N/A	Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed.	
	Complied N/A	Attic access (except unvented attic), knee wall door, or drop down stair is sealed.	
Walls	Complied N/A	Corners and headers are insulated.	
	Complied N/A	Junction of foundation and sill plate is sealed.	
Windows and Doors	Complied N/A	Space between window/door jambs and framing is sealed.	
Rim Joists	Complied N/A	Rim Joists are insulated and include an air barrier.	
Floors (Including above-garage and cantilevered floors)	Complied N/A	Insulation is installed to maintain permanent contact with underside of subfloor decking. Air barrier is installed at any exposed edge of insulation.	
Crawl Space Walls (Closed Crawl Space)	Complied N/A	Insulation is permanently attached to walls.	
	Complied N/A	Exposed earth in unvented crawl spaces is covered with a Class I vapor retarder with overlapping joints taped.	
Shafts, Penetrations	Complied N/A	Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed.	
Narrow cavities	Complied N/A	Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.	
Garage Separation	Complied N/A	Air sealing is provided between the garage and conditioned spaces.	
Recessed Lighting	Complied N/A	Recessed light fixtures are air tight, IC rated, and sealed to drywall. Exception: Fixtures in conditioned space.	
Plumbing and Wiring	Complied N/A	Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.	
Shower/Tub on Exterior Wall	Complied N/A	Showers and tubs on exterior walls have insulation and an air barrier separating them from the exterior wall.	
Electrical/Phone Box on Exterior Wall	Complied N/A	Air barrier extends behind boxes or air sealed type boxes are installed.	
Common Wall	Complied N/A	Air barrier is installed in common wall between dwelling units.	
HVAC Register Boots	Complied N/A	HVAC register boots that penetrate building envelope are sealed to subfloor or drywall	
Fireplace	Complied N/A	Fireplace walls include an air barrier.	

Table 402.4.2 is not required to be submitted to the Community Development Department but is to be used as a checklist to field verify the items as noted.