

# State Maps and Prescriptive Packages

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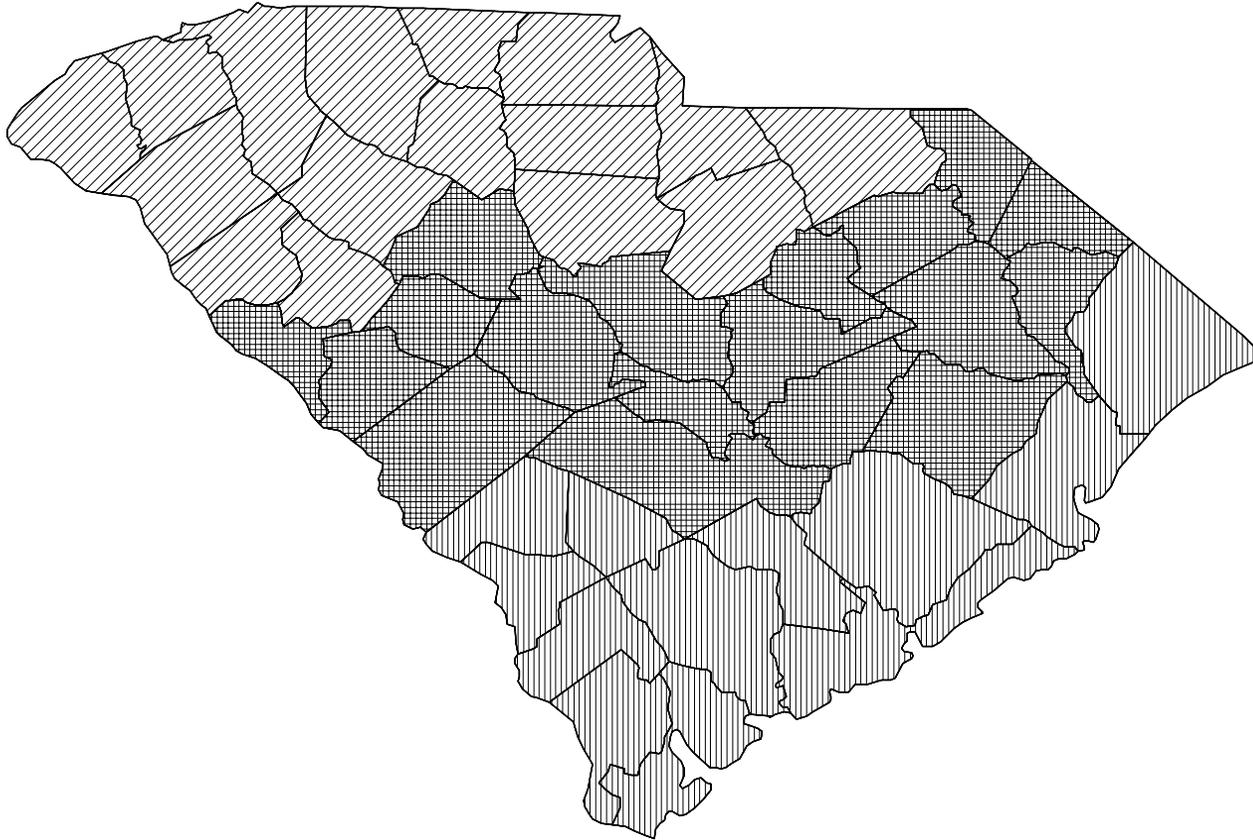
**April 2000**

The State Maps and Prescriptive Packages contain supporting materials that are needed when using the Envelope and Mechanical Compliance Guides. Insulation and other building envelope requirements and some mechanical system requirements vary by climate. The State Maps divide the United States into 33 different climate zones at a county level. Zones are numbered from 1 through 19 (consistent with the IECC and MEC*check* climate zones) and have a, b, and c designations to reflect climate differences that affect cooling; e.g., cooling degree days and solar radiation. The climate maps are unchanged from Version 1.

To determine the climate zone to use with your building, locate the map for your state and identify the zone number from the legend or county list.

To determine insulation and other building envelope requirements, find the prescriptive package number corresponding to your climate zone. The *Envelope Compliance Guide* employs a package approach that requires all components in your design to meet or exceed the prescribed efficiency levels contained in the prescriptive package. If you find the prescriptive packages too constraining, consider using the COM*check-EZ* software, which allows tradeoffs among building envelope components.

# SOUTH CAROLINA



Zone	County	Zone	County
7A	Abbeville	7A	Greenwood
6B	Aiken	5A	Hampton
5A	Allendale	5A	Horry
7A	Anderson	5A	Jasper
5A	Bamberg	7A	Kershaw
5A	Barnwell	7A	Lancaster
5A	Beaufort	7A	Laurens
5A	Berkeley	6B	Lee
6B	Calhoun	6B	Lexington
5A	Charleston	6B	Marion
7A	Cherokee	6B	Marlboro
7A	Chester	6B	Mccormick
7A	Chesterfield	6B	Newberry
6B	Clarendon	7A	Oconee
5A	Colleton	6B	Orangeburg
6B	Darlington	7A	Pickens
6B	Dillon	6B	Richland
5A	Dorchester	6B	Saluda
6B	Edgefield	7A	Spartanburg
7A	Fairfield	6B	Sumter
6B	Florence	7A	Union
5A	Georgetown	6B	Williamsburg
7A	Greenville	7A	York

	Zone 5A
	Zone 6B
	Zone 7A

COMcheck-EZ™ Prescriptive Packages

Climate Zone 5a

Envelope Component	Low Fenestration Area (0-10% Window-Wall Ratio)			Medium Fenestration Area (10%-25% Window-Wall Ratio)			High Fenestration Area (25%-40% Window-Wall Ratio)			Very High Fenestration Area (40%-50% Window-Wall Ratio)		
	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing
<b>Walls (a)</b>												
Framed Any Spacing <i>Minimum R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
CMU, 8 in. or greater with Integral Insulation(b) <i>Minimum R-Value</i>	0	0	0	0	0	0	0	0	0	0	0	0
All Other Masonry Walls(c) <i>Minimum R-Value</i>	0	0	0	5	11	11	5	11	11	5	11	11
<b>Windows</b>												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection
<i>Maximum U-Factor</i>	Any	Any	Any	0.6	0.7	Any	0.5	0.6	0.7	0.4	0.5	0.7
	Any	Any	Any	Any	Any	Any	0.7	0.7	0.7	0.7	0.7	0.7
<b>Skylight (Limit 3% of Roof Area)</b>												
<i>Maximum U-Factor</i>	1			1			1			1		
<b>Roof</b>	Continuous Insulation or Roof Cavity Insulation			Continuous Insulation or Roof Cavity Insulation			Continuous Insulation or Roof Cavity Insulation			Continuous Insulation or Roof Cavity Insulation		
All-Wood Joist/Truss <i>Minimum R-Value</i>	14		19	16		19	16		19	16		19
Nonwood Joist/Truss <i>Minimum R-Value</i>	15		19	17		25	17		25	17		25
Concrete Slab or Deck <i>Minimum R-Value</i>	14		NA	16		NA	16		NA	16		NA
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	15		25	17		25	17		25	17		25
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	15		X	17		X	17		X	17		30
<b>Floor</b>	Continuous Insulation or Cavity Insulation			Continuous Insulation or Cavity Insulation			Continuous Insulation or Cavity Insulation			Continuous Insulation or Cavity Insulation		
All-Wood Joist/Truss <i>Minimum R-Value</i>	5		11	5		11	5		11	5		11
Nonwood Joist/Truss <i>Minimum R-Value</i>	6		11	6		11	6		11	6		11
Concrete Slab or Deck <i>Minimum R-Value</i>	5		NA	5		NA	5		NA	5		NA
<b>Slab Edge or Basement Walls</b>	Insulation											
<i>Minimum R-Value</i>	0											

Notes:

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft<sup>2</sup> or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

COMcheck-EZ™ Prescriptive Packages

Climate Zone 6b

Envelope Component	Low Fenestration Area (0-10% Window-Wall Ratio)			Medium Fenestration Area (10%-25% Window-Wall Ratio)			High Fenestration Area (25%-40% Window-Wall Ratio)			Very High Fenestration Area (40%-50% Window-Wall Ratio)		
	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing
<b>Walls (a)</b>												
Framed Any Spacing <i>Minimum R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
CMU, 8 in. or greater with Integral Insulation(b) <i>Minimum R-Value</i>	0	0	0	0	0	0	0	0	0	0	0	0
All Other Masonry Walls(c) <i>Minimum R-Value</i>	0	0	0	5	11	11	5	11	11	5	11	11
<b>Windows</b>												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection
<i>Maximum U-Factor</i>	Any	Any	Any	0.6	0.7	Any	0.5	0.6	0.7	0.4	0.5	0.7
	Any	Any	Any	Any	Any	Any	0.7	0.7	0.7	0.7	0.7	0.7
<b>Skylight (Limit 3% of Roof Area)</b>												
<i>Maximum U-Factor</i>	1			1			1			1		
<b>Roof</b>												
All-Wood Joist/Truss <i>Minimum R-Value</i>	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation
Nonwood Joist/Truss <i>Minimum R-Value</i>	16		19	16		19	19		25	19		25
Concrete Slab or Deck <i>Minimum R-Value</i>	17		25	17		25	20		25	20		25
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	16		NA	16		NA	19		NA	19		NA
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	17		25	17		25	20		30	20		30
	17		X	17		X	20		X	20		38
<b>Floor</b>												
All-Wood Joist/Truss <i>Minimum R-Value</i>	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation
Nonwood Joist/Truss <i>Minimum R-Value</i>	6		11	6		11	6		11	6		11
Concrete Slab or Deck <i>Minimum R-Value</i>	6		11	6		11	6		11	6		11
	6		NA	6		NA	6		NA	6		NA
<b>Slab Edge or Basement Walls</b>												
<i>Minimum R-Value</i>	Insulation			Insulation			Insulation			Insulation		
	0			0			0			0		

Notes:

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft<sup>2</sup> or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.

COMcheck-EZ™ Prescriptive Packages

Climate Zone 7a

Envelope Component	Low Fenestration Area (0-10% Window-Wall Ratio)			Medium Fenestration Area (10%-25% Window-Wall Ratio)			High Fenestration Area (25%-40% Window-Wall Ratio)			Very High Fenestration Area (40%-50% Window-Wall Ratio)		
	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing	No Framing	Metal Framing	Wood Framing
<b>Walls (a)</b>												
Framed Any Spacing <i>Minimum R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
CMU, 8 in. or greater with Integral Insulation(b) <i>Minimum R-Value</i>	0	0	0	0	0	0	5	11	11	5	11	11
All Other Masonry Walls(c) <i>Minimum R-Value</i>	5	11	11	5	11	11	5	11	11	5	11	11
<b>Windows</b>												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection	No Projection	<sup>§.25</sup> Projection	<sup>§.5</sup> Projection
<i>Maximum U-Factor</i>	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.3	0.4	0.5
	Any	Any	Any	0.7	0.7	0.7	0.7(d)	0.7(d)	0.7(d)	0.7	0.7	0.7
<b>Skylight (Limit 3% of Roof Area)</b>												
<i>Maximum U-Factor</i>	0.8			0.8			0.8			0.8		
<b>Roof</b>												
All-Wood Joist/Truss <i>Minimum R-Value</i>	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation	Continuous Insulation	or	Roof Cavity Insulation
Nonwood Joist/Truss <i>Minimum R-Value</i>	14		19	19		25	19		25	19		25
Concrete Slab or Deck <i>Minimum R-Value</i>	15		19	20		25	20		25	20		25
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	14		NA	19		NA	19		NA	19		NA
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	15		25	20		30	20		30	20		30
	15		X	20		X	20		X	20		38
<b>Floor</b>												
All-Wood Joist/Truss <i>Minimum R-Value</i>	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation	Continuous Insulation	or	Cavity Insulation
Nonwood Joist/Truss <i>Minimum R-Value</i>	8		11	8		11	8		11	8		11
Concrete Slab or Deck <i>Minimum R-Value</i>	9		11	9		11	9		11	9		11
	8		NA	8		NA	8		NA	8		NA
<b>Slab Edge or Basement Walls</b>												
<i>Minimum R-Value</i>	Insulation			Insulation			Insulation			Insulation		
	0			0			0			0		

Notes:

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Integral insulation in concrete masonry units may be perlite, vermiculite, or other insulating material. Minimum R-values are in addition to insulation in CMU voids.
- (c) Use of the Other Masonry Walls category is restricted to walls weighing 35 lb/ft2 or more; lightweight masonry veneers and unfilled CMUs <8 in. in thickness do not qualify.
- (d) For buildings over 3 stories in height, the maximum U-factor shall be 0.60.

- "NA" indicates the category is not applicable.
- A minimum R-value of zero indicates no insulation is required.
- "Any" indicates any available product will comply.
- "X" indicates no complying option exists in the prescriptive packages.