

State Maps and Prescriptive Packages

April 2000

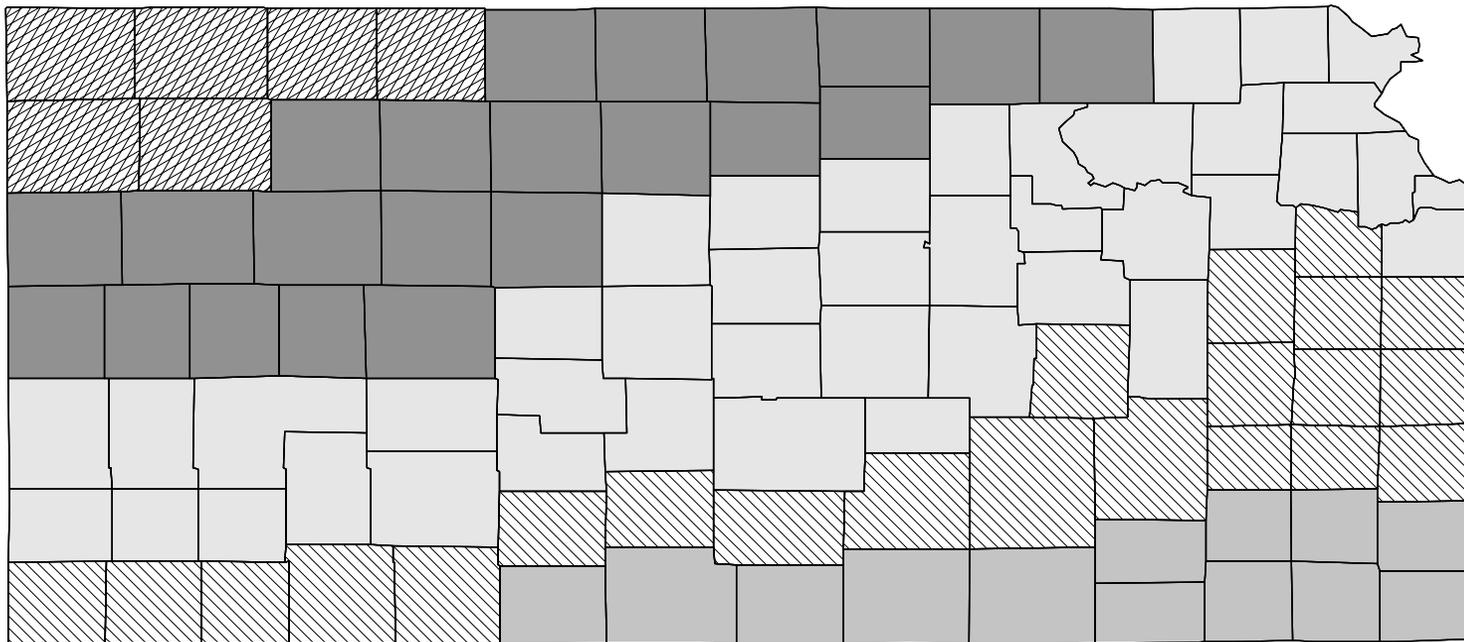
The State Maps and Prescriptive Packages contain supporting materials that are needed when using the Envelope and Mechanical Compliance Guides. Insulation and other building envelope requirements and some mechanical system requirements vary by climate. The State Maps divide the United States into 33 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.

KANSAS

Zone	County	Zone	County	Zone	County	Zone	County	Zone	County	Zone	County	Zone	County	Zone	County		
10B	Allen	9B	Cherokee	11B	Dickinson	11B	Geary	11B	Haskell	12B	Lane	10B	Miami	12B	Osborne	11B	Ottawa
10B	Anderson	13B	Cheyenne	11B	Doniphan	12B	Gove	11B	Hodgeman	11B	Leavenworth	12B	Mitchell	11B	Pawnee	11B	Pawnee
11B	Atchison	10B	Clark	10B	Douglas	12B	Graham	11B	Jackson	11B	Lincoln	9B	Montgomery	12B	Phillips	11B	Pottawatomie
9B	Barber	11B	Clay	11B	Edwards	11B	Grant	11B	Jefferson	10B	Linn	11B	Morris	10B	Pratt	13B	Rawlins
11B	Barton	12B	Cloud	9B	Elk	11B	Gray	12B	Jewell	12B	Logan	10B	Morton	11B	Reno		
10B	Bourbon	10B	Coffey	12B	Ellis	12B	Greeley	11B	Johnson	11B	Lyon	11B	Nemaha	10B	Republic		
11B	Brown	9B	Comanche	11B	Ellsworth	10B	Greenwood	11B	Kearny	11B	Marion	9B	Neosho	12B	Rice		
10B	Butler	9B	Cowley	11B	Finney	11B	Hamilton	10B	Kingman	12B	Marshall	12B	Ness	11B	Riley		
10B	Chase	9B	Crawford	11B	Ford	9B	Harper	10B	Kiowa	11B	Mcpherson	13B	Norton	12B	Rooks		
9B	Chautauqua	13B	Decatur	10B	Franklin	11B	Harvey	9B	Labette	10B	Meade	10B	Osage	11B	Rush		



COMcheck-EZ™ Prescriptive Packages

Climate Zone 9b

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
Walls (a,b)												
Framed <i>Minimum Cavity R-Value (c)</i>	NA	11	11	NA	11	11	NA	13	11	NA	13	13
Any Spacing <i>Minimum Continuous R-Value (d)</i>	NA	0	0	NA	0	0	NA	0	0	NA	5	3
CMU, 8 in. or greater <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
with Integral Insulation(e) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
All Other <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	13	11	NA	13	11
Masonry Walls(f) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	6	0	0	6	0	0
Windows												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} 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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Skylight (Limit 3% of Roof Area)												
<i>Maximum U-Factor</i>	0.8			0.8			0.8			0.8		
Roof												
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>	15		19	19		25	19		25	19		25
Concrete Slab or Deck <i>Minimum R-Value</i>	16		19	20		25	20		25	20		25
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	15		NA	19		NA	19		NA	19		NA
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	16		25	20		30	20		30	20		30
	16		X	20		X	20		X	20		38
Floor												
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>	11		13	11		13	11		13	11		13
Concrete Slab or Deck <i>Minimum R-Value</i>	12		13	12		13	12		13	12		13
	12		NA	12		NA	12		NA	12		NA
Slab Edge or Basement Walls												
<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) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undiminished by compression or bridging.
- (e) 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.

- (f) 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.

- "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 10b

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
Walls (a)												
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>	5	11	11	5	11	11	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
Windows												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} 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	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Skylight (Limit 3% of Roof Area)												
<i>Maximum U-Factor</i>	0.8			0.8			0.8			0.8		
Roof												
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>	17		19	19		25	19		25	19		25
Concrete Slab or Deck <i>Minimum R-Value</i>	18		25	20		25	20		25	20		25
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	17		NA	19		NA	19		NA	19		NA
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	18		30	20		30	20		30	20		30
	18		X	20		X	20		X	20		30
Floor												
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>	12		19	12		19	12		19	12		19
Concrete Slab or Deck <i>Minimum R-Value</i>	13		19	13		19	13		19	13		19
	13		NA	13		NA	13		NA	13		NA
Slab Edge or Basement Walls												
<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.

- "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 11b

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
Walls (a,b)												
Framed <i>Minimum Cavity R-Value (c)</i>	NA	11	11	NA	11	11	NA	11	11	NA	13	11
Any Spacing <i>Minimum Continuous R-Value (d)</i>	NA	0	0	NA	0	0	NA	0	0	NA	3	0
CMU, 8 in. or greater <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
with Integral Insulation(e) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
All Other <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
Masonry Walls(f) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
Windows												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} 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	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Skylight (Limit 3% of Roof Area)												
<i>Maximum U-Factor</i>	0.8			0.8			0.8			0.8		
Roof	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>	18		25	19		25	23		30	23		30
Nonwood Joist/Truss <i>Minimum R-Value</i>	19		25	20		25	24		30	24		30
Concrete Slab or Deck <i>Minimum R-Value</i>	18		NA	19		NA	23		NA	23		NA
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	19		30	20		30	24		X	24		30
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	19		X	20		X	24		X	24		38
Floor	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>	14		19	14		19	14		19	14		19
Nonwood Joist/Truss <i>Minimum R-Value</i>	15		19	15		19	15		19	15		19
Concrete Slab or Deck <i>Minimum R-Value</i>	15		NA	15		NA	15		NA	15		NA
Slab Edge or Basement Walls	Insulation											
<i>Minimum R-Value</i>	0			0			8			8		

Notes:

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undiminished by compression or bridging.
- (e) 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.

- (f) 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.

- "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 12b

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
Walls (a,b)												
Framed <i>Minimum Cavity R-Value (c)</i>	NA	11	11	NA	11	11	NA	11	11	NA	13	13
Any Spacing <i>Minimum Continuous R-Value (d)</i>	NA	0	0	NA	0	0	NA	0	0	NA	3	0
CMU, 8 in. or greater <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
with Integral Insulation(e) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
All Other <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
Masonry Walls(f) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
Windows												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} 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	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Skylight (Limit 3% of Roof Area)												
<i>Maximum U-Factor</i>	0.8			0.8			0.8			0.8		
Roof												
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	19		25	23		30	23		30
Concrete Slab or Deck <i>Minimum R-Value</i>	17		25	20		25	24		30	24		30
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	16		NA	19		NA	23		NA	23		NA
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	17		25	20		30	24		X	24		38
	17		X	20		X	24		X	24		49
Floor												
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>	15		19	15		19	15		19	15		19
Concrete Slab or Deck <i>Minimum R-Value</i>	16		19	16		19	16		19	16		19
	16		NA	16		NA	16		NA	16		NA
Slab Edge or Basement Walls												
<i>Minimum R-Value</i>	Insulation			Insulation			Insulation			Insulation		
	0			0			8			8		

Notes:

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undiminished by compression or bridging.
- (e) 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.

- (f) 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.

- "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 13b

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
Walls (a,b)												
Framed <i>Minimum Cavity R-Value (c)</i>	NA	13	11	NA	13	11	NA	13	11	NA	13	13
Any Spacing <i>Minimum Continuous R-Value (d)</i>	NA	0	0	NA	0	0	NA	0	0	NA	7	3
CMU, 8 in. or greater <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
with Integral Insulation(e) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
All Other <i>Minimum Cavity R-Value</i>	NA	11	11	NA	11	11	NA	11	11	NA	11	11
Masonry Walls(f) <i>Minimum Continuous R-Value</i>	5	0	0	5	0	0	5	0	0	5	0	0
Windows												
<i>Maximum Solar Heat Gain Coefficient</i>	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection	No Projection	^{§.25} Projection	^{§.5} Projection
<i>Maximum U-Factor</i>	Any	Any	Any	0.5	0.6	0.7	0.4	0.5	0.6	0.4	0.5	0.6
	Any	Any	Any	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
Skylight (Limit 3% of Roof Area)												
<i>Maximum U-Factor</i>	0.8			0.8			0.8			0.8		
Roof												
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>	18		25	19		25	23		30	23		30
Concrete Slab or Deck <i>Minimum R-Value</i>	19		25	20		25	24		30	24		30
Metal Purlin with Thermal Break <i>Minimum R-Value</i>	18		NA	19		NA	23		NA	23		NA
Metal Purlin without Thermal Break <i>Minimum R-Value</i>	19		30	20		30	24		X	24		38
	19		X	20		X	24		X	24		49
Floor												
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>	17		19	17		19	17		19	17		19
Concrete Slab or Deck <i>Minimum R-Value</i>	17		25	17		25	17		25	17		25
	17		NA	17		NA	17		NA	17		NA
Slab Edge or Basement Walls												
<i>Minimum R-Value</i>	Insulation			Insulation			Insulation			Insulation		
	0			0			8			8		

Notes:

- (a) For walls next to unconditioned spaces, use the Low Fenestration Area wall requirements.
- (b) Where values are shown for both cavity and continuous insulation, both requirements must be met.
- (c) Cavity insulation is insulation between framing members or furring strips and does not refer to integral insulation in CMUs.
- (d) Continuous insulation is insulation that is continuous across structural members, and its effectiveness is undiminished by compression or bridging.
- (e) 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.

- (f) 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.

- "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.