

# ASHRAE Minimum Standards By Climate Zone

Now in Effect for January 2008

## Roofs

Roofs	Zone 1 - Essentially Miami					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	NC	R-15ci	R-20ci	NR	R-3.8ci
Metal Buildings	R-19	NC	R-19	NC	NR	R-6
Attic & Other	R-30	NC	R-38	NC	NR	R-13

Roofs	Zone 2 - Primarily the Gulf Coast					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	R-20 ci	R-15ci	R-20ci	R-3.8ci	NC
Metal Buildings	R-19	NC	R-19	NC	R-6	R-10
Attic & Other	R-30	R-38	R-38	NC	R-13	NC

Roofs	Zone 3 - Southeast, most of CA					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	R-20 ci	R-15ci	R-20ci	R-3.8ci	R-5ci
Metal Buildings	R-19	NC	R-19	NC	R-10	NC
Attic & Other	R-30	R-38	R-38	NC	R-13	R-19

Roofs	Zone 4 - VA, St. Louis, etc.					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	R-20 ci	R-15ci	R-20ci	R-3.8ci	R-5ci
Metal Buildings	R-19	NC	R-19	R-13 + R-13	R-10	NC
Attic & Other	R-30	R-38	R-38	NC	R-13	R-19

ci = continuous insulation required

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## Roofs (continued)

Roofs	Zone 5 - Up to Chicago					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	R-20 ci	R-15ci	R-20ci	R-5ci	R-7.6ci
Metal Buildings	R-19	R-13 + R-13	R-19	R-13 + R-13	R-10	R-13
Attic & Other	R-30	R-38	R-38	NC	R-19	NC

Roofs	Zone 6 - Minneapolis, Maine					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	R-20 ci	R-15ci	R-20ci	R-5ci	R-10ci
Metal Buildings	R-19	R-13 + R-19	R-19	R-13 + R-19	R-10	R-16
Attic & Other	R-38	NC	R-38	NC	R-19	R-30

Roofs	Zone 7 - Northern MN, Canada					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Old	New	Old	New
Insulation above deck	R-15ci	R-20 ci	R-15ci	R-20ci	R-5ci	R-10ci
Metal Buildings	R-19	R-13 + R-19	R-19	R-13 + R-19	R-10	R-16
Attic & Other	R-38	NC	R-38	NC	R-19	R-30

Roofs	Zone 8 - Northern Alaska					
Opaque Elements	Non Residential		Residential		Semi-Heated	
	Old	New	Current	New	Current	New
Insulation above deck	R-20ci	NC	R-20ci	NC	R-10ci	R-15ci
Metal Buildings	R-13 + R-19	R-16 + R-19	R-13 + R-19	NC	R-16	R-19
Attic & Other	R-38	R-49	R-38	R-49	R-13	NC

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## Walls Above Grade

<b>Walls</b>	<b>Zone 1 - Essentially Miami</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	NR	NC	R-5.7ci	NC	NR	NC
Metal Buildings	R-13	NC	R-13	NC	NR	R-13
Steel Framed	R-13	NC	R-13	NC	NR	NC
Wood Framed & Other	R-13	NC	R-13	NC	NR	NC

<b>Walls</b>	<b>Zone 2 - Primarily the Gulf Coast</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	NR	R-5.7ci	R-5.7ci	R-7.6ci	NR	Nc
Metal Buildings	R-13	NC	R-13	NC	R-6	R-13
Steel Framed	R-13	NC	R-13	R-13 + R-5.7ci	NR	R-13
Wood Framed & Other	R-13	NC	R-13	NC	NR	R-13

<b>Walls</b>	<b>Zone 3 - Southeast, most of CA</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	R-5.7ci	R-7.6ci	R-7.6ci	R-9.5ci	NR	NC
Metal Buildings	R-13	NC	R-13	R-13 + R-13	R-6	R-13
Steel Framed	R-13	R-13 + R-3.8ci	R-13 + R-3.8ci	NC	R-13	NC
Wood Framed & Other	R-13	NC	R-13	NC	R-13	NC

<b>Walls</b>	<b>Zone 4 - VA, St. Louis, etc.</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	R-5.7ci	R-9.5ci	R-9.5ci	R-11.4ci	NR	NC
Metal Buildings	R-13	R-13 + R-13	R-13	R-13 + R-13	R-10	R-13
Steel Framed	R-13	R-13 + R-7.5ci	R-13 + R-7.5 ci	NC	R-13	NC
Wood Framed & Other	R-13	NC	R-13	R-13 + R-3.8 ci	R-13	NC

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## Walls Above Grade (continued)

<b>Walls</b>	<b>Zone 5 - Up to Chicago</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	R-7.6ci	R-11.4ci	R-11.4ci	R-13.3ci	NR	R-5.7ci
Metal Buildings	R-13	R-13 + R-13	R-13 + R-13	R-13 + R-13	R-11	R-13
Steel Framed	R-13 + R-3.8ci	R-13 + R-5.7ci	R-13 + R-5.7ci	NC	R-13	NC
Wood Framed & Other	R-13	R-13 + R-3.8ci	R-13	R-13 + R-7.5ci	R-13	NC

<b>Walls</b>	<b>Zone 6 - Minneapolis, Maine</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	R-9.5ci	R-13.3ci	R-11.4ci	R-15.2ci	NR	R-5.7ci
Metal Buildings	R-13	R-13 + R-13	R-13 + R-13	NC	R-13	NC
Steel Framed	R-13 + R-3.8ci	R-13 + R-7.5ci	R-13 + R-7.5ci	NC	R-13	NC
Wood Framed & Other	R-13	R-13 + R-7.5ci	R-13 + R-3.8ci	R-13 + R-7.5ci	R-13	NC

<b>Walls</b>	<b>Zone 7 - Northern MN, Canada</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>	<b>Old</b>	<b>New</b>
Mass	R-11.4ci	R-15.2ci	R-13.3ci	R-15.2ci	NR	R-7.6ci
Metal Buildings	R-13 + R-13	NC	R-13 + R-13	NC	R-13	NC
Steel Framed	R-13 + R-7.5 ci	NC	R-13 + R-7.5ci	R-13 + R-15.6ci	R-13	NC
Wood Framed & Other	R-13	R-13 + R-7.5ci	R-13 + R-7.5ci	NC	R-13	NC

<b>Walls</b>	<b>Zone 8 - Northern Alaska</b>					
<b>Opaque Elements</b>	<b>Non Residential</b>		<b>Residential</b>		<b>Semi-Heated</b>	
	<b>Old</b>	<b>New</b>	<b>Current</b>	<b>New</b>	<b>Current</b>	<b>New</b>
Mass	R-13.3ci	R-15.2ci	R-15.2ci	R-25ci	R-5.7ci	R-9.5ci
Metal Buildings	R-13 + R-13	NC	R-13 + R-13	R-13 + R-16	R-13	NC
Steel Framed	R-13 + R-7.5ci	NC	R-13 + R-10ci	R-13 + R-118.8ci	R-13	R-13 + R-3.8ci
Wood Framed & Other	R-13 + R-7.5ci	R-13 + R-15.6ci	R-13 + R-7.5ci	R-13 + R-15.6ci	R-13	NC

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## Maps Reflecting Climate Zones

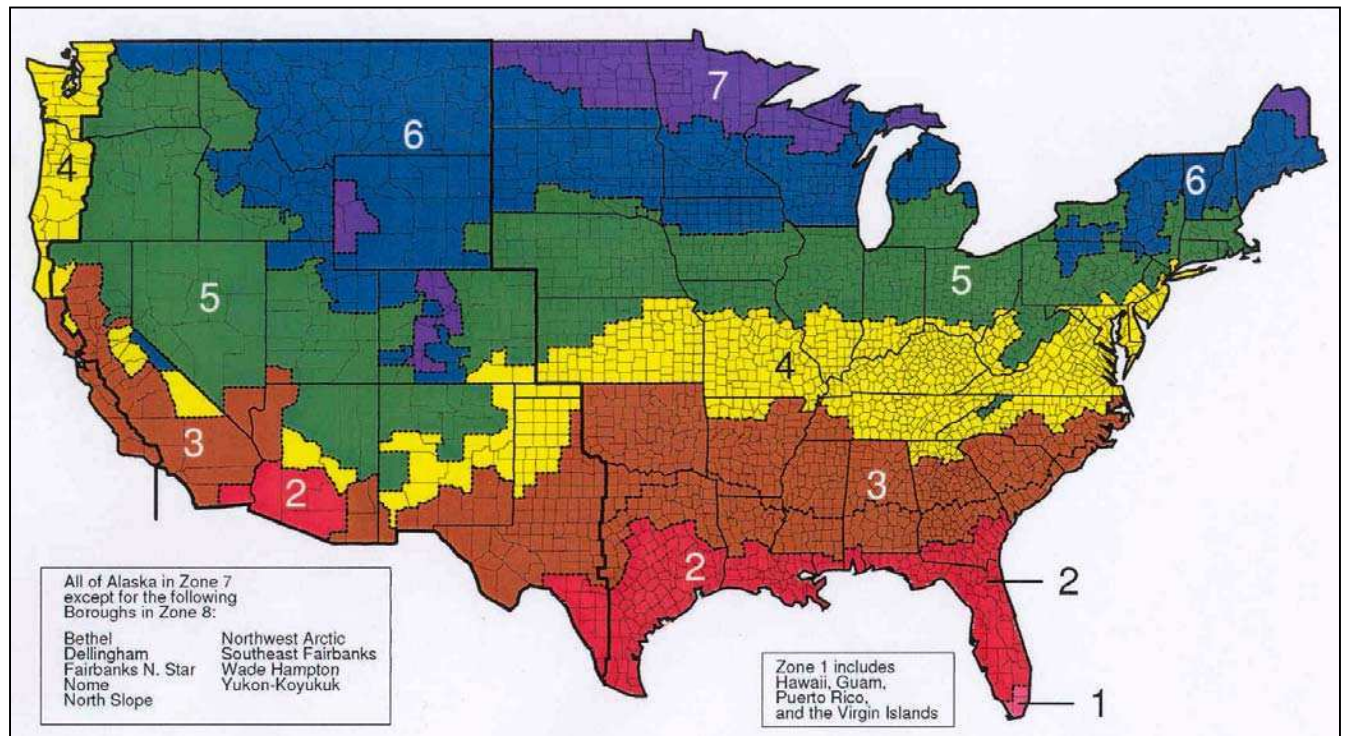


Figure 1 – ASHRAE Climate Zones – U.S.

