

Thermal Characteristics of Building Assemblies (9.36.2.6. to 9.36.2.8.)

Effective thermal resistance values to achieve the requirements of Section 9.36. in the 2014 Alberta Building Code are shown in **Table 1** below. Wall assembly requirements are relaxed where a heat recovery ventilator (HRV) is utilized.

Table 1: Insulation levels by assembly to achieve effective thermal resistance requirements

	Zone 6		Zone 7A		Zone 7B	
	No HRV RSI (R)	HRV RSI (R)	No HRV RSI (R)	HRV RSI (R)	No HRV RSI (R)	HRV RSI (R)
Ceiling below attics	8.67 (49.2)	8.67 (49.2)	10.43 (59.2)	8.67 (49.2)	10.43 (59.2)	10.43 (59.2)
Cathedral ceilings and flat roofs	4.67 (26.5)	4.67 (26.5)	5.02 (28.5)	5.02 (28.5)	5.02 (28.5)	5.02 (28.5)
Above grade walls	3.08 (17.5)	2.97 (16.9)	3.08 (17.5)	2.97 (16.9)	3.85 (21.9)	3.08 (17.5)
Floors over unheated spaces	4.67 (26.5)	4.67 (26.5)	5.02 (28.5)	5.02 (28.5)	5.02 (28.5)	5.02 (28.5)
Rim joists	3.08 (17.5)	2.97 (16.9)	3.08 (17.5)	2.97 (16.9)	3.85 (21.9)	3.08 (17.5)
Below grade foundation walls	2.98 (16.2)	2.98 (16.2)	3.46 (19.7)	2.98 (16.2)	3.46 (19.7)	2.98 (16.2)
Unheated floors below frost line	uninsulated		uninsulated		uninsulated	
Exterior walls of a heated attached garage	3.08 (17.5)	2.97 (16.9)	3.08 (17.5)	2.97 (16.9)	3.85 (21.9)	3.08 (17.5)
Walls adjacent to an unconditioned garage	2.92 (16.6)	2.81 (16.0)	2.92 (16.6)	2.81 (16.0)	3.69 (21.0)	2.92 (16.6)
Unheated floors above frost line	1.96 (11.1)	1.96 (11.1)	1.96 (11.1)	1.96 (11.1)	1.96 (11.1)	1.96 (11.1)
Slabs-on-grade with an integral footing	1.96 (11.1)	1.96 (11.1)	3.72 (21.1)	2.84 (16.1)	3.72 (21.1)	2.84 (16.1)
Heated Floors	2.32 (13.2)	2.32 (13.2)	2.84 (16.1)	2.84 (16.1)	2.84 (16.1)	2.84 (16.1)
Windows and doors	1.60 (9.1)	1.60 (9.1)	1.60 (9.1)	1.60 (9.1)	1.40 (8.0)	1.40 (8.0)
Skylights	2.70 (15.3)	2.70 (15.3)	2.70 (15.3)	2.70 (15.3)	2.40 (13.6)	2.40 (13.6)
Skylight shafts	3.08 (17.5)	2.97 (16.9)	3.08 (17.5)	2.97 (16.9)	3.85 (21.9)	3.08 (17.5)

Note #2 | Section 9.36.2.4.(4) of the Code allows for a relaxation of RSI 0.16 for building envelope assemblies adjacent to unconditioned enclosed spaces such as enclosed verandas, sun porches, floors over garages, or walls between an attached garage and a house. This does not include vented spaces such as an attic, roof and crawl spaces.

Note #3 | See the exception for site-glazed or site-assembled, factory made products in 9.36.2.7.(3).

Urban Centres in Climate Zones 6, 7A and 7B

Figure 1: Climatic Zone Map for Alberta



ZONE

6	4000 to 4999 HDD
7A	5000 to 5999 HDD
7B	6000 to 6999 HDD
8	≥ 7000 HDD

Zone 6

- Brooks
- Cardston
- Claresholm
- High River
- Lethbridge
- Medicine Hat
- Okotoks
- Pincher Creek
- Taber

Zone 7A

- | | |
|---------------------|------------------------|
| • Airdrie | • Lloydminster |
| • Banff | • Pincher Creek |
| • Beaumont | • Red Deer |
| • Calgary | • Rocky Mountain House |
| • Camrose | • Sherwood Park |
| • Canmore | • Slave Lake |
| • Cochrane | • Spruce Grove |
| • Cold Lake | • Stettler |
| • Drumheller | • Stony Plain |
| • Edmonton | • Sylvan Lake |
| • Edson | • Valleyview |
| • Fairview | • Vegreville |
| • Fort Saskatchewan | • Wetaskiwin |
| • Grand Prairie | • Whitecourt |
| • Hinton | |
| • Jasper | |
| • Leduc | |

Zone 7B

- Athabasca
- Fort McMurray
- Fort Vermilion
- Lac la Biche
- Manning
- Peace River

Note #1 | Always check with your local authority to confirm the climate zone.