



BCBC 9.36 Energy Efficiency

Effective R-Value of Installed Insulation for All Buildings of Residential Occupancy

Property Owner: _____

Building Address: _____

Specify ventilation equipment used to comply with BCBC 9.36.3:

CRV HRV PASSIVE VENTS (Only if applicable, 1 storey and maximum 1808 sq. ft.)

Zone # _____ Degree Days of Project Location _____

(Degree Days as per Schedule B – Squamish-Lillooet Regional District Climatic and Seismic Data)

Building Assembly	Zone 5 3000-3999 Degree Days	Zone 5 with HRV 3000-3999 Degree Days	Zone 6 4000-4999 Degree Days	Zone 6 With HRV 4000-4999 Degree Days	Zone 7A 5000-5999 Degree Days	Zone 7A With HRV 5000-5999 Degree Days	Total Assembly Effective RSI Value	Installed Effective R Value
Ceiling below attics	8.67	6.91	8.67	8.67	10.43	8.67		
Cathedral ceilings and flat roofs	4.67	4.67	4.67	4.67	5.02	5.02		
Walls	3.08	2.97	3.08	2.97	3.08	2.97		
Floors over unheated spaces	4.67	4.67	4.67	4.67	5.02	5.02		
Windows & doors – Max. U-value	1.80	1.80	1.60	1.60	1.60	1.60		
Skylights – Max. U-value	2.90	2.90	2.70	2.70	2.70	2.70		
Foundation walls	2.98	2.98	2.98	2.98	3.46	2.98		
Unheated floors above frost line	1.96	1.96	1.96	1.96	1.96	1.96		
Heated floors	2.32	2.32	2.32	2.32	2.84	2.84		

To convert RSI to R-Value, multiply the RSI number by 5.685 to give you the R-Value

- (1) Thermal resistance rating of attic insulation may be reduced by a distance of 1.2 metres from the exterior wall provided the insulation is constrained only by roof slope and venting requirements and the minimum thermal resistance value above the exterior wall is RSI 3.52 (R20).
- (2) Effective thermal resistance of rim joists shall be not less than required for above grade walls.
- (3) Except for tubular daylight devices, the minimum effective thermal resistance values for walls shall also apply to shafts for skylights.
- (4) Stud/frame wall construction - not intended to apply to masonry, log or construction without a cavity.
- (5) Mechanical, electrical and plumbing components placed within and parallel to an exterior wall are required to be insulated to the effective thermal resistance required for the wall at the projected area of the system component.



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The following tables are to be submitted with all SFD permit applications:

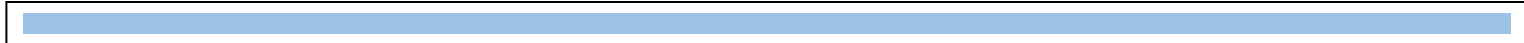
Is an HRV unit to be used? Yes No

Typical Ceiling Assembly			
	Material	RSI	R
Outside Air Film			
Roofing			
Strapping			
Sheathing Membrane			
Sheathing			
Insulation Above Trusses			
Truss Spacing			
Bottom Cord Height			
Vapour Barrier			
Gypsum (mm)			
Interior Air Film			
Other			
Other			
Other			
Other			
	Total Effective RSI/R Value of Entire Assembly		
Typical Wall Assembly			
	Material	RSI	R
Outside Air Film			
Cladding			
Strapping			
Sheathing Membrane			
Sheathing			
Stud Wall			
Insulation			
Vapour Barrier			
Gypsum (mm)			
Interior Air Film			
Other			
Other			
Other			
Other			
	Total Effective RSI/R Value of Entire Assembly		



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Typical Floor Assembly			
	Material	RSI	R
Interior Air Film			
Flooring Material			
Underlay			
Sheathing			
Air Barrier			
Vapour Barrier			
Joist Spacing			
Insulation			
Gypsum (mm)			
Outside Air Film			
Other			
Other			
	Total Effective RSI/R Value of Entire Assembly		

Typical Foundation Wall Assembly			
	Material	RSI	R
Outside Air Film			
Insulation			
Damp Proofing			
Concrete			
Interior Air Film			
Other			
Other			
	Total Effective RSI/R Value of Entire Assembly		

Typical Additional Assembly			
	Material	RSI	R
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	Total Effective RSI/R Value of Entire Assembly		

SCHEDULE B - Squamish-Lillooet Regional District Climatic and Seismic Data																									
Frost Protection	Electoral Area	Location	Elev., m	Snow Load, kPa, 1/50		Hourly Wind Pressures kPa				Driving Rain Wind Pressures, Pa, 1/5	Ann. Rain, mm	Ann. Total Ppn., mm	Moisture Index, MI	One Day Rain, 1/50 mm	15 min. rain, mm	Design Temperatures				Deg Days Below 18 C	Seismic Data - Determined for a 2% in 50 year (0.000404 per annum) probability of exceedance.				
				Ss (kPa)	Sr (kPa)	q 1/10 (kPa)	q 1/30 (kPa)	q 1/50 (kPa)	q 1/100 (kPa)							Jan. Dry 2½%	Jan. Dry 1%	Jul. Dry 2½%	Jul. Wet 2½%		Sa(0.2)	Sa(0.5)	Sa(1.0)	Sa(2.0)	PGA
AREA A 30"	A	Bralorne	1060	5.3	0.2	0.34	0.41	0.43	0.48	80	390	620	0.40	110	8	-27	-29	30	18	4600	0.316	0.245	0.166	0.110	0.148
	A	Gold Bridge	694	3.9	0.2	0.34	0.41	0.43	0.48	80	325	510	0.33	25	5	-25	-28	30	18	4600	0.313	0.241	0.163	0.107	0.146
	A	Gun Lake	920	3.9	0.2	0.34	0.41	0.43	0.48	80	300	475	0.31	25	5	-27	-29	30	18	4600	0.314	0.241	0.164	0.108	0.147
	A	Marshall Lake	1160	3.5	0.2	0.34	0.41	0.43	0.48	80	325	500	0.33	35	8	-28	-30	30	18	4500	0.300	0.226	0.153	0.101	0.140
	A	Tyaughton Lake	1020	3.0	0.2	0.34	0.41	0.43	0.48	80	300	500	0.31	30	8	-27	-29	30	18	4500	0.306	0.233	0.158	0.104	0.143
AREA B 30"	B	Anderson Lake	580	2.1	0.1	0.34	0.41	0.43	0.48	80	450	550	0.55	40	7	-17	-20	32	20	3700	0.310	0.241	0.163	0.108	0.145
	B	Fountain Valley	840	2.0	0.1	0.33	0.41	0.43	0.48	80	270	320	0.28	50	10	-25	-27	33	18	3800	0.274	0.206	0.140	0.093	0.127
	B	Highway 12	400	2.0	0.1	0.33	0.41	0.43	0.48	80	300	380	0.31	50	10	-24	-26	33	20	3250	0.284	0.260	0.145	0.097	0.132
	B	Lillooet	245	2.1	0.1	0.32	n/a	0.44	n/a	100	350	100	0.31	70	10	-21	-23	34	20	3400	0.287	0.216	0.147	0.097	0.134
	B	Pavilion Lake	820	2.2	0.2	0.32	0.38	0.41	0.46	80	200	300	0.22	30	10	-26	-29	34	20	4200	0.245	0.186	0.127	0.086	0.144
	B	Seton Portage/Shalalth	260	2.1	0.2	0.34	0.41	0.43	0.48	80	430	525	0.44	70	10	-16	-19	33	19	3600	0.301	0.229	0.155	0.103	0.140
	B	Texas Creek	280	1.9	0.1	0.33	0.41	0.43	0.48	80	280	360	0.29	50	10	-23	-25	33	20	3250	0.286	0.217	0.147	0.098	0.133
	B	West Pavilion	540	1.9	0.1	0.32	0.41	0.43	0.48	80	275	320	0.29	30	7	-25	-27	33	18	3825	0.276	0.207	0.140	0.093	0.128
B	Yalakom	640	2.2	0.1	0.33	0.41	0.43	0.48	100	280	320	0.29	60	10	-25	-28	31	19	3600	0.286	0.213	0.144	0.095	0.133	
AREA C 24"	C	Birken/Poole Creek	440	2.5	0.1	0.34	0.41	0.43	0.48	80	480	580	0.57	65	7	-19	-21	32	20	3275	0.332	0.267	0.181	0.120	0.155
	C	Birkenhead Lake	720	6.0	0.5	0.34	0.41	0.43	0.48	90	560	775	0.64	55	7	-17	-20	30	20	4350	0.324	0.258	0.175	0.116	0.152
	C	Blackwater	640	5.5	0.5	0.34	0.41	0.43	0.48	90	560	775	0.64	55	8	-17	-20	30	20	4350	0.322	0.255	0.173	0.115	0.150
	C	D'Arcy	260	3.2	0.4	0.34	0.41	0.43	0.48	90	500	630	0.59	60	10	-16	-19	32	20	3850	0.316	0.248	0.168	0.112	0.147
	C	Devine	340	3.4	0.4	0.34	0.41	0.43	0.48	90	510	630	0.60	60	7	-16	-19	32	20	3850	0.317	0.251	0.170	0.113	0.148
	C	Ivey Lake/Reid Rd/Walkerville	420	7.2	0.4	0.34	0.41	0.44	0.48	90	910	1230	1.06	80	8	-20	-23	33	20	4000	0.348	0.285	0.192	0.128	0.162
	C	Lillooet Lake	300	5.2	0.4	0.34	0.41	0.43	0.48	90	950	1300	1.09	100	10	-16	-18	32	20	3600	0.342	0.280	0.189	0.126	0.159
	C	Mount Currie	220	4.6	0.4	0.34	0.41	0.44	0.48	90	755	955	0.93	60	7	-17	-20	33	20	3650	0.355	0.291	0.196	0.130	0.165
	C	Owl Ridge	380	6.8	0.5	0.34	0.41	0.43	0.48	90	920	1250	1.07	80	8	-19	-22	33	20	4070	0.347	0.284	0.192	0.128	0.162
	C	Pemberton area	220	5.3	0.5	0.34	0.41	0.43	0.48	90	875	1175	1.03	110	8	-16	-18	34	20	3550	0.360	0.294	0.198	0.132	0.168
	C	Pemberton Meadows (north of Miller Creek)	240	4.0	0.4	0.34	0.41	0.43	0.48	80	680	930	0.87	90	8	-16	-18	34	20	3550	0.359	0.289	0.196	0.129	0.168
	C	Ponderosa	320	2.9	0.2	0.34	0.41	0.43	0.48	90	475	610	0.57	55	10	-16	-19	32	20	3850	0.313	0.245	0.166	0.110	0.146
C	WedgeWoods (SL 1-51)	610	8.8	0.9	0.28	0.34	0.36	0.40	160	860	1230	1.02	90	8	-17	-20	30	21	4180	0.397	0.327	0.217	0.143	0.184	
C	WedgeWoods (SL 52-84)	660	9.4	0.9	0.28	0.34	0.36	0.40	160	860	1230	1.02	90	8	-17	-20	30	21	4180	0.399	0.328	0.218	0.143	0.185	
C	WedgeWoods (SL 85-108)	740	10.4	0.9	0.28	0.34	0.36	0.40	160	860	1230	1.02	90	8	-18	-21	30	21	4400	0.397	0.327	0.217	0.143	0.184	
AREA D 24"	D	Black Tusk/Pinecrest	400	7.7	0.6	0.32	0.39	0.42	0.46	160	1550	1950	1.64	90	9	-14	-17	28	18	4130	0.486	0.405	0.260	0.168	0.222
	D	Britannia Beach Lower (Thistle Place and lower)	100	3.2	0.6	0.39	0.46	0.50	0.55	160	2150	2300	2.22	130	10	-12	-14	27	19	3100	0.650	0.564	0.336	0.211	0.287
	D	Britannia Beach Upper	260	4.5	0.6	0.39	0.46	0.50	0.55	160	2150	2300	2.22	130	10	-12	-14	27	19	3300	0.650	0.564	0.336	0.211	0.286
	D	Five Coves	20	2.6	0.6	0.38	0.45	0.49	0.54	160	1950	2050	2.03	125	10	-11	-13	26	19	3100	0.669	0.58	0.345	0.216	0.295
	D	Furry Creek	100	3.0	0.5	0.38	0.45	0.49	0.54	160	2150	2300	2.22	130	10	-12	-14	27	19	3100	0.668	0.581	0.343	0.215	0.294
	D	Porteau Cove	60	2.4	0.4	0.38	0.45	0.49	0.54	160	1975	2100	2.05	125	10	-11	-13	26	19	3100	0.669	0.612	0.357	0.223	0.307
	D	Ring Creek	620	7.0	0.6	0.39	0.46	0.50	0.55	150	2400	2950	2.46	125	10	-13	-15	29	19	3500	0.567	0.484	0.298	0.189	0.253
	D	Tantalus Acres	20	3.5	0.7	0.38	0.46	0.49	0.54	150	2375	2725	2.44	150	10	-12	-14	29	19	3300	0.562	0.481	0.298	0.190	0.252
	D	Tunnel Station	100	3.1	0.6	0.37	0.44	0.48	0.53	150	1730	1825	1.81	125	10	-13	-15	29	19	3400	0.547	0.466	0.290	0.186	0.245
D	Upper Squamish Valley	20	3.2	0.7	0.37	0.44	0.48	0.53	150	2125	2375	2.19	150	10	-12	-14	29	19	3350	0.530	0.451	0.283	0.183	0.239	

Climatic Data obtained from Environment Canada

Seismic Data obtained from <http://earthquakescanada.nrcan.gc.ca>