

Permit # 0
 Property address: 0
 Type of Construction: 0
 Owner: 0
 Builder: 0

**Building Department
 Insulation Certification**



Insulation Contractor:
 Insulators Business Licence NO:
 Telephone No:
 Signature of installer
 Date:

NOTE: In Zone 4 the Required RSI is the same with or without a HRV
NOTE: 1- RSI (m2.K)/w)= 5.678263 R Value

9.36.1.3	
Prescriptive 9.36.2 to 9.36.4	YES
Part 9 groups C,D,E, F-3, under 300 m2	
Performance 9.36.5	NO
Part 9 groups C, under 20% common area	
National Energy Code of Canada for Buildings(NECB)--	NO
Non Group C or F-2 over 300 m2 to NECB	
Exempt	NO
Not conditioned space or SFD not intended for use in winter months	
Climate Zone 4 to 8	Zone 4

	Required	Actual	RSI To be	Total	Total			
	Eff. RSI	R Value	Eff. RSI	R Value	made up	R Value	RSI	R Value
Walls 2x6 @ 16" o.c	2.78	15.79	2.36	13.4007007	0.42	2.38487046	2.819	16.007023
Ceilings below attics (trusses @ 24"oc)Blown-in	6.91	39.24	0	0	6.91	39.23679733	6.91	39.236797
Floors over Garage (@ 24" o.c Less 0.16 RSI)	4.51	25.61	4.298886827	24.41021	0.431	2.447331353	4.7298868	26.857541
Floors over Unheated Space un-enclosed (Cantilevers)	4.67	26.52	4.384330121	24.8953795	0.362	2.055531206	4.7463301	26.950911
Cathedral Ceilings (@ 24"oc)	4.67	26.52	4.653376	26.4230928	0.19	1.07886997	4.843376	27.501963
Basement Walls (crawlspce)	1.99	11.3	1.765	10.0221342	0.23	1.30600049	1.995	11.328135
unheated Floors below frost line (No Insulation Req.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
unheated Floors Above frost line 1.2m around perimeter	1.96	11.13	1.62	9.19878606	0.34	1.93060942	1.96	11.129395
unheated Floors over heated crawlspce (No insl Req.)	0	0						0
Heated floors with 2.25" XPS Styrofoam insulation	2.32	13.17	1.99	11.299618	0.34	1.93060942	2.33	13.230353
Fenestration and Doors	1.8							OK
Skylights	2.9							OK
Slab on grade with integral footings (Monolithic slabs)	1.96	11.13	1.62					n/a
Walls Bonus Room (truss web 2 24" o.c., no sheathing)	2.78	15.79	2.680317379	15.219547	0.2	1.1356526	2.8803174	16.3552
Walls 2x6 @ 16" o.c adjoining enclosed un-conditioned space	2.62	14.88	2.359513209	13.3979366	0.31	1.76026153	2.6695132	15.158198
Ceilings below attics (trusses @ 24"oc)R-40 Batts	6.91	39.24	6.805153452	38.6414511	0.19	1.07886997	6.9951535	39.720321
under Ducts outside of thermal enclosure	2.78	15.79						
Attic hatches 75mm (3") Xps or R-20 fiberglass batt	2.6	14.76						
Exterior Walls								
Interior Film Walls	0.12							
12.7mm Gypsum board Int. finish	0.08							
6 mill Poly (seal plastic film---negligible)	0							
11mm OSB Strand board board	0.108							
Permeable Felt or Tyvek	0.011							
13mm Air cavities	0							
Metal or vinyl Siding	0.11							
Exterior air film	0.03							
Total RSI of components in the assembly	0.459							
Ceilings								
Interior Film	0.11							
12.7mm Gypsum board Int. finish	0.08							
6 mill Poly (seal plastic film---negligible)	N/A							
Exterior air film	N/A							
Total RSI of components in the assembly	0.19							
Floor over Garages (unconditioned enclosed Space)								
Interior Film	0.16							
18.5 softwood plywood	0.161							
12.7mm Gypsum board Int. finish	0.08							
6 mill Poly (seal plastic film---negligible)	N/A							
Exterior air film	0.03							
Total RSI of components in the assembly	0.431							
CATHEDRAL CEILINGs with vented air space above								
Interior Film	0.11							
12.7mm Gypsum board Int. finish	0.08							
6 mill Poly (seal plastic film---negligible)	N/A							
Exterior air film	N/A							
Total RSI of components in the assembly	0.19							
Floor over Unheated Exterior Space								
Interior Film	0.16							
18.5 softwood plywood	0.161							
12.7mm Gypsum board Int. finish	N/A							
permeable felt or Tyvek	0.011							
Exterior air film	0.03							
Total RSI of components in the assembly	0.362							
Crawlspce Walls								
Interior Film Walls	0.12							
12.7mm Gypsum board Int. finish	0							
6 mill Poly (seal plastic film---negligible)	0							
11mm OSB Strandboard board	0							
Air cavity	0							
20mm to 40 mm Air cavities	0							
200 mm (8") concrete wall	0.08							
Exterior air film	0.03							
Total RSI of components in the assembly	0.23							
1 Exterior	% AF	% AC					Effective	Assembly
Walls @ 16"	23.00	77.00					RSI	RSI
140mm 2x6	1.19	3.34					subtotal	Made up
R 20 Batt	19.33	23.053892			42.38		2.3595132	0.459
Min. 2.78								2.8185132
2 Ceilings @ 24"	7	93					RSI	Assembly
first 89mm 2x4	0.7565	1.6687					Total	RSI
Blown in Fiberglass	9.25313946	55.732007	64.98514641			1.5388132	0.19	1.7288132
Min. 6.91							Balance required	5.1811868
Balance mm	Req RSI	RSI/mm	mm Mat					
276.3299636	5.18118682	0.01875	276.3299636	365.32996		0		
89							Total RSI	6.91
Total mm	365.329964 mm		14.38304067 Inches					Blown in Fiberglass
3 Ceilings @ 24"	7	93					RSI	Assembly
first 89mm 2x4	0.7565	2.225					Total	RSI
Blown in cellulose	9.25313946	41.797753	51.05089227			1.9588296	0.19	2.1488296
Min 6.91							Balance required	4.7611704
Balance mm	Req RSI	RSI/mm	mm Mat					
253.9290868	4.76117038	0.01875	253.9290868					
89							Total RSI	6.91
Total mm	342.929087 mm		13.50111815 Inches					Blown in Cellulose
4 Floors	10	90					RSI	Assembly
over	1.9975	4.93					Total	RSI
Garage2x10 @ 24"	5.00625782	18.255578	23.26183592			4.2988868	0.431	4.7298868
Min 4.51								
R 28 Batts								
5 Floors	13	87					RSI	Assembly
over	1.9975	5.46					Total	RSI
Garage2x10 @ 16"	6.50813517	15.934066	22.4422011			4.4558909	0.19	4.6458909
Min 4.51								
R 31 Batts								
6 Cathedral and Flat	10	90					RSI	Assembly
Ceilings 2x10 @ 24"	1.9975	5.46					Total	RSI
R 31 Batts	5.00625782	16.483516	21.48977431			4.653376	0.19	4.843376
Min.4.67								
7 Cathedral and Flat	10	90					RSI	Assembly
Ceilings 2x8 @ 24"	1.564	4.93					Total	RSI
R 28 Batts	6.39386189	18.255578	24.64943999			4.0568873	0.19	4.2468873
Min.4.67							Short RSI	0.4231127
Add 16.275mm EPS	16.275	mm x	0.026		0.42315	4.2468873		4.6700373

Basement Walls (crawl space)	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0.08
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	0
Air cavity	0
20mm to 40 mm Air cavities	0.18
200 mm (8") concrete wall	0.08
Exterior air film	0.03
Total RSI of components in the assembly	0.49
Bonus room Walls (Attic Truss web walls @ 24" o.c)	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0.08
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	0
Air cavity	0
20mm to 40 mm Air cavities	0
Exterior air film	0
Total RSI of components in the assembly	0.2
Walls adjoining enclosed un-conditioned space (e.g.. Garage)	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0.08
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	0
Air cavity	0
13mm Air cavities	0
12.7mm Gypsum board Int. finish	0.08
Exterior air film	0.03
Total RSI of components in the assembly	0.31
Rim Joists	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	N/A
6 mill Poly (seal plastic film---negligible)	0
2x10 rim joist	0.323
Permeable Felt	0.011
13mm Air cavities	0.16
Metal or vinyl Siding (Hollow backed)	0.11
Exterior air film	0.03
Total RSI of components in the assembly	0.754
Basement Floors Above frost line un-heated	
Interior Film Walls	0.12
90 mm concrete	0.22
Total RSI of components in the assembly	0.34
Basement Floors Above frost line un-heated	
Interior Film Walls	0.12
90 mm concrete	0.22
Total RSI of components in the assembly	0.34
Walls adjoining enclosed un-conditioned space (e.g.. Garage electrical panel)	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0.08
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	0
Air cavity	0
13mm Air cavities	0
12.7mm Gypsum board Ext. finish(n/a behind electrical panel)	0
Exterior air film	0.03
Total RSI of components in the assembly	0.23

8 Floors	13	89		RSI		Assembly
over	1.9975	5.46		Total		RSI
Exterior 2x10 @ 16"	6.50813517	16.300366	22.80850147	4.3843301	0.362	4.7463301
Min. 4.67						
R 31 Batts						
9 Crawl space below grade	% AF	% AC		Effective		Assembly
Walls Concrete 8"	0.00	100.00		RSI	RSI	RSI
R 10 (67mm. 2.67")	0	1.765		subtotal	Made up	TOTAL
Styrofoam	0.00	56.657224	56.66	1.765	0.23	1.995
Min. 1.99						
10 Basement below grade	% AF	% AC		Effective		Assembly
Walls 8" conc.	14.50	85.50		RSI	RSI	RSI
89mm 2x4 @ 16" o.c	0.7565	2.11		subtotal	Made up	TOTAL
R 12 Batt	19.17	40.521327	59.69	1.6753634	0.49	2.1653634
Min. 1.99						
11 Bonus Rm	% AF	% AC		Effective		Assembly
Walls @ 24"	16.00	84.00		RSI	RSI	RSI
152mm full 6" wall	1.19	3.52		subtotal	Made up	TOTAL
R 20 Batt	13.45	23.863636	37.31	2.6803174	0.2	2.8803174
Min. 2.78						
12 Gr to House	% AF	% AC		Effective		Assembly
Walls @ 16"	23.00	77.00		RSI	RSI	RSI
140mm 2x6	1.19	3.34		subtotal	Made up	TOTAL
R 20 Batt	19.33	23.053892	42.38	2.3595132	0.31	2.6695132
Min. 2.62						
13 Ceilings attics		7	93			Assembly
first 2.11 RSI	0.7565	2.11		Total		RSI
2x4 @24" o.c	9.25313946	44.075829	53.32896884	1.8751535	0.19	2.0651535
Balance RSI	0	100				
R 40 Batt	0	20.283976	20.28397566	4.93	0	4.93
Min. 6.91				6.8051535	Total	6.9951535
14 Cathedral and flat		10	90			Assembly
Ceilings 2x8 @ 24"	1.564	5.655		Total		RSI
188.5 mm (7.42")	6.39386189	15.915119	22.30898126	4.4824996	0.19	4.6724996
Type 3 EPS(white)						
Min. 4.67						
15 Rim Joists	% AF	% AC		Effective		Assembly
Joists @ 16"	23.00	77.00		RSI	RSI	RSI
152mm	1.292	2.46		subtotal	Made up	TOTAL
R 20 Batt	17.80	31.300813	49.10	2.0365491	0.754	2.7905491
Min. 2.78						
16 above frost un-heated						
Basement floors	0	100		RSI	RSI	Assembly
90mm conc.	0	1.62		Total	Made up	RSI
46.3mm EXP (1.83")	0	61.728395	61.72839506	1.62	0.34	1.96
1.2m around perimeter						
Min. 1.96						
17 above frost heated						
Basement floors	0	100		RSI	RSI	Assembly
90mm conc.	0	1.99		Total	Made up	RSI
57mm EXP (2.25")	0	50.251256	50.25125628	1.99	0.34	2.33
1.2m under slab						
Min. 2.32						
18 Bonus Rm	% AF	% AC		Effective		Assembly
Walls @ 16" R-19	19.00	81.00		RSI	RSI	RSI
First 89mm 2x4	0.75658	2.11		subtotal	Made up	TOTAL
Advanced walls	25.11	38.388626	63.50	1.5747626	0.2	1.7747626
Balance RSI 1.23	100%	1.23				1.23
Min. 2.78						3.00
19 Bonus Rm	% AF	% AC		Effective		Assembly
Walls @ 16"	19.00	81.00		RSI	RSI	RSI
152mm full 6" wall	1.19	3.87		subtotal	Made up	TOTAL
Advanced walls						
R 22 Batt	15.97	20.930233	36.90	2.7102754	0.2	2.9102754
Min. 2.78						
20 Gr to House	% AF	% AC		Effective		Assembly
Walls @ 16"	23.00	77.00		RSI	RSI	RSI
Behind Elec. Panel	1.19	3.422		subtotal	Made up	TOTAL
97 mm EXP (3.85")	19.33	22.501461	41.83	2.3906749	0.23	2.6206749
Min. 2.62						

21 Cathedral and Flat		10	90			Assembly
Ceilings truss @ 16"	1.9975	5.46		Total		RSI
R 31 Batts	5.00625782	16.483516	21.48977431	4.653376	0.19	4.843376
Min.4.67						
22 Floors	13	89		RSI		Assembly
over	1.9975	5.329		Total		RSI
Exterior 2x10 @ 16"	6.50813517	16.70107	23.20920479	4.3086353	0.362	4.6706353
Min. 4.67						
152.26mm EXP styro						
Cathedral		10	90			Assembly
Ceilings 2x8 @ 24"	1.564	5.655		Total		RSI
161.5mm (6.36")	6.39386189	15.915119	22.30898126	4.4824996	0.19	4.6724996
Type 3 Exp (SM)		0.035	161.5714286	5.655		
Min. 4.67		5.655	0.035	161.57143		
Cathedral		14.5	85.5			Assembly
Ceilings Joists @ 12"	1.9975	5.68		Total		RSI
R 32.376 Batts	7.25907384	15.052817	22.31189074	4.4819151	0.19	4.6719151
Min.4.67						

Interior Film	0.11
12.7mm Gypsum board Int. finish	0.08
6 mill Poly (seal plastic film---negligible)	N/A
Exterior air film	N/A
Total RSI of components in the assembly	0.19

Floors	12	88		RSI		Assembly		
over	1.9975	4.93		Total		RSI		
Garage2x10 @ 19.2"	6.00750939	17.849899	23.85740797	4.1915702	0.431	4.6225702		
Min 4.51								
R 28 Batts								

Cathedral and flat	10	90		RSI		Assembly		
Ceilings 2x8 @ 24"	1.565	5.818632		Total		RSI		
	6.38977636	15.467553	21.85732956	4.5751243	0.19	4.7651243		
ISO Ridged 6.0"	mm	inches	mmxRSI/mm	RSI/mm		RSI@ 162.6mm		
Min. 4.67	152.4	6	5.818632	0.03818				

Floors	20	80		RSI		Assembly		
over	1.9975	5.516		Total		RSI		
Garage2x10 @ 12"	10.0125156	14.503263	24.51577888	4.0790056	0.431	4.5100056		
Min 4.51								
R 31.44 Batts								

Crawspace walls with average of								
over 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 14.5 (98.1mm. 3.87")	0	2.55	14.47957065	subtotal	Made up	TOTAL		
Styrofoam EPS type 1	0.00	39.215686	39.22	2.55	0.23	2.78		
Min. 2.78		98.076923	3.861288462					

Crawspace walls with average of								
over 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 14.5 (91mm. 3.59")	0	2.55	14.47957065	subtotal	Made up	TOTAL		
Styrofoam EPS type 2	0.00	39.215686	39.22	2.55	0.23	2.78		
Min. 2.78		91.071429	3.585482143					

Crawspace walls with average of								
over 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 14.5 (85mm. 3.35")	0	2.55	14.47957065	subtotal	Made up	TOTAL		
Styrofoam EPS type 3	0.00	39.215686	39.22	2.55	0.23	2.78		
Min. 2.78		85	3.34645					

Crawspace walls with average of								
over 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 14.5 (72.86mm. 2.87")	0	2.55	14.47957065	subtotal	Made up	TOTAL		
Styrofoam XPS (SM type)	0.00	39.215686	39.22	2.55	0.23	2.78		
Min. 2.78		72.857143	2.868385714					

Crawspace walls with average of								
over 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 14.5 (64.8mm. 2.55")	0	2.55	14.47957065	subtotal	Made up	TOTAL		
ISO impermiably faced	0.00	39.215686	39.22	2.55	0.23	2.78		
Min. 2.78		64.77013	2.55					

Crawspace walls with average of								
less than 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R10 (67.7mm. 2.67")	0	1.76	9.99374288	subtotal	Made up	TOTAL		
Styrofoam EPS type 1	0.00	56.818182	56.82	1.76	0.23	1.99		
Min. 1.99		67.692308	2.665046154					

Crawspace walls with average of								
less than 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 10 (62.86mm. 2.48")	0	1.76	9.99374288	subtotal	Made up	TOTAL		
Styrofoam EPS type 2	0.00	56.818182	56.82	1.76	0.23	1.99		
Min.1.99		62.857143	2.474685714					

Crawspace walls with average of								
less than 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 10 (58.67mm. 2.3")	0	1.76	9.99374288	subtotal	Made up	TOTAL		
Styrofoam EPS type 3	0.00	56.818182	56.82	1.76	0.23	1.99		
Min.1.99		58.666667	2.309706667					

Crawspace walls with average of								
less than 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 10 (50.3mm. 1.98")	0	1.76	9.99374288	subtotal	Made up	TOTAL		
Styrofoam XPS (SM type)	0.00	56.818182	56.82	1.76	0.23	1.99		
Min. 1.99		50.285714	1.979748571					

Crawspace walls with average of								
less than 24" above grade	% AF	% AC		Effective		Assembly		
Walls Concrete 8"	0.00	100.00	R Value below	RSI	RSI	RSI		
R 10 (44.7mm. 1.76")	0	1.76	9.99374288	subtotal	Made up	TOTAL		
ISO impermiably faced	0.00	56.818182	56.82	1.76	0.23	1.99		
Min. 1.99		44.704089	1.76					

Basement walls with average								
of over 24" above grade	% AF	% AC		Effective		Assembly		
Walls 8" conc. With	14.50	85.50	R Value below	RSI	RSI	RSI		
140mm 2x6 @ 16" o.c	0.7565	3.49	19.81713787	subtotal	Made up	TOTAL		
R 20 Batt	19.17	24.498567	43.67	2.2901226	0.49	2.7801226		
Min. 2.78								

8" concrete crawspace walls with no framed wall with an average of over 2ft. Above grade	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	n/a
Air cavity	n/a
20mm to 40 mm Air cavities	0
200 mm (8") concrete wall	0.08
Exterior air film	0.03
Total RSI of components in the assembly	0.23

8" Conc. Basement and crawspace walls with added framed interior wall with an average of over 2ft. above grade	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0.08
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	n/a
Air cavity	n/a
20mm to 40 mm Air cavities	0.18
200 mm (8") concrete wall	0.08
Exterior air film	0.03
Total RSI of components in the assembly	0.49

Conc. Basement Walls incl. crawspace walls over 2ft. Above grade	
Interior Film Walls	0.12
12.7mm Gypsum board Int. finish	0
6 mill Poly (seal plastic film---negligible)	0
11mm OSB Strandboard board	n/a
Air cavity	n/a
20mm to 40 mm Air cavities	0.18
200 mm (8") concrete wall	0.08
Exterior air film	0.03
Total RSI of components in the assembly	0.41