

F1	Assembly Name		Basement Slab		Required RSI (Effective)		2.320	
	Notes:				Required R Value (Effective)		13.173	
					Required fire resistance rating			
					Required sound transmission class			
					BCBC Assembly #			
						BCBC Assembly Reference		
Section	#	Layer	Primary Material	Thickness	O.C.	Infill Material	RSI	R-EFF
Topside	1	Interior	Air Film		"		0.160	0.908
	2	Flooring	By Owner	3/4	"		0.120	0.681
Structural	3	Slab Floor	25 MPa Concrete	4	"	Heating Lines		
	4	Insulation	Rigid Foam	3	"		2.642	15.000
Underside	5	Gas Barrier	6MIL Poly Sheet	6	"			
	6	Drainage Layer	Compacted Granular Fill	6	"			
Totals				13	3/4	"	2.922	16.590

F2	Assembly Name		Garage Slab		Required RSI (Effective)			
	Notes:				Required R Value (Effective)			
					Required fire resistance rating			
					Required sound transmission class			
					BCBC Assembly #			
BCBC Assembly Reference								
Section	#	Layer	Primary Material	Thickness	O.C.	Infill Material	RSI	R-Eff
Structural	1	Slab Floor	25 MPa Concrete	4	"			
	2	Gas Barrier	6MIL Poly Sheet	6	"			
Underside	3	Drainage Layer	Compacted Granular Fill	6	"			
	Totals			10	"			

F3	Assembly Name		9 1/2" TJI Floor		Required RSI (Effective)			45 Minutes
	Notes:				Required R Value (Effective)			
					Required fire resistance rating			
					Required sound transmission class			
					BCBC Assembly #			
						BCBC Assembly Reference		
Section	#	Layer	Primary Material	Thickness	O.C.	Infill Material	RSI	R-EFF
Topside	1	Flooring	By Owner	3/4"				
	2	Sheathing	Plywood T&G	3/4"				
	3	Floor Joists	TJI Joists by Others	9 1/2"		TBD		
Totals				11"			0.000	0.000

F4	Assembly Name		14" TJI Floor		Required RSI (Effective)				45 Minutes
	Notes:				Required R Value (Effective)				
					Required fire resistance rating				
					Required sound transmission class				
					BCBC Assembly #				
				BCBC Assembly Reference					
Section	#	Layer	Primary Material	Thickness	O.C.	Infill Material	RSI	R-EFF	
Topside	1	Flooring	By Owner	3/4"					
	2	Sheathing	Plywood T&G	3/4"					
Structural	3	Floor Joists	14" TJI Joists	14"	TBD				
	4	Ceiling Board	Gypsum Panel	5/8"					
Underside	5	Finish	Tape, Mud & Paint						
	Totals				14 1/8"		0.000	0.000	

F5	Assembly Name		14" TJI Floor over Garage		Required RSI (Effective)		4.670	
	Notes:				Required R Value (Effective)		26.516	
					Required fire resistance rating		45 Minutes	
					Required sound transmission class			
					BCBC Assembly #			
BCBC Assembly Reference								
Framing Depth		9.50	inches	241.30	mm	100		
RSI/mm of framing		0.0085	x	241.30	=	2.051	RSI _f	
R Value of batt		28	/	5.68	=	4.931	RSI _b	
$\left(\frac{7.5}{2.051} \right) + \left(\frac{92.5}{4.931} \right) = 4.461$								
RSI-parallel								
Section	#	Layer	Primary Material	Thickness	O.C.	Infill Material	RSI	R-Eff
Topside	1	Interior	Air Film				0.160	0.908
	2	Flooring	By Owner	3/4	"		0.120	0.681
Structural	3	Sheathing	Plywood T&G	3/4	"		0.160	0.908
	4	Floor Joists	14" TJI Joists	14	"	TBD	Batt Insulation	4.461
Underside	5	Vapor Barrier	6MIL Poly Sheet					
	6	Ceiling Board	Gypsum Panel	5/8	"		0.100	0.568
	7	Finish	Tape, Mud & Paint		"			
	8	Exterior	Air Film				0.030	0.170
Totals				14	1/8	"	5.031	28.548

F6	Assembly Name		9.5" TJI Balcony over Heated Space				Required RSI (Effective)		4.670				
	Notes:		Blocking to create sloped floor				Required R Value (Effective)		26.516				
							Required fire resistance rating		45 Minutes				
							Required sound transmission class						
							BCBC Assembly #						
										BCBC Assembly Reference			
Framing Depth		9.25 inches		234.95 mm				100					
RSI/mm of framing		0.0085 x		234.95 =		1.997 RSI _f		% area of framing		% area of cavity			
R Value of batt		28 /		5.68 =		4.931 RSI _b		$\left(\frac{9}{1.997} \right) + \left(\frac{91}{4.931} \right) =$		4.355 RSI-parallel			
Section	#	Layer	Primary Material		Thickness	O.C.	Infill Material	RSI	R-EFF				
Topside	1	Exterior	Air Film					0.030	0.170				
	2	Membrane	Duradeck or similar										
Structural	3	Sheathing	3/4" T&G Plywood		3/4"			0.161	0.914				
	4	Strapping	1x4 SPF #2 OB		3/4"	16"		0.200	1.136				
	5	Blocking	2x SPF #2 OB Vary to Slope		2"	16"		0.480	2.725				
	6	Deck Joists	9.5" TJI Joists		7 1/4"								
Underside	7	Vapor Barrier	6MIL Poly Sheet				Batt Insulation	4.355	24.730				
	8	Ceiling Board	Gypsum Panel		5/8"			0.100	0.568				
	9	Finish	Tape, Mud & Paint										
	10	Interior	Air Film					0.110	0.625				
Totals						11 3/8"		5.434	30.868				

W1	Assembly Name		Crawlspace Foundation Wall		Required RSI (Effective)		2.980		
	Notes:		8" Concrete Wall w/ Rigid Insulation		Required R Value (Effective)		16.920		
					Required fire resistance rating				
					Required sound transmission class				
					BCBC Assembly #				
						BCBC Assembly Reference			
Section	#	Layer	Primary Material	Thickness	O.C.	Infill Material	RSI	R-EFF	
Exterior	1	Exterior	Air Film				0.030	0.170	
	2	Dampproofing	Bituminous Coating		"				
Structural	3	Foundation	25MPA Concrete	8	"		0.080	0.460	
	4	Insulation	Rigid Foam	4	"		3.522	20.000	
Interior	5	Interior	Air Film				0.120	0.680	
					11	7/8	"	3.752	21.310

W2	Assembly Name		Crawlspace Foundation Wall				Required RSI (Effective)		2.980
	Notes:		8" Concrete Wall w/ 2x4 Furred Wall Supports elevator rails				Required R Value (Effective)		16.920
							Required fire resistance rating		
							Required sound transmission class		
							BCBC Assembly #		
						BCBC Assembly Reference			

W3	Assembly Name		2x6 Exterior Wall				Required RSI (Effective)		3.080		
	Notes:						Required R Value (Effective)		17.488		
							Required fire resistance rating		45 Minutes		
							Required sound transmission class				
							CBCAC Assembly #				
						CBCAC Assembly Reference					
Framing Depth		5.50	inches	139.70	mm	100					
RSI/mm of framing		0.0085	x	139.70	=	1.187	RSI _f				
R Value of batt		1.187	/	5.68	=	4.227	RSI _b				
							$\left(\frac{23}{85\%} \right) + \left(\frac{77}{4.227} \right) = 2.661$				
							RSI-parallel				
Section	#	Layer	Primary Material			Thickness	O.C.	Infill Material	RSI	R-Value	
Exterior	1	Exterior	Air Film				"		0.030	0.770	
	2	Cloiding	Cement Fiber (Lap/ Shingles/B&B)				"		0.026	0.148	
	3	Capillary Break	Treated Plywood Strips			1/2"	"	16"	Air Cavity	0.160	0.908
	4	Sheathing Membrane	Tyvek Building Paper				"				
Structural	5	Sheathing	1/2" Plywood			1/2"	"		0.109	0.619	
	6	Wall Framing	2X6 Studs SPF #2 Ob			5 1/2"	"	16"	Batt Insulation	2.661	15.107
Interior	7	Vapor Barrier	6MIL Poly Sheet				"				
	8	Wall Board	Gypsum Panel			1/2"	"		0.079	0.450	
	9	Finish	Tape, Mud & Paint				"				
	10	Interior	Air Film				"		0.120	0.681	
Totals					11.78	"	*		3.185	18.083	

