

CSA STANDARD F280-12 COMPLIANCE		CSA F280-12 Form Set Ver 24.10	
NBC 2015: 9.33.5.1.; 9.36.3.2. & 9.36.5.15; NBC 2020; 9.33.5.1.; 9.36.3.2.; 9.36.5.15 (5); 9.36.8.9. (1);			
These documents issued for the use of BC MINISTRY OF HOUSING		PROJECT #	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.		ADU1-SOUTH	
BUILDING LOCATION			
Model: ADU-01	3 Site: SOUTH	6	
Address:	4 Lot:	7	
City & Province: PRINCE RUPERT, BC	5 Postal Code:	8	
COMPLIANCE (See page 2 for input summary and page 3 for room by room values)			
Submittal is for: ☐ Whole house ☒ Room by Room		Units: ☒ Imperial ☐ Metric	
HEATING			
Minimum Heating Capacity:		11,568 BTUH (total building heat loss as per 5.2.7)	
5.3.1	The total heat output capacity of all heating systems installed in a building shall not be less than 100% of the total building heat loss as determined in Clause 5.2.7.		
5.3.2	The combined heating delivery of the heating systems that serve a room or space shall not be less than 100% of the space heat loss, as determined in Clause 5.2.6.. (If room by room submittal, see page 2 for individual space heating requirements)		
COOLING			
Nominal Cooling Capacity:		8,499 BTUH (Nominal Cooling Capacity as per 6.3.1)	
Minimum Cooling Capacity:		6,799 BTUH	
Maximum Cooling Capacity:		10,624 BTUH	
6.3.2	Except as provided in Clause 6.3.3., the cooling system capacity shall not be less than 80% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.. In no case shall it be less than the nominal cooling capacity of the building minus 1800 W (0.51 tons)		
6.3.3	Where the cooling system is added to an existing heating system, it's capacity in Watts shall not exceed 18 times the capacity of the air-handling capacity of the existing system in L/s. (Cooling capacity in Tons not more than 1.0 per 400 CFM of air handling capacity)		
6.3.4	Except for ground-source and water source heat pumps used for cooling, and as permitted in Clause 6.3.5, the installed cooling capacity shall not exceed 125% of the nominal cooling capacity for the building, as determined in Clause 6.3.1.		
6.3.5	If the nominal cooling system capacity for the building, as determined in Clause 6.3.1. is less than 6,000 W (1.7 tons), the installed cooling system capacity may exceed the nominal cooling system capacity for the building by up to 1750 W (0.49 tons).		
ATTACHED DOCUMENTS			
☒ Design Summary		☒ Room by Room Results	
Other:		Other:	
Notes:			
CALCULATIONS PERFORMED BY			
Name:	TODD BACKUS	Designers Signature, Stamp Imprint or other certification mark	
Company:	TECA		
Address:	PO BOX 73105, EVERGREEN RO		
City & Prov.:	SURREY, BC		
Postal Code:	V3R 0J2		
Phone:	604-594-5956		
Fax:	-		
E-mail:	TBACKUS@TECA.CA		
		I, _____ have reviewed and take responsibility for the design work described in this document & I am qualified in the appropriate categories.	
		Accreditation Reference 1 Accreditation Reference 2 Issued for: (date) Issued for: (date)	
		Page: 1 of 3	

TECA HEAT LOSS & HEAT GAIN CALCULATOR

**HVAC DESIGNERS OF CANADA
VERIFIED F280 SOFTWARE**

CSA F280-12 INPUT SUMMARY						CSA F280-12 Form Set Ver 24.10	
These documents issued for the use of <u>BC MINISTRY OF HOUSING</u>						1	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.						2	
BUILDING LOCATION							
Model: ADU-01		3 Site: SOUTH		6 Lot:		7	
Address:		4 City/ Prov: PRINCE RUPERT, BC		5 Post. Code:		8	
CALCULATION BASED ON (See Following Page For Results)							
Dimensional Info Based On:		drawings done by: Leckie Studio Architecture + Design Inc.					
Attachment: Detached		10 Front Facing: E		16 Assumed? Yes		17	
# of Stories: 2 (3 total floors)		11 Air Tightness: 1.5		18 Assumed? Yes		19	
Weather Location: Prince Rupert		12 Internal Shading: No		21 Assumed? Yes		21a	
Wind Exposure, Site: Low crops, x/H > 20		20 Occupants: 3		22 Assumed? Yes		22a	
Wind Sheltering, Building: Light local shielding		20a Ventilated? Non-dedicated HRV		13 HRV/ERV? Yes		14	
Units: ☒ Imperial bi ☐ Metric bm		HRV ASE %: 65%		15 HRV ATRE %: 0%		15a	
HEATING DESIGN CONDITIONS				COOLING DESIGN CONDITIONS			
Outdoor Temp: -13°C, 8.6°F		24 Indoor Temp: 22°C, 71.6°F		25 Mean Soil Temp: 10°C, 50°F		26 Outdoor Temp: 19°C, 66.2°F	
27 Range: 6°C, 42.8°F		28 Latitude: 54.32		30			
Soil Cond. Normal conductivity: dry sand, loam, clay		26a Water Table Depth: Normal (7-10m, 23-33ft)		26b Slab Fluid Temp: None		28 Indoor Temp: 24°C, 75.2°F	
ABOVE GRADE WALLS				BELOW GRADE WALLS			
ID 1: 1/ (TYP. EXT. WALL: R-22), inside wall, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 16"OC, R20 (5.5"), // Sheathing materials, Softwood plywood, // Insulation, Mineral wool and glass fibre, // Cladding materials, Vinyl siding, outside air; 22.42R-VALUE				ID 1:			
31a				34a			
FLOOR HEADERS				CEILINGS			
ID 1: 1/ (TYP. HEADER: R-22); 22R-VALUE				ID 1: 1/ (TYP. ROOF: R-32), inside ceilings, // 1/2" GWB, // framing w/ cavity insulation: softwood (default), 2x6 framing @ 24"OC, custom insulation, // Sheathing materials, Softwood plywood, // Roofing materials, Built-up roofing, outside air; 32.01R-VALUE			
32a				40a			
WINDOWS				EXPOSED FLOORS			
ID 1: 1/ (Windows in conformance with energy model) custom, USI: 1.3, SHGC: 0.25				ID 1:			
49a				43a			
SKYLIGHTS				DOORS			
ID 1: 1/ (SKYLIGHT) double glazed, Fixed — Wood/Vinyl, insulating, low-E, 13mm Air, USI: 1.96, SHGC: 0.47				ID 1: 1/ (EXT. DOOR) Insulated metal — Polyurethane core, without storm door, USI: 0.91			
52a				46a			
FOUNDATIONS							
ID 1: 1/ [Heated Crawlpace] Concrete Slab & Walls, insulation: below slab = 2.64RSI, interior wall = 2.11RSI, exterior wall = 2.11RSI (configuration #69) // any first storey construction type, interior surface of wall insulated over full-height, exterior surface of wall insulated over full-height, sub-surface of floor slab fully insulated but no insulation							
53a							
Issued: August 22, 2025				67 Page: 2-2 of 3			
 TECA HEAT LOSS & HEAT GAIN CALCULATOR				 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE			

CSA F280-12 INPUT SUMMARY						CSA F280-12 Form Set Ver 24.10	
These documents issued for the use of <u>BC MINISTRY OF HOUSING</u> 1						PROJECT #:	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.						ADU1-SOUTH 2	
Model: ADU-01			3	Site: SOUTH		6	
Address:			4	Lot:		7	
City & Province: PRINCE RUPERT, BC			5	Postal Code:		8	
CALCULATION RESULTS - ROOM BY ROOM (BTUH)							
#	ROOM NAME	71	HEATING	72	TOTAL COOLING	73	
1	(#1)HEATED CRAWL		2,891		0		
2	(#2)100-ENTRY		764		329		
3	(#3)101-LIVING		814		2,314		
4	(#4)102-KITCHEN/DINING		2,919		4,238		
5	(#5)103-POWDER		127		0		
6	(#6)200-BEDROOM 1		1,339		658		
7	(#7)201-BEDROOM 2		1,330		656		
8	(#8)202-WASHROOM		90		25		
9	(#9)203-LANDING		1,295		279		
Ventilation Loss (if separate):		1,065	BTUH	74	Latent Gain (if separate, value or multiplier):		1,961 BTUH 75
Total Building Heat Loss (5.2.7):		11,568	BTUH		Nominal Cooling System Capacity (6.3.1):		8,499 BTUH
See page 1 for heating & Cooling System Capacity Limits				Issued: August 22, 2025	76	Page:	3 of 3
 TECA HEAT LOSS & HEAT GAIN CALCULATOR				 HVAC DESIGNERS OF CANADA VERIFIED F280 SOFTWARE			