

Energy Saving Products Ltd.

METHOD FOR STANDARD RESIDENTIAL CONSTRUCTION QUICK HEAT LOSS

(1) Double Glass, Weatherstripped R-20 Walls R-40 Ceilings		(2) Basement Concrete and R-12 Insulation	
<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>	<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>
500	18,000	500	5,880
600	20,590	600	7,025
700	22,960	700	8,230
800	25,770	800	9,380
900	28,200	900	10,530
1,000	30,670	1,000	11,750
1,100	33,040	1,100	12,920
1,200	35,500	1,200	14,100
1,300	37,480	1,300	15,270
1,400	40,020	1,400	16,450
1,500	41,960	1,500	17,580
1,600	43,940	1,600	18,750
1,700	46,200	1,700	19,900
1,800	48,450	1,800	21,080
1,900	50,190	1,900	22,240
2,000	52,440	2,000	23,500
(1) Double Glass, Weatherstripped R-12 Walls R-20 Ceilings		(2) Basement Concrete - No Insulation	
<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>	<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>
500	22,500	500	7,330
600	25,740	600	8,780
700	28,700	700	10,250
800	32,210	800	11,730
900	35,260	900	13,170
1,000	38,340	1,000	14,620
1,100	41,300	1,100	16,130
1,200	44,380	1,200	17,600
1,300	46,850	1,300	19,040
1,400	50,030	1,400	20,500
1,500	52,540	1,500	21,970
1,600	54,930	1,600	23,450
1,700	57,750	1,700	24,900
1,800	60,570	1,800	26,400
1,900	62,740	1,900	27,850
2,000	65,550	2,000	29,400

NOTES:

- 1) To calculate the total BTU's required for a bungalow select the type of construction (1) and corresponding sq. ft. and type of basement construction (2) and corresponding sq. ft. add the BTUH together and this is the total BTUH output. (Examples on Page 3)
- 2) Deduct 15% from first floor for 2 storey construction. (Examples on Page 3)
- 3) For non standard construction these figures do not apply
- 4) The heat losses above are for **Estimate Only** complete room losses are done for design
- 5) The above quick heat loss is based on 100° F difference (-30° to 70°)
- 6) Used by SaskEnergy with permission from Energy Saving Products Ltd.

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(1) Double Glass, Weatherstripped R-20 Walls R-40 Ceilings		(2) Basement Concrete and R-12 Insulation	
<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>	<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>
2,100	54,439	2,100	24,727
2,200	56,438	2,200	25,954
2,300	58,463	2,300	27,181
2,400	60,445	2,400	28,408
2,500	62,468	2,500	29,635
2,600	64,491	2,600	30,862
2,700	66,514	2,700	32,089
2,800	68,537	2,800	33,316
2,900	70,560	2,900	34,543
3,000	72,604	3,000	35,700
3,100	74,648	3,100	37,007
3,200	76,692	3,200	38,244
3,300	78,736	3,300	39,481
3,400	80,780	3,400	40,718
3,500	82,824	3,500	41,955
3,600	84,868	3,600	43,192
3,700	86,912	3,700	44,422
3,800	88,956	3,800	45,566
3,900	91,000	3,900	46,903
4,000	93,144	4,000	48,140
(1) Double Glass, Weatherstripped R-12 Walls R-20 Ceilings			
(1) Double Glass, Weatherstripped R-12 Walls R-20 Ceilings		(2) Basement Concrete - No Insulations	
<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>	<i>Floor Area Sq. Ft.</i>	<i>BTUH</i>
2,100	68,770	2,100	30,889
2,200	72,004	2,200	32,378
2,300	75,231	2,300	33,867
2,400	78,458	2,400	35,356
2,500	81,685	2,500	36,845
2,600	84,912	2,600	38,334
2,700	88,139	2,700	39,823
2,800	91,366	2,800	41,312
2,900	94,593	2,900	42,901
3,000	97,820	3,000	44,290
3,100	101,047	3,100	45,779
3,200	104,274	3,200	47,268
3,300	107,501	3,300	48,757
3,400	110,728	3,400	50,246
3,500	113,955	3,500	51,735
3,600	117,182	3,600	53,224
3,700	120,409	3,700	54,713
3,800	123,636	3,800	56,202
3,900	126,863	3,900	57,691
4,000	130,091	4,000	58,180

Examples:

Bungalow – 970 Sq. Ft.

Older home which still has R-12 walls and R-20 ceiling.	1,000 Sq. Ft.	38,340 BTUH
Basement – Concrete – R-12 Insulation	1,000 Sq. Ft.	+ <u>11,750 BTUH</u>
Total BTUH output		= 50,090 BTUH
Furnace efficiency of 94%		
Furnace input suggested = 50,090 / .94	Total input	53,287 BTUH

Bungalow – 2,190 Sq. Ft.

Newer home R-20 walls and R-40 ceiling.	2,200 Sq. Ft.	56,438 BTUH
Basement – Concrete – R-12 Insulation	2,200 Sq. Ft.	+ <u>25,954 BTUH</u>
Total BTUH output		= 82,392 BTUH
Furnace efficiency of 90%		
Furnace input suggested = 82,392 / .90	Total input	91,547 BTUH

2 Storey – 1,820 Sq. Ft.

Older home R-12 walls and R-20 ceiling. 1 st Floor	900 Sq. Ft.	29,971 BTUH
35,260 BTUH – 15%		
Older home R-12 walls and R-20 ceiling. 2 nd Floor	900 Sq. Ft.	+ 35,260 BTUH
Basement – Concrete – No Insulation	900 Sq. Ft.	+ <u>13,170 BTUH</u>
Total BTUH output		= 78,401 BTUH
Furnace efficiency of 92%		
Furnace input suggested = 78,401 / .92	Total input	85,219 BTUH

4 Level Split – 1,900 Sq. Ft.

Home with R-20 walls and R-40 ceiling. Main /1 st Level	800 Sq. Ft.	25,770 BTUH
Home with R-20 walls and R-40 ceiling. 2 nd Level	500 Sq. Ft.	+ 18,000 BTUH
Home with R-20 walls and R-40 ceiling. 3 rd Level	600 Sq. Ft.	+ 17,502 BTUH
20,590 BTUH – 15%		
Basement – Concrete – Insulated 4 th Level	800 Sq. Ft.	+ <u>9,380 BTUH</u>
Total BTUH output		= 70,652 BTUH
Furnace efficiency of 94%		
Furnace input suggested = 70,652 / .94	Total input	75,162 BTUH