Heat Loss Survey

(Short form for minor additions)

NAME: _____ **ADDRESS:** _____

A separate heat loss survey is required for the addition and the existing house.

Check appropriate box. This survey is for the: **Addition** ☐ **Existing House** ☐

Heating Multipliers (H.M.) – BTU/Hr. Based on 70 degree difference,
*H.M. Floor based on 20 degree difference.

Wall	H.M.	Ceiling	H.M.	Floor	H.M.	Window/Door	H.M.	Infiltration	H.M.
No insul.	19	No insul.	42	No insul.	4*	Single pane	73	1 air change	1.26
2"	10	3"	6.2	3"	3	Double pane	42	¾ air change	0.95
3-5/8"	6	6"	4	6"	1.8	Double w/ storm	37	½ air change	0.63
6"	4.2	10"	2			Low E - glass	25		
6" with ¾" Hi-R	3.5	12"	1.8			Skylight	51		
						Insulated door	33		

Procedure:

1. Measure the length (L) and height (H) of the outside walls. Calculate the gross wall area by multiplying the total length and width by the height (L+L+L+L x H).
2. Calculate the window and door areas and record. Select the proper H.M.
3. Record the Net Wall area (gross wall area minus total window and door area). Select the proper H.M.
4. Measure the ceiling areas' that are exposed to exterior (length x width) and record. Select the proper H.M.
5. Measure the floor areas' above basements, crawl spaces and unconditioned spaces (length x width) and record. Select the proper H.M., (H.M. of 4 for unheated basement).
6. Multiply the floor area by the ceiling height to obtain the volume of the structure. Select the proper air change factor H.M. - 1.26 for loose house, 0.95 for an average house, and 0.63 for a tight house.
7. Multiply the above area or volumes by the appropriate H.M. and total the results to determine the Total Heat Loss.
8. Calculate the Total Heat Loss rating and multiply by 1.25 to obtain the Recommended Output Rating.

Total Length of Walls_____ multiplied by **Ceiling Height** _____ equals **Gross Wall** _____

	Area		**H.M. (BTU/Hr)**		**BTU/Hr. Heat Loss**
Gross wall	_____				
Windows	_____	x	_____	=	_____
Doors	_____	x	_____	=	_____
Net Wall	_____	x	_____	=	_____
Ceiling	_____	x	_____	=	_____
Floor	_____	x	_____	=	_____
Volume Infiltration	_____	x	_____	=	_____

Total Heat Loss = _____

Total Heat Loss x **1.25** = _____

Recommended Output Rating of Furnace = _____

Output Rating of Existing Furnace =

Calculated by: _____ Date: _____

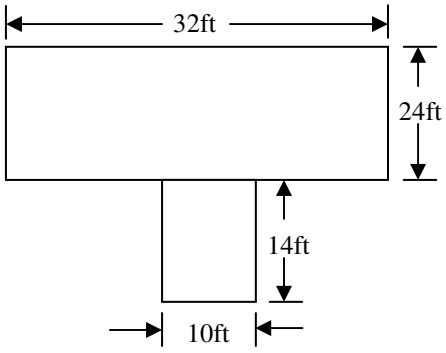
JCB 03/2010

Example on page 2.

Example Heat Loss Survey

(Short form for minor additions)

24ft x 32ft existing house with a 10ft x 14ft proposed addition. Both have 8ft ceiling height.



Gross wall for existing house;
32 + 24 + 24 + 22 = 102
102 x 8 = 816

Gross wall for addition;
14 + 14 + 10 = 38
38 x 8 = 304

This example is for a single story.

Existing House

	Area		H.M. (BTU/Hr)		BTU/Hr. Heat Loss
Gross wall	816				
Windows	220	x	42	=	9240
Doors	72	x	33	=	2376
Net Wall	524	x	6	=	3144
Ceiling	32 x 24 = 768	x	2	=	1536
Floor	32 x 24 = 768	x	4	=	3072
Volume Infiltration	8 x 768 = 6144	x	.95	=	5836.8
			Total Heat Loss	=	25205
			Total Heat Loss x 1.25	=	31506
			Recommended Output Rating of Furnace	=	31,506 BTU/Hr

Addition

	Area		H.M. (BTU/Hr)		BTU/Hr. Heat Loss
Gross wall	304				
Windows	100	x	25	=	2500
Doors	24	x	33	=	792
Net Wall	180	x	4.2	=	756
Ceiling	10 x 14 = 140	x	1.8	=	252
Floor	10 x 14 = 140	x	4	=	560
Volume Infiltration	8 x 140 = 1120	x	.63	=	705.6
			Total Heat Loss	=	5566
			Total Heat Loss x 1.25	=	6957
			Recommended Output Rating of Furnace	=	6,957 BTU/Hr

Existing House total heat loss; 31,506
Addition total heat loss; + 6,957
Minimum output rating of furnace; 38,463 BTU/Hr

JCB
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