

Date: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

To: \_\_\_\_\_

Reference: Heat Loss Example

Purpose: \_\_\_\_\_



# WALTERS CLIMATE, INC.

OFFICES & WAREHOUSE:  
2857 LOUISIANA AVENUE NORTH  
NEW HOPE, MINNESOTA 55427  
Telephone (763) 544-8626  
FAX (763) 544-8631

	36		6" Insulation Walls & Roof
	35		R-19 Insulation Value
	34		18' Sidewalls
	33		U Value R-19 = $1/19 = .05$
	32		U Value R-11 = $1/11 = .10$
	31		U Value R-38 = $1/38 = .03$
	30		U Value Doors $1/4 = .25$
	29		Infiltration:
	28		Doors 1 Side = $1/4$ Air Change
	27		Doors 2 Sides = $1/2$ Air Change
	26		Doors 3 Sides = $3/4$ Air Change
	25		Doors 4 Sides = 1 Air Change
	24		Specific Heat Examples
	23		Iron .12 BTU/°F/LB.
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	7		
	6		
	5		
	4		
	3		
	2		
	1		
	0		

Design Temps  
Outside: -25°  
Indoor: 70°

6" Insulation Walls & Roof

R-19 Insulation Value

18' Sidewalls

U Value R-19 =  $1/19 = .05$

U Value R-11 =  $1/11 = .10$

U Value R-38 =  $1/38 = .03$

U Value Doors  $1/4 = .25$

Infiltration:

Doors 1 Side =  $1/4$  Air Change

Doors 2 Sides =  $1/2$  Air Change

Doors 3 Sides =  $3/4$  Air Change

Doors 4 Sides = 1 Air Change

Specific Heat Examples

Iron .12 BTU/°F/LB.

Heat Loss = Area x U Value x Temp. Difference

- Roof 60' x 40' x .05 x 95 = 11,400
- Walls 200' x 18' x .05 x 95 = 17,100
- Floor 60' x 40' x 4 btu/sq.ft. = 9,600
- Air  $1/2 \times 60' \times 40' \times 18' \times .018 \times 95 = 36,936$
- Doors (2) x 16' x 16' x .25 x 95 = 12,160
- Machinery 10,000 lbs. x .12 x 95 = 28,500

4 hours

Heat Loss = 115,696 BTU/H