

Heat Loss Details



Project #: 2015--2 Slabs
Date: Nov 23, 2015
Prepared For: Langans Plumbing & Heating LLC

Bluewater Mechanical Inc 1048 Cox Cro Rd Toms River, NJ 08755
Prepared By: Richard McGrath Phone: 732-581-3833 Email: dmcgrath40@comcast.net

Project Summary

Project #:	2015--2 Slabs
Project Name:	2 Slabs comparison
Location:	
CloseDate:	
Engineer:	
Design Data Location:	(User-Specified Location)
Outdoor Temperature:	0 °F
Wind Speed:	22 mph
Total Area:	675 ft ²
Construction Quality:	Best
RFH Glycol Level:	100% Water
Design Temp. Drop:	20 °F (20 °F for all QuikTrak)
Radiant Tubing Volume:	4.7 gallons(US)
Volume Water:	4.7 gallons(US)
Volume Glycol:	0 gallons(US)
Total-Components Load:	3,674 Btu/hr
Total Infiltration Load:	1,307 Btu/hr
Total Floor Downward Load:	1,130 Btu/hr
Total-Radiant Into Rooms:	4,951 Btu/hr
Total-Supplemental Load:	0 Btu/hr
Total-Project Heat Loss:	6,110 Btu/hr

Heat Loss Data

Room-1 (Floorplan 1)

Total Area:	225 ft ²	Components:	850 Btu/hr
Average Height:	8 ft	Infiltration:	436 Btu/hr
Volume:	1,800 ft ³	Ceiling Upward:	552 Btu/hr
Air Changes:	0.2 /hr	Floor Downward:	355 Btu/hr
RoomTemperature:	68 °F	Total Heat Loss:	2,193 Btu/hr
		Supplemental:	0 Btu/hr
		Radiant to Room Load:	1,641 Btu/hr
		Unit Load:	7.3 Btu/hr/ft ²
		Total Radiant Load:	2,193 Btu/hr
		Unit Load:	9.7 Btu/hr/ft ²

Heat Loss Details



Project #: 2015--2 Slabs
Date: Nov 23, 2015
 Prepared For: Langans Plumbing & Heating LLC

Bluewater Mechanical Inc 1048 Cox Cro Rd Toms River, NJ 08755
 Prepared By: Richard McGrath Phone: 732-581-3833 Email: dmcgrath40@comcast.net

Floor

Total Area:	225 ft ²	Downward Load:	355 Btu/hr
Unheated Area:	225 ft ²		
Heated Area:	0 ft ²		
Construction:	Concrete		
Cover Rv:	0.3 °F·ft ² ·hr/Btu		
Structure Rv:	1 °F·ft ² ·hr/Btu		
Insulation Rv:	20 °F·ft ² ·hr/Btu		
Perimeter Rv:	20 °F·ft ² ·hr/Btu		
Edge Rv:	20 °F·ft ² ·hr/Btu		

Ceiling

Total Area:	225 ft ²	Upward Load:	552 Btu/hr
Unheated Area:	0 ft ²		
Heated Area:	225 ft ²		
Construction:	Gypsum Wall board		
Cover Rv:	0.45 °F·ft ² ·hr/Btu		
Insulation Rv:	60 °F·ft ² ·hr/Btu		
Space Above Heated:	No		
Surface Temperature:	72.6 °F		

Other Components

Component	Length (ft)	Width/Height (ft)	Area (ft ²)	Rv (°F·ft ² ·hr/Btu)	Heat Loss (Btu/hr)
Wall-1	12.3	8	98.4	40	849
Window-1	0	0	30	2.77	736
Net Wall			68.4	40	113

Room 2 (Floorplan 1)

Total Area:	225 ft ²	Components:	850 Btu/hr
Average Height:	8 ft	Infiltration:	436 Btu/hr
Volume:	1,800 ft ³	Ceiling Upward:	249 Btu/hr
Air Changes:	0.2 /hr	Floor Downward:	420 Btu/hr
Room Temperature:	68 °F	Total Heat Loss:	1,954 Btu/hr
		Supplemental:	0 Btu/hr
		Radiant to Room Load:	1,534 Btu/hr
		Unit Load:	6.8 Btu/hr/ft ²
		Total Radiant Load:	1,954 Btu/hr
		Unit Load:	8.7 Btu/hr/ft ²

Heat Loss Details



Project #: 2015--2 Slabs
Date: Nov 23, 2015
 Prepared For: Langans Plumbing & Heating LLC

Bluewater Mechanical Inc 1048 Cox Cro Rd Toms River, NJ 08755
 Prepared By: Richard McGrath Phone: 732-581-3833 Email: dmcgrath40@comcast.net

Floor

Total Area:	225 ft ²	Downward Load:	420 Btu/hr
Unheated Area:	0 ft ²		
Heated Area:	225 ft ²		
Construction:	Concrete		
Cover Rv:	0.3 °F·ft ² ·hr/Btu		
Structure Rv:	1 °F·ft ² ·hr/Btu		
Insulation Rv:	20 °F·ft ² ·hr/Btu		
Perimeter Rv:	20 °F·ft ² ·hr/Btu		
Edge Rv:	20 °F·ft ² ·hr/Btu		
Surface Temperature:	71.4 °F		
Design Temp. Drop:	20 °F		

Ceiling

Total Area:	225 ft ²	Upward Load:	249 Btu/hr
Unheated Area:	225 ft ²		
Heated Area:	0 ft ²		
Construction:	Gypsum Wall board		
Cover Rv:	0.45 °F·ft ² ·hr/Btu		
Insulation Rv:	60 °F·ft ² ·hr/Btu		
Space Above Heated:	No		

Other Components

Component	Length (ft)	Width/Height (ft)	Area (ft ²)	Rv (°F·ft ² ·hr/Btu)	Heat Loss (Btu/hr)
Wall-1	12.3	8	98.4	40	849
Window-1	0	0	30	2.77	736
Net Wall			68.4	40	113

Room 3 (Floorplan 1)

Total Area:	225 ft ²	Components:	736 Btu/hr
Average Height:	8 ft	Infiltration:	436 Btu/hr
Volume:	1,800 ft ³	Ceiling Upward:	249 Btu/hr
Air Changes:	0.2 /hr	Floor Downward:	355 Btu/hr
Room Temperature:	68 °F	Total Heat Loss:	1,963 Btu/hr
		Supplemental:	0 Btu/hr
		Radiant to Room Load:	1,776 Btu/hr
		Unit Load:	7.9 Btu/hr/ft ²
		Total Radiant Load:	1,963 Btu/hr
		Unit Load:	8.7 Btu/hr/ft ²

Heat Loss Details



Project #: 2015--2 Slabs
Date: Nov 23, 2015
Prepared For: Langans Plumbing & Heating LLC

Bluewater Mechanical Inc 1048 Cox Cro Rd Toms River, NJ 08755
Prepared By: Richard McGrath Phone: 732-581-3833 Email: dmcgrath40@comcast.net

Floor

Total Area:	225 ft ²	Downward Load:	355 Btu/hr
Unheated Area:	225 ft ²		
Heated Area:	0 ft ²		
Construction:	Concrete		
Cover Rv:	0.3 °F·ft ² ·hr/Btu		
Structure Rv:	1 °F·ft ² ·hr/Btu		
Insulation Rv:	20 °F·ft ² ·hr/Btu		
Perimeter Rv:	20 °F·ft ² ·hr/Btu		
Edge Rv:	20 °F·ft ² ·hr/Btu		

Ceiling

Total Area:	225 ft ²	Upward Load:	249 Btu/hr
Unheated Area:	225 ft ²		
Heated Area:	0 ft ²		
Construction:	Gypsum Wall board		
Cover Rv:	0.45 °F·ft ² ·hr/Btu		
Insulation Rv:	60 °F·ft ² ·hr/Btu		
Space Above Heated:	No		

Other Components

Component	Length (ft)	Width/Height (ft)	Area (ft ²)	Rv (°F·ft ² ·hr/Btu)	Heat Loss (Btu/hr)
Wall-1	12.3	8	98.4	40	923
Window-1	0	0	30	2.77	736
Net Wall			68.4	40	187