COMPUHEAT BUILDING HEAT LOSS & DESIGN ANALYSIS

Date: 05-01-2012  Time: 11:39:59  Prepared by: RJ Herrington

Job Name: Warehouse - Lincoln, NE

<table>
<thead>
<tr>
<th>2 Wall(s)</th>
<th>16' high</th>
<th>240' wide</th>
<th>16' peak</th>
<th>7680 sq ft</th>
<th>U = 0.09</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Wall(s)</td>
<td>16' high</td>
<td>100' wide</td>
<td>26' peak</td>
<td>4200 sq ft</td>
<td>U = 0.09</td>
</tr>
<tr>
<td>2 Wall(s)</td>
<td>4' high</td>
<td>240' wide</td>
<td>4' peak</td>
<td>1920 sq ft</td>
<td>U = 0.33</td>
</tr>
<tr>
<td>2 Wall(s)</td>
<td>4' high</td>
<td>100' wide</td>
<td>4' peak</td>
<td>800 sq ft</td>
<td>U = 0.33</td>
</tr>
<tr>
<td>10 Window(s)</td>
<td>4' high</td>
<td>4' wide</td>
<td></td>
<td>160 sq ft</td>
<td>U = 0.66</td>
</tr>
<tr>
<td>10 Door(s)</td>
<td>12' high</td>
<td>12' wide</td>
<td></td>
<td>1440 sq ft</td>
<td>U = 1.20</td>
</tr>
<tr>
<td>4 Door(s)</td>
<td>7' high</td>
<td>3' wide</td>
<td></td>
<td>84 sq ft</td>
<td>U = 1.20</td>
</tr>
<tr>
<td>10 Skylight(s)</td>
<td>3' high</td>
<td>8' wide</td>
<td></td>
<td>240 sq ft</td>
<td>U = 0.70</td>
</tr>
<tr>
<td>1 Roof section</td>
<td>240' long</td>
<td>100' wide</td>
<td></td>
<td>24000 sq ft</td>
<td></td>
</tr>
<tr>
<td>2 Slab edge</td>
<td>240' long</td>
<td></td>
<td>total slab edge length = 480 ft</td>
<td>U = 0.55</td>
<td></td>
</tr>
<tr>
<td>2 Slab edge</td>
<td>100' long</td>
<td></td>
<td>total slab edge length = 200 ft</td>
<td>U = 0.55</td>
<td></td>
</tr>
</tbody>
</table>

Total Net Area Of Each Basic Surface

<table>
<thead>
<tr>
<th>Walls</th>
<th>Skylights</th>
<th>Windows</th>
<th>Doors</th>
</tr>
</thead>
<tbody>
<tr>
<td>12916 sq ft</td>
<td>240 sq ft</td>
<td>160 sq ft</td>
<td>1524 sq ft</td>
</tr>
<tr>
<td>Floor Area</td>
<td>Perimeter</td>
<td>Roof Area</td>
<td></td>
</tr>
<tr>
<td>24000 sq ft</td>
<td>680 ft</td>
<td>24235 sq ft</td>
<td></td>
</tr>
</tbody>
</table>

Basic Building Heat Loss

+ Conduction Loss = 444861 BTU/hr
- Internal Heat Source = 0 BTU/hr
+ Infil Air Heat Loss = 269745 BTU/hr
Total Building Heat Loss = 714606 BTU/hr

Height Inlet to Outlet = 24 Feet
Building Volume = 600000 cu ft

Design Temperatures: 65ºF Indoor, -5ºF Outdoor, 70ºF Temperature Difference
Recommended Heater Mounting Height = 18 ft
Job Name: Warehouse - Lincoln, NE

Condition 1  Heater requirements with existing building ventilation
Existing Building Vent Flow = 2500 CFM
Total Computed Heat Loss = 907281 BTU/hr
Infrared Heat Required = 734898 BTU/hr
Space - Ray Model LTU100 Input rating 100000 BTU/hr Natural Gas

Total No. of Space-Ray Heaters = 8
Input BTUH/cu. ft. Bldg. Volume = 1.3 Infrared Heater Input = 800000 BTU/hr
Input BTUH/sq. ft. Bldg. Area = 33.3 Total Computed Air Changes = 0.60 AC/hr
Maximum Temperature Rise With Recommended Heaters = 76.2 ºF

Building Operation Parameters

Normal Operating Conditions
Inside Design Temperature = 65 ºF
Outside Design Temperature = -5 ºF
Operating Hours per Day = 12
Operating Days per Week = 5
Degree Days @ Normal = 65 ºF
Degree Days @ Setback = 50 ºF

Setback Operating Conditions
Setback Temperature = 50 ºF
Hours per Day = 12
Days per Week = 5
Weekend Hours per Day = 24
Weekend Days per Week = 2

Degree Days @ Normal = 6375
Degree Days @ Setback = 3285

Fuel Specifications
Type of Fuel = Natural Gas
Fuel Cost = $ 0.60 per therm

Estimated Annual Fuel Cost
Conventional Unit Heaters = $ 11,649
Space-Ray InfraRed Heaters = $ 5,850
Space-Ray InfraRed Heaters w / Night Setback = $ 4,934

The foregoing COMPUHEAT heat loss analysis is based on certain data and assumptions provided to the Space-Ray division of Gas-Fired Products, Inc. However, deleted or inaccurate information and other factors not included within the data and assumptions could have a bearing on the results shown herein. The heat loss projection provided is intended only as an illustration and is provided only as a service to Gas-Fired Products' customers, and Gas-Fired Products, Inc. makes no warranties, express or implied, with respect thereto, and disclaims any liability for consequential or other damages.