ESTIMATING SQUARE FOOTAGE IN VARIOUS SHAPES

**Cylinder**
a. Determine area of both ends of cylinder (circles) by multiplying 3.1416 times the radius (in feet) squared.
b. Determine area of side of cylinder by multiplying circumference (in feet) times height (in feet).
c. Add square feet of both ends to square feet of side for total square feet of cylinder.

**Cone**
a. Determine area of base by multiplying 3.1416 times the radius (in feet) squared.
b. Determine the area of the side of the cone by multiplying circumference of base (in feet) times one-half of the slant height (in feet).
c. Add the square foot area of the base to the square foot area of the cone side for total square foot area.

**Triangle**
Multiply the base measurement (in feet) times one-half the altitude (in feet).

**Circle**
To determine the square footage of the area of a circle, multiply 3.1416 times the radius (in feet) squared.

**Circumference**
To determine the circumference of a circle, multiply 3.1416 times the diameter (twice the radius).
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Square or Rectangle
Multiply the base measure (in feet) times the height (in feet).

Estimating Square Footage from Tonnage
Many times structures will have unusual shapes or be too difficult to accurately measure. In such instances, if the tonnage and thickness of the steel can be determined, fairly accurate estimates of area can be determined from the table below.

<table>
<thead>
<tr>
<th>Thickness of Steel (inches)</th>
<th>1/8</th>
<th>3/16</th>
<th>1/4</th>
<th>5/16</th>
<th>3/8</th>
<th>1/2</th>
<th>5/8</th>
<th>3/4</th>
<th>7/8</th>
<th>1</th>
<th>1-1/2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square Foot Area Per Ton</td>
<td>800</td>
<td>533</td>
<td>400</td>
<td>320</td>
<td>267</td>
<td>200</td>
<td>160</td>
<td>133</td>
<td>114</td>
<td>100</td>
<td>67</td>
<td>50</td>
</tr>
</tbody>
</table>