Forming Tonnage Guidelines

Example tonnage for mild steel. Multiplying material thickness by factor results in required tons per foot.

| Shape Considerations | Large Radii, Angle Variation, Concave or Convex Sides | Material Thickness Radii, Min. Angle Variation, Maintain Flatness |

<table>
<thead>
<tr>
<th>Shape</th>
<th>Description</th>
<th>Air Form Factor</th>
<th>Bottoming Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vee Die</td>
<td>60</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Wiping</td>
<td>-</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Offset</td>
<td>150</td>
<td>300/600</td>
<td></td>
</tr>
<tr>
<td>Material Thickness Offset</td>
<td>300</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Channel</td>
<td>225</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Vee Rib</td>
<td>200</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>W Die</td>
<td>300</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Open Hat Channel</td>
<td>300</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Square Hat Channel</td>
<td>-</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Preform Curl - Double</td>
<td>-</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Preform Curl - Single</td>
<td>-</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Close Curl</td>
<td>-</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Radius</td>
<td>-</td>
<td>180/300</td>
<td></td>
</tr>
<tr>
<td>Hem</td>
<td>150</td>
<td>420</td>
<td></td>
</tr>
</tbody>
</table>
The charts show tonnage estimates for mild steel; for other materials, multiply your result by the following factors:

<table>
<thead>
<tr>
<th>Material</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel (304)</td>
<td>1.55</td>
</tr>
<tr>
<td>Aluminum (3003)</td>
<td>0.35</td>
</tr>
<tr>
<td>Aluminum (5052)</td>
<td>0.65</td>
</tr>
<tr>
<td>Aluminum (6061)</td>
<td>0.75</td>
</tr>
<tr>
<td>Brass (260)</td>
<td>1.10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thickness (in.)</th>
<th>Width of Female Die Opening (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauge</td>
<td>Dec.</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>20</td>
<td>0.036</td>
</tr>
<tr>
<td>18</td>
<td>0.048</td>
</tr>
<tr>
<td>16</td>
<td>0.060</td>
</tr>
<tr>
<td>14</td>
<td>0.075</td>
</tr>
<tr>
<td>13</td>
<td>0.090</td>
</tr>
<tr>
<td>12</td>
<td>0.105</td>
</tr>
<tr>
<td>11</td>
<td>0.120</td>
</tr>
<tr>
<td>10</td>
<td>0.135</td>
</tr>
<tr>
<td>9</td>
<td>0.150</td>
</tr>
<tr>
<td>8</td>
<td>0.188</td>
</tr>
<tr>
<td>7</td>
<td>0.250</td>
</tr>
<tr>
<td>6</td>
<td>0.312</td>
</tr>
<tr>
<td>5</td>
<td>0.375</td>
</tr>
<tr>
<td>4</td>
<td>0.437</td>
</tr>
<tr>
<td>3</td>
<td>0.500</td>
</tr>
<tr>
<td>2</td>
<td>0.625</td>
</tr>
<tr>
<td>1.5</td>
<td>0.750</td>
</tr>
<tr>
<td>1</td>
<td>0.875</td>
</tr>
<tr>
<td>1</td>
<td>1.000</td>
</tr>
</tbody>
</table>