TONNAGE CALCULATION

Use the guidelines below to calculate the needed tonnage for your stamping project.

General Formula for Press Tonnage Required

Determine the approximate press tonnage needed to stamp a part based on linear inches of cut.

For Steel:  \( \text{Material Thickness} \times \text{Inches of Cut} \times 25 = \text{Press Tonnage} \)

**Example:**

Need: 2” Square washer from .088 thick steel
Base Material: 2 –1/2” coil X 2-1/2” progression

![Diagram of 2" Square Washer](image)

**Calculation:**

\[ 2 + 2 + 2 + 2 = 8 \]
\[ 1\text{" circle perimeter} = 3.14 \times 1\text{"} = 3.14\text{"} \]
\[ \text{Total Inches of Cut} = 8 + 3.14 = 11.14 \]

**Tonnage Required:**

\[ .088 \text{ Thick} \times 11.14 \times .25 \text{ (factor)} = 24.5 \text{ tons} \]

Blanking or Perforating Pressures:

Blanking or Perforating pressure (in tons) equals the total length of cut, or cuts, be it portions or the entire circumference of a circle, the sum of a square, rectangle, or triangle, or the entire total circumference of a number of holes multiplied by the material thickness, multiplied by the shearing strength of material. For answer in tons, the shearing strength must be converted from pounds/square inch (PSI) into tons/square inch by dividing by 2000.

**Example:**

Mild steel (shearing strength) = 50,000 PSI/2000 = **25 tons/square inch**

For drawing, use same method except use tensile strength of material.