

Methods to Estimate Approximate Weight of Tool Steel Bars

Rounds

Multiply diameter of bar by 4. Square the result and divide by 6. For example:

$$\begin{aligned}\text{Size 3" rd.} & - 3 \times 4 = 12 \\ & 12 \times 12 = 144 \\ & 144 \div 6 = 24 \text{ lbs. per foot}\end{aligned}$$

Squares

Square the section and add a zero. This gives the weight per yard. Divide by 3 to get weight per foot. For example:

$$\begin{aligned}\text{Size 4" square} & - 4 \times 4 = 16 \\ & \text{Add a zero} = 160 \text{ lbs. per yd.} \\ & 160 \div 3 = 53.33 \text{ lbs. per foot}\end{aligned}$$

Flats

Multiply the width by thickness. Add a zero and divide by 3. For example:

$$\begin{aligned}\text{Size 4" x 1"} & - 4 \times 1 = 4 \\ & \text{Add a zero} = 40 \\ & 40 \div 3 = 13.33 \text{ lbs. per foot}\end{aligned}$$

Note: For Molybdenum High Speed grades, multiply tool steel weights by 1.03. For Tungsten High Speed grades, multiply steel weights by 1.11.

Handy Tool Steel Weight Formulas

Shape	Pounds per Foot	Feet per Pound
Round	$2.667 \times d^2$	$.3749 \div d^2$
Flat	$3.396 \times (w \times t)$	$.2945 \div (w \times t)$
Square	$3.396 \times d^2$	$.2945 \div d^2$
Hexagonal	$2.942 \times d^2$	$.3398 \div d^2$
Half Round	$1.334 \times d^2$	$.7498 \div d^2$
Half Oval	$2.647 \times (w \times t)$	$.3778 \div (w \times t)$