HASTINGS
MACHINE COMPANY

Miscellaneous and Useful Formulas:

To find the circumference of a circle: Multiply the radius by 6.2832, or Multiply the diameter by 3.1416, or Multiply the square root of the area by 3.3449	**To find the volume of a parallelogram:** Multiply the area of cross section times the length
To find the radius of a circle: Multiply the diameter by .5, or Multiply the circumference by .15913, or Multiply the square root of the area by .56419	**To find the area of a cylinder:** Multiply the length times the circumference of the body plus the area of both ends.
To find the diameter of a circle: Multiply the radius by 2, or Multiply the circumference by .31831, or Multiply the square root of the area by 1.1284	**To find the volume of a cylinder:** Multiply the area of the base by the perpendicular height
To find the area of a circle: Multiply the square of the radius by 3.1416, or Multiply the square of the diameter by .7854, or Multiply the square of the circumference by .07958	**To find the area of a sphere:** Multiply the square of the diameter by 3.1416, or Multiply the diameter times the circumference
To find the area of a hexagon: Multiply the square of the distance across by .86603, or Multiply the area of the inscribed circle by 1.1027	**To find the volume of a sphere:** Multiply the cube of the diameter by .5236
To find the area of an octagon: Multiply the square of the distance across by .82843, or Multiply the area of the inscribed circle by 1.0348	**To estimate the weight of a round steel bar:** Multiply the diameter by 4, square the product, and divide by 6. The result is the approximate weight in pounds per foot of length.
To find the area of a rectangle: Multiply the length by the width	**To estimate the weight of a square steel bar:** Square the size, add a zero and divide by 3, equals approximate weight in pounds per foot of length.
To find the area of a triangle: Multiply the base by one-half the perpendicular height	**To estimate the weight of a flat steel bar:** Multiply the width by the thickness, add a zero and divide by 3. The result is the approximate weight in pounds per foot of length.
To find the side of an inscribed square: Multiply the diameter by .7071, or Multiply the circumference by .2251	**To calculate sheet weight** Sheet Weight = Width x Length x Decimal thickness

To find the side of an equal square: Multiply the diameter by .8862	**To convert Brinell hardness to tensile strength:** Divide the Brinell Hardness number by two to get the approximate tensile strength in thousands of pounds per square inch. Example: Assume Brinell Hardness of 248. 248÷ 2 = 124,000 p.s.i. (approx. tensile strength.). Conversely, drop the last three figures of the tensile strength and multiplying by two to get the approximate Brinell Hardness number. Example: Assume tensile strength of 122,000 p.s.i. 122 X 2 = 244 (approximate Brinell Hardness).
To find the diameter of the circumscribing circle of a square: Multiply a side by 1.4142	
To find the circumference of the circumscribing circle of a square: Multiply a side by 4.443	
To find the cubic contents of a cone: Multiply the area of the base by one-third the altitude	
To find the area of an ellipse: Multiply the product of its axes by .7854	**To find the capacity of a tank in gallons:** *All measurements must be reduced to inches* For cylindrical tanks, multiply the length by the square of the diameter by .0034. For rectangular tanks, multiply the length by the width by the depth and divide by 231.
To find the area of a parallelogram: Multiply the base times the perpendicular height	