

**1313 MISCELLANEOUS INFORMATION**

Freezing point of water = 32° F. = 0° C.

Boiling point of water at atmospheric pressure = 212° F. = 100° C.

Absolute zero = -459.7° F. = -273.2° C.

°C. = 5/9(°F. - 32°)

°F. = (9/5 °C.) + 32°

1 hp = 550 ft. lbs./sec. = 33,000 ft. lbs./min.

1 hp = 2544 BTU's/hr.

1 hp = 745.5 watts.

1 BTU = 778.26 ft. lbs.

1 cu. ft. of water at 39.2° F. and atmospheric pressure = 62.428 lbs.

1 cu. ft. of water at 60° F. and atmospheric pressure = 62.30 lbs.

1 cu. ft. of water at 212° F. and atmospheric pressure = 59.83 lbs.

Approximate heat capacity of superheated steam at atmospheric pressure = 0.47 BTU/lb/°F.

Total heat of saturated steam at atmospheric pressure = 1150.4 BTU's.

$\pi = 3.1416$  = ratio of circumference of circle to diameter. (C/d)  
= ratio of area of circle to square of radius. ( $A/r^2$ )

Circumference of circle = diameter x  $\pi$ . ( $C = \pi d$ )

Diameter of circle = circumference x 0.31831. ( $d = 0.31831 C = C / \pi$ )

Area of circle = square of diameter x 0.7854. ( $A = 0.7854d^2 = \pi / 4 (d^2) = \pi (r^2)$ ).

Double diameter of circle increases its area four times. ( $4 A = 0.7854 (2d)^2$ )

Area of rectangle = length x width. ( $A = l w$ )

Area of triangle = base x 1/2 perpendicular height. ( $A = (1/2) b h$ )

Volume of cone = area of base x 1/3 perpendicular height. ( $V = (1/3) b h$ )

Doubling the diameter of a pipe increases its capacity four times.

A gallon of water (U.S. standard) weighs 8.33 pounds (3.78 kilograms) and contains 231 cubic inches (0.00378 cubic meters).

A cubic foot of water contains 7.5 gallons or 1728 cubic inches, and weighs 62.5 pounds.

To find the approximate pressure in pounds per square inch of a column of water, multiply the height of the column in feet by 0.434.

Steam rising from water as its boiling point (212° F.) has a pressure equal to the atmosphere (14.7 lbs. per square inch).

Approximate heat capacity of superheated steam at atmospheric pressure equals 0.47 BTU's per lb. per ° F.

Total heat of saturated steam at atmospheric pressure equals 1150.4 BTUs.

To find the capacity in U.S. gallons of cylindrical tanks knowing the dimensions in inches, square the diameter, multiply by the length, and multiply by 0.0034.

## CONVERSION TABLES

MULTIPLY	BY	TO OBTAIN
Acres	43,560	Square Feet
Barrels of cement	376	Pounds of cement
Bags of cement	94	Pounds of cement
Cubic feet	7.48052	U.S. Gallons
Cubic feet	1.728	Cubic inches
Cubic feet	0.03704	Cubic yards
Cubic inches	0.0005787	Cubic feet
Cubic inches	0.004329	U.S. Gallons
Cubic yards	27	Cubic feet
Cubic yards	46.656	Cubic inches
Cubic yards	202.0	U.S. Gallons
Fathoms	6	Feet
Feet	0.3048	Meters
Meters	3.281	Feet
Meters	39.37	Inches
Meters	1.094	Yards
Miles	5,280	Feet
Pounds of water	0.01602	Cubic feet
Pounds of water	27.68	Cubic inches
Pounds of water	0.1198	U.S. Gallons
Square feet	144	Square inches
Square miles	640	Acres
Square yards	9	Square feet
Square yards	0.0002066	Acres
Tons (short)	2,000	Pounds
Tons (long)	2,240	Pounds