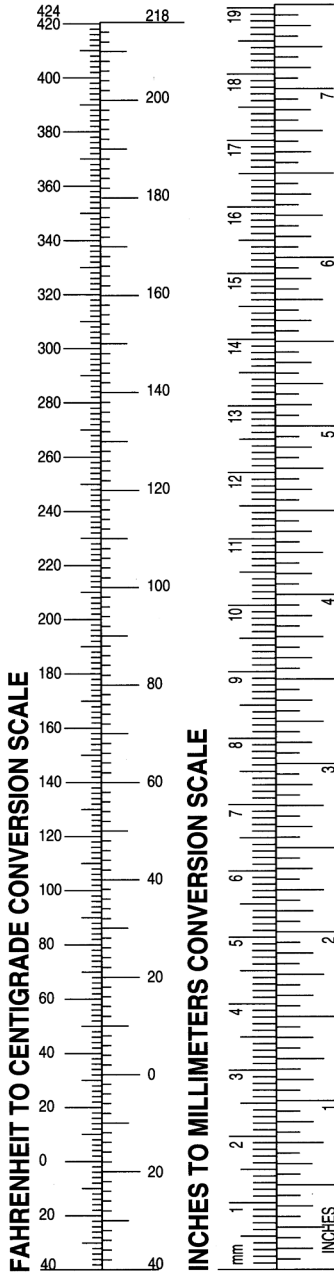


Wire Gauge and Stud Hole Sizes



Wire gauge conversion to decimal equivalents

INCH FRAC.	INCH DEC.	MILLI-METERS	INCH FRAC.	INCH DEC.	MILLI-METERS
1/64	.0156	0,397	33/64	.5156	13,097
1/32	.0312	0,794	17/32	.5312	13,494
3/64	.0468	1,191	35/64	.5468	13,891
1/16	.0625	1,588	9/16	.5625	14,288
5/64	.0781	1,984	37/64	.5781	14,684
3/32	.0937	2,381	19/32	.5937	15,081
7/64	.1093	2,778	39/64	.6093	15,478
1/8	.1250	3,175	5/8	.6250	15,875
9/64	.1406	3,572	41/64	.6406	16,272
5/32	.1562	3,969	21/32	.6562	16,669
11/64	.1718	4,366	43/64	.6718	17,066
3/16	.1875	4,763	11/16	.6875	17,463
13/64	.2031	5,159	45/64	.7031	17,859
7/32	.2187	5,556	23/32	.7187	18,256
15/64	.2343	5,954	47/64	.7343	18,653
1/4	.2500	6,350	3/4	.7500	19,050
17/64	.2656	6,747	49/64	.7656	19,447
9/32	.2812	7,144	25/32	.7812	19,844
19/64	.2968	7,541	51/64	.7968	20,241
5/16	.3125	7,938	13/16	.8125	20,638
21/64	.3281	8,334	53/64	.8281	21,034
11/32	.3437	8,731	27/32	.8437	21,431
26/64	.3593	9,128	55/64	.8593	21,828
3/8	.3750	9,525	7/8	.8750	22,225
25/64	.3906	9,922	57/64	.8906	22,622
13/32	.4062	10,319	29/32	.9062	23,019
27/64	.4218	10,716	59/64	.9218	23,416
7/16	.4375	11,113	15/16	.9375	23,813
29/64	.4531	11,509	64/64	.9531	24,209
15/32	.4687	11,906	31/32	.9687	24,606
31/64	.4843	12,303	63/64	.9843	25,003
1/2	.5000	12,700	1	1.0000	25,400

Move decimal point three places to the right to read mills.

AWG	DIAMETER INCHES	CMA	AWG	DIAMETER INCHES	CMA
4/0	.460	212,000	12	.081	6,530
3/0	.410	168,000	13	.072	5,180
2/0	.365	133,000	14	.064	4,110
1/0	.325	106,000	15	.057	3,260
1	.289	83,700	16	.051	2,580
2	.258	66,400	17	.045	2,050
3	.229	52,600	18	.040	1,620
4	.204	41,700	19	.036	1,290
5	.182	33,100	20	.032	1,020
6	.162	26,300	21	.0285	810
7	.144	20,800	22	.0253	642
8	.128	16,500	23	.0226	509
9	.114	13,100	24	.0201	404
10	.102	10,400	25	.0179	320

AWG	mm ²	Standard wires mm ²				
26-22	0.1-0.4	0.14	0.20	0.25	0.35	
22-16	0.25-1.6	0.25	0.35	0.50	0.75	1.0 1.5
16-14	1.0-2.6	1.0	1.5	2.5		
12-10	2.7-6.6	4.0	6.0			
8	6.6-10.5	10				
6	10.5-16.8	16				
4	16.8-26.6	2.5				
2	26.6-42.4	35				
1/0	42.4-60.5	50				
2/0	60.5-76.2	70				
3/0	76.2-96.3	95				
4/0	96.3-117.0	120				

Hole diameter #10 and 3/8" are available in metric ref.

#10 .190 .209 (5,31) M5
3/8" .375 .413 (10,5) M9-10

* All decimals plus or minus .003"
Fractions plus or minus .055".

Stud size with hole sizes.

STANDARD STUD SIZE	SCEW DIA. (")	ETC HOLE DIA. INCH/mm	DIN.
● #0	.060	.094 (2,39)	M1,7-2.2
● #1	.073		
● #2	.086		
● #3	.099	.120 (3,025)	M2,6
● #4	.112		
● #5	.125	.146 (3,71)	M3-3,5
● #6	.138		
● #8	.164	.173 (4,39)	M4
● #10	.190	.198 (5,03)	
● #12	.216	.17/64 (6,75)	M6
● #14	.242		
● 1/4"	.250		
● 5/16"	.312	21/64 (8,33)	M8
● 3/8"	.375	25/64 (9,92)	M9
● 7/16"	.437	29/64 (11,51)	M11
● 1/2"	.500	33/64 (13,10)	M12
● 5/8"	.625	21/32 (16,67)	M16
● 3/4"	.750	25/32 (19,84)	M18
● 7/8"	.875	29/32 (23,02)	M20
● 1"	1.000	1-1/32 (26,19)	M25

CONVERSION FORMULAS

Multiply	By	To Obtain	Multiply	By	To Obtain	Multiply	By	To Obtain
Acres	43,560	Square feet	Cubic meters	61.023	Cubic in	Gallons	4	Quarts (liq)
"	4047	Square meters	"	1.308	Cubic yards	Gallons, Imperial	1.20095	U.S Gallons
"	1.562x10 ³	Square miles	"	264.2	Gallons	Gallons, US	0.83267	Imperial Gallons
"	4840	Square yards	"	10 ³	Liters	Gallons water	8.3453	Pounds of water
Acre-Feet	43,560	Cubic feet	"	2113	Pints (liq)	Gallons/min	2.228x10 ⁻³	Cubic ft/sec
"	325,851	Gallons	"	1057	Quarts (liq)	"	0.06308	Liters/sec
"	1233.49	Cubic meters	Cubic yards	7.646x10 ⁵	Cubic cm	"	8.0208	cu ft/hr
Atmospheres	76.0	cm of Hg	"	27	Cubic ft	"	8.0208	Overflow Rate (ft/hr)
"	29.92	Inches of Hg	"	46.656	Cubic in	Area (sq. ft.)		
"	33.90	Feet of water	"	0.7646	Cubic meters	Gallons water/min	6.0086	Tons water, 24 hrs
"	10,333	Kg/sq meter	"	202.0	Gallons	Grains (troy)	L	Grains (avoir)
"	14.70	Lbs/sq inch	"	764.6	Liters	"	0.06480	Grams
"	1.058	Tons/sq ft	"	1616	Pints (liq)	"	0.04167	Pennyweight (troy)
Barrels-oil	42	Gallons-oil	"	807.9	Quarts (liq)	"	2.0833x10 ⁻³	Ounces (troy)
Barrels-cement	376	Pounds-cement	Cubic yards/min	0.45	Cubic ft/sec	Grains/US gal	17.118	Parts/million
Bags or sacks Cement .94		Pounds-cement	"	3.367	Gallons/sec	"	142.86	Lbs/million gal
Board-feet	144	Cubic Inches	"	12.74	Liters/sec	Grains/Imp gal	14.254	Parts/million
BTU/Hour	0.2520	Kilogram-calories	Decigrams	0.1	Grams	Grams	980.7	Dynes
"	777.5	Foot-lbs	Deciliters	0.1	Liters	"	15.43	Grains
"	3.927x10 ⁻⁴	Horse-power-hrs	Decimeters	0.1	Meters	"	10 ⁻³	Kilograms
"	107.5	Kilogram-meters	Degrees (angle)	60	Minutes	"	10 ³	Milligrams
"	2.928x10 ⁻⁴	Kilowatt/hr	"	0.01745	Radians	"	0.03527	Ounces
BTU/Min	12.96	Foot-lbs/sec	"	3600	Seconds	"	0.03215	Ounces (troy)
"	0.02356	Horse-power	Degrees/sec	0.01745	Radians/sec	"	2.205x10 ⁻³	Pounds
"	0.01757	Kilowatts	"	0.1667	Revolutions/min	Grams/cm	5.600 x 10 ⁻³	Pounds/in
"	17.57	Watts	"	0.002778	Revolutions/sec	Grams/cu cm	62.43	Pounds/cubic ft
Centares	1	Square meters	Dekagrams	10	Grams	"	0.03613	Pounds/cubic in
Centigrams	0.01	Grams	Dekaliters	10	Liters	Grams/liter	58.417	Grains/gal
Centiliters	0.01	Liters	Dekameters	10	Meters	"	8.345	Pounds/1000gal
Centimeters	0.393701	Inches	Drams	27.34375	Grains	"	0.062427	Pounds/cubic ft
"	0.01	Meters	"	0.0625	Ounces	"	1000	Parts/million
"	10	Millimeters	"	1.771845	Grams	Hectares	2.471	Acres
Centimeters of Hg	0.01316	Atmospheres	Fathoms	6	Feet	"	1.076x10 ⁵	Square ft
"	0.4461	Feet of water	Feet	30.48	Centimeters	Hectograms	100	Grams
"	136.0	Kg/sq meter	"	12	Inches	Hectoliters	100	Liters
"	27.85	Lbs/sq ft.	"	0.3048	Meters	Hectometers	100	Meters
"	0.1934	Lbs/sq inch	"	1/3	Yards	Hectowatts	100	Watts
Centimeters/second	1.969	Feet/min	Feet of water	0.02950	Atmosphere	Horse-power	42.44	BTU/min
"	0.03281	Feet/sec	"	0.8826	Inches Hg	"	33.000	Foot-lbs/min
"	0.036	Kilometers/hr.	"	304.8	kg/sq meter	"	550	Foot-lbs/sec
"	0.6	Meters/min.	"	62.43	lbs/sq ft	"	1.014	Horse-power (metric)
"	0.02237	Miles/hr.	"	0.4335	lbs/sq in	"	10.70	Kg-calories/min
"	3.728x10 ⁻⁴	Miles/min.	Feet/min	0.5080	Centimeters/sec	"	0.7457	Kilowatts
Cm/sec/sec	0.03281	Feet/sec/sec	"	0.01667	Feet/sec	"	745.7	Watts
Cubic Centimeter	3.531x10 ⁻⁵	Cubic ft	"	0.01829	Kilometers/hr	Horse-power (boiler)	33,479	BTU/hr
"	6.102x10 ⁻²	Cubic in	"	0.3048	Meters/min	"	9.803	Kilowatts
"	10 ⁻⁶	Cubic meters	"	0.01136	Miles/hr	Horse-power hours	2547	BTU
"	1.308x10 ⁻⁶	Cubic yards	Feet/sec	30.48	Centimeters/sec	"	1.98x10 ⁶	Foot-lbs
"	2.642x10 ⁻⁴	Gallons	"	1.097	Kilometers/hr	"	641.7	Kilogram-calories/hr
"	10 ⁻³	Liters	"	0.5921	Knots	"	2.737x10 ⁵	Kilogram-meters
"	2.113x10 ⁻³	Pints (liq)	"	18.29	Meters/min	"	0.7457	Kilowatt/hr
"	1.057x10 ⁻³	Quarts (liq)	"	0.6818	Miles/hr	Inches	2.540	Centimeters
Cubic feet	2.832x10 ⁴	Cubic cm	"	0.01136	Miles/min	Inches Hg	0.03342	Atmospheres
"	1728	Cubic in	Feet/sec/sec	30.48	cm/sec/sec	"	1.133	Feet of water
"	0.02832	Cubic meters	"	0.3048	meters/sec/sec	"	345.3	kg/sq meter
"	0.03704	Cubic yards	Foot-pounds	1.286x10 ⁻³	BTU	"	70.73	lbs/sq ft
"	7.48052	Gallons	"	5.050x10 ⁻⁷	Horse-power-hr	"	0.4912	lb/sq in
"	28.32	Liters	"	3.241x10 ⁻⁴	Kilogram-calories/hr	Inches of water	0.002458	Atmospheres
"	59.84	Pints (liq)	"	0.1383	Kilogram-meters	"	0.07355	Inches of Hg
"	29.92	Quarts (liq)	"	3.766x10 ⁻⁷	Kilowatt/hr	"	25.40	kg/sq meter
Cubic feet/min	472	Cubic cm/sec	Foot-pounds/min	1.286x10 ⁻³	BTU/min	"	0.5781	Ounces/sq in
"	0.1247	Gallons/sec	"	0.01667	Foot-pounds/sec	"	5.202	lbs/sq ft
"	0.4720	Liters/sec	"	3.030x10 ⁻⁵	Horse-power	"	0.03613	lbs/sq in
"	62.43	Pounds water/min	"	3.241x10 ⁻⁴	Kg-calories/min	Kilograms	980.665	Dynes
Cubic feet/sec	0.646317	Million gal/day	"	2.260x10 ⁻⁵	Kilowatts	"	2.205	Lbs
"	448.831	gal/min	Foot-pounds/sec	7.717x10 ²	BTU/min	"	1.102x10 ⁻³	Tons (short)
Cubic inches	16.39	Cubic cm	"	1.818x10 ⁻³	Horse-power	"	10 ³	Grams
"	5.787x10 ⁻⁴	Cubic ft	"	1.945x10 ⁻²	Kg-calories/min	Kilogram-calories	3.968	BTU
"	1.639x10 ⁻⁵	Cubic meters	"	1.356x10 ⁻³	Kilowatts	"	3086	Foot-lbs
"	2.143x10 ⁻⁵	Cubic yards	Gallons	3785	Cubic cm	"	1.558x10 ⁻³	Horse-power/hr
"	4.329x10 ⁻³	Gallons	"	0.1337	Cubic ft	"	1.162x10 ⁻³	Kilowatt/hr
"	1.639x10 ⁻²	Liters	"	231	Cubic in	Kilogram-calories/min	51.43	Foot-lbs/sec
"	0.03463	Pints (liq)	"	3.785x10 ⁻³	Cubic meters	"	0.09351	Horse-power
"	0.01732	Quarts (liq)	"	4.951x10 ⁻³	Cubic yards	"	0.06972	Kilowatts
Cubic meters	10 ⁶	Cubic cm	"	3.785	Liters	Kg/meter	0.672	Lbs/ft

CONVERSION FORMULAS

Multiply	By	To Obtain
Kg/sq meter	9.678x10 ⁻⁵	Atmospheres
"	3.281x10 ⁻³	Feet of water
"	2.896x10 ⁻³	Inches of Hg
"	0.2048	Lbs/sq ft
"	1.422x10 ⁻³	Lbs/sq in
Kg/sq millimeter	10 ⁶	kg/sq meter
Kiloliters	10 ³	Liters
Kilometers	10 ⁵	Centimeters
"	3281	Feet
"	10 ³	Meters
"	0.6214	Miles
"	1094	Yards
Kilometers/hr	27.78	Centimeters/sec
"	54.68	Feet/min
"	0.9113	Feet/sec
"	0.5396	Knots
"	16.67	Meters/min
"	0.6214	Miles/hr
Km/hr/sec	27.78	cm/sec/sec
"	0.9113	ft/sec/sec
"	0.2778	meters/sec/sec
Kilowatts	56.92	BTU/min
"	4.425x10 ⁴	Foot-lbs/min
"	737.6	Foot-lbs/sec
"	1.341	Horse-power
"	14.34	Kg-calories/min
"	10 ³	Watts
Kilowatt-hours	3415	BTU
"	2.655x10 ⁶	Foot-lbs
"	1.341	Horse-power/hr
"	860.5	Kilogram-calories
"	3.671x10 ⁵	Kilogram-meters
Liters	10 ³	Cubic cm
"	0.03531	Cubic ft
"	61.02	Cubic in
"	10 ⁻³	Cubic meters
"	1.308x10 ⁻³	Cubic yards
"	0.2642	Gallons
"	2.113	Pints (liq)
"	1.057	Quarts (liq)
Liters/min	5.886x10 ⁻⁴	Cubic ft/sec
"	4.403x10 ⁻³	Gals/sec
Lumber width (in) x thickness (in)/12=Board ft		
Meters	100	Centimeters
"	3.281	Feet
"	39.37	Inches
"	10 ⁻³	Kilometers
"	10 ³	Millimeters
"	1.094	Yards
Meters/min	1.667	Centimeters/sec
"	3.281	Feet/min
"	39.37	Inches/min
"	0.05468	Feet/sec
"	0.06	Kilometers/hr
"	0.03728	Miles/hr
Meters/sec	196.8	Feet/min
"	3.281	Feet/sec
"	3.6	Kilometers/hr
"	0.06	Kilometers/min
"	2.237	Miles/hr
Microns	10 ⁻⁶	Meters
Miles	1.609x10 ⁵	Centimeters
"	5280	Feet
"	1.609	Kilometers
"	1760	Yards
Miles/hr	44.70	Centimeters/sec
"	88	Feet/min
"	1.467	Feet/sec
"	1.609	Kilometers/hr
"	0.8684	Knots
"	26.82	Meters/min
Miles/min	2682	Centimeters/sec
"	88	Feet/sec
"	1.609	Kilometers/min
"	60	Miles/hr
Milliers	10 ³	Kilograms
Milligrams	10 ³	Grams
Milliliters	10 ⁻³	Liters
Millimeters	0.1	Centimeters
"	0.03937	Inches
Milligrams/liter	1	Parts/million

Multiply	By	To Obtain
Million gal/day	1.54723	Cubic ft/sec
Miner's inches	1.5	Cubic ft/min
Minutes (angle)	2.909x10 ⁻⁴	Radians
Ounces	16	Drams
"	437.5	Grains
"	0.0625	Pounds
"	28.349527	Grams
"	0.9115	Ounces (troy)
"	2.790x10 ⁻⁵	Tons (long)
"	2.835x10 ⁻⁵	Tons (metric)
Ounces, troy	480	Grains
"	20	Pennyweights (troy)
"	0.08333	Pounds (troy)
"	31.103481	Grams
"	1.09714	Ounces, avoird
Ounces (fluid)	1.805	Cubic in
"	0.02957	Liters
Ounces/sq in	0.0625	lbs/sq in
Parts/million	0.0584	Grains/US gal
"	0.07016	Grains/Imp gal
"	8.345	Lbs/million gal
Pennyweights (troy)	24	Grains
"	1.55517	Grams
"	0.05	Ounces (troy)
"	4.1667x10 ⁻³	Pounds (troy)
Pounds	16	Ounces
"	256	Drams
"	7000	Grains
"	0.0005	Tons (short)
"	453.5924	Grams
"	1.21528	Pounds (troy)
"	14.5833	Ounces (troy)
Pounds (troy)	5760	Grains
"	240	Pennyweight (troy)
"	12	Ounces (troy)
"	373.24177	Grams
"	0.822857	Pounds (avoird)
"	13.1657	Ounces (avoird)
"	3.6735x10 ⁻⁴	Tons (long)
"	4.1143x10 ⁻⁴	Tons (short)
"	3.7324x10 ⁻⁴	Tons (metric)
Pounds of water	0.01602	Cubic ft
"	27.68	Cubic in
"	0.1198	Gallons
Pounds water/min	2.670x10 ⁻⁴	Cubic ft/sec
Pounds/cu ft	0.01602	Grams/cubic cm
"	16.02	kg/cu meter
"	5.787x10 ⁻⁴	lb/cubic inch
Pounds/cu in	27.68	Grams/cubic cm
"	2.768x10 ⁴	Kg/cubic meter
"	1728	Lbs/cubic ft
Pounds/ft	1.488	Kg/meter
Pounds/in	178.6	Grams/cm
Pounds/sq ft	0.01602	Feet of water
"	4.883	Kg/sq meter
"	6.945x10 ⁻³	Pounds/sq in
Pounds/sq in	0.06804	Atmospheres
"	2.307	Feet of water
"	2.036	Inches of Hg
"	703.1	Kg/sq meter
Quadrants (angle)	90	Degrees
"	5400	Minutes
"	1.571	Radians
Quarts (dry)	67.20	Cubic in
Quarts (liq)	57.75	Cubic in
Quintal, Argentine	101.28	Pounds
Quintal, Brazil	129.54	Pounds
Quintal, Castile, Peru	101.43	Pounds
Quintal, Chile	101.41	Pounds
Quintal, Mexico	101.47	Pounds
Quintal, Metric	220.46	Pounds
Quires	25	Sheets
Radians	57.30	Degrees
"	3438	Minutes
"	0.637	Quadrants
Radians/sec	57.30	Degrees/sec
"	0.1592	Revolutions/sec
"	9.549	Revolutions/min
Radians/sec/sec	573.0	Revolutions/min/min
"	0.1592	Revolutions/sec/sec
Reams	500	Sheets

Multiply	By	To Obtain
Revolutions	360	Degrees
"	4	Quadrants
"	6.283	Radians
Revolutions/min	6	Degrees/sec
"	0.1047	Radians/sec
"	0.01667	Revolutions/sec
Revolutions/min/min	1.745x10 ⁻³	Radians/sec/sec
"	2.778x10 ⁻⁴	Revolutions/sec/sec
Revolutions/sec	360	Degrees/sec
"	6.283	Radians/sec
"	60	Revolutions/min
Revolutions/sec/sec	6.283	Radians/sec/sec
"	3600	Revolutions/min/min
Seconds (angle)	4.848x10 ⁻⁶	Radians
Square Centimeters	1.076x10 ⁻³	Sq ft
"	0.1550	Sq in
"	10 ⁻⁴	Sq meters
"	100	Sq millimeters
Square feet	2.296x10 ⁻⁵	Acres
"	929.0	Sq cm
"	144	Sq in
"	0.09290	Sq meters
"	3.587x10 ⁻⁸	Sq miles
"	1/9	Sq yards
Square inches	6.452	Sq cm
"	6.944x10 ⁻³	Sq ft
"	645.2	Sq millimeters
Square kilometers	247.1	Acres
"	10.76x10 ⁶	Sq ft
"	10 ⁶	Sq meters
"	0.3861	Sq miles
"	1.196x10 ⁶	Sq yards
Square meters	2.471x10 ⁻⁴	Acres
"	10.76	Sq ft
"	3.861x10 ⁻⁷	Sq miles
"	1.196	Sq yards
Square miles	640	Acres
"	27.88x10 ⁶	Sq ft
"	2.590	Sq kilometers
"	3.098x10 ⁶	Sq yards
Square millimeters	0.01	Sq cm
"	1.550x10 ⁻³	Sq in
Square yards	2.066x10 ⁻⁴	Acres
"	9	Sq ft
"	0.8361	Sq meters
"	3.228x10 ⁻⁷	Sq miles
Temp (°C) + 273	1	°Kelvin
Temp (°C) + 17.78	1.8	Temp (°F)
Temp (°F) + 460	1	°Rankine
Temp (°F) - 32	5/9	Temp (°C)
Ton (long)	1016	Kilograms
"	2240	Pounds
"	1.120	Tons (short)
Ton (metric)	10 ³	Kilograms
"	2205	Pounds
Ton (short)	2000	Pounds
"	32000	Ounces
"	907.18486	Kilograms
"	2430.56	Pounds (troy)
"	0.089287	Tons (long)
"	29166.66	Ounces (troy)
"	0.90718	Tons (metric)
Tons of water/day	83.333	Pounds water/hr
"	0.16643	Gallons/min
"	1.3349	cubic ft/hr
Watts	0.05692	BTU/min
"	44.26	Foot-pounds/min
"	0.7376	Foot-pounds/sec
"	1.341x10 ⁻³	Horse-power
"	0.01434	Kg-calories/min
"	10 ⁻³	Kilowatts
Watt-hours	3.415	BTU
"	2655	Foot-pounds/hr
"	1.341x10 ⁻³	Horse-power/hr
"	0.8605	Kilogram-calories/hr
"	367.1	Kilogram-meters
"	10 ⁻³	Kilowatt/hr
Yards	91.44	Centimeters
"	3	Feet
"	36	Inches
"	0.9144	Meters



AMPERAGE CONVERSION TABLE

WATTS	VOLTS											WATTS
	110	115	118	120	220	230	236	240	440	460	480	
100	.91	.87	.85	.83	.46	.44	.43	.42	.23	.22	.21	100
150	1.36	1.30	1.27	1.25	.68	.65	.64	.63	.34	.33	.31	150
200	1.82	1.74	1.69	1.67	.91	.87	.85	.83	.45	.43	.42	200
250	2.27	2.17	2.12	2.08	1.14	1.09	1.06	1.04	.57	.54	.52	250
300	2.72	2.61	2.54	2.50	1.36	1.30	1.27	1.25	.68	.65	.63	300
350	3.18	3.04	2.97	2.92	1.59	1.53	1.48	1.46	.80	.76	.73	350
400	3.63	3.48	3.39	3.33	1.82	1.74	1.70	1.67	.91	.87	.83	400
450	4.09	3.91	3.81	3.75	2.05	1.97	1.91	1.88	1.02	.98	.94	450
500	4.54	4.35	4.24	4.17	2.27	2.17	2.12	2.08	1.14	1.09	1.04	500
600	5.45	5.22	5.08	5.00	2.73	2.61	2.54	2.50	1.36	1.30	1.25	600
700	6.36	6.09	5.93	5.83	3.18	3.04	2.97	2.92	1.59	1.52	1.46	700
750	6.80	6.52	6.36	6.25	3.40	3.26	3.18	3.13	1.70	1.63	1.56	750
800	7.27	6.96	6.78	6.67	3.64	3.48	3.39	3.33	1.82	1.74	1.67	800
900	8.18	7.83	7.63	7.50	4.09	3.91	3.81	3.75	2.05	1.96	1.88	900
1000	9.09	8.69	8.47	8.33	4.55	4.35	4.24	4.17	2.27	2.17	2.08	1000
1100	10.00	9.56	9.32	9.17	5.00	4.78	4.66	4.58	2.50	2.39	2.29	1100
1200	10.90	10.40	10.20	10.00	5.45	5.22	5.08	5.00	2.73	2.61	2.50	1200
1250	11.40	10.90	10.60	10.40	5.68	5.43	5.30	5.21	2.84	2.72	2.60	1250
1300	11.80	11.30	11.00	10.80	5.91	5.65	5.51	5.42	2.95	2.83	2.71	1300
1400	12.70	12.20	11.90	11.70	6.36	6.09	5.93	5.83	3.18	3.04	2.92	1400
1500	13.60	13.00	12.70	12.50	6.82	6.52	6.40	6.25	3.41	3.26	3.13	1500
1600	14.60	13.90	13.60	13.30	7.27	6.96	6.78	6.67	3.64	3.48	3.33	1600
1700	15.50	14.80	14.40	14.20	7.73	7.39	7.20	7.08	3.86	3.70	3.54	1700
1800	16.40	15.70	15.30	15.00	8.18	7.83	7.63	7.50	4.09	3.91	3.75	1800
1900	17.30	16.50	16.10	15.80	8.64	8.26	8.05	7.92	4.32	4.13	3.96	1900
2000	18.20	17.40	16.90	16.70	9.09	8.70	8.47	8.33	4.55	4.35	4.17	2000
2200	20.00	19.10	18.60	18.30	10.00	9.57	9.32	9.17	5.00	4.78	4.58	2200
2500	22.70	21.70	21.20	20.80	11.40	10.90	10.60	10.40	5.68	5.43	5.21	2500
2750	25.00	23.90	23.30	23.30	12.50	12.00	11.70	11.50	6.25	5.98	5.73	2750
3000	27.20	26.10	25.40	25.00	13.60	13.00	12.70	12.50	6.82	6.52	6.25	3000
3500	31.80	30.40	29.70	29.20	15.90	15.30	14.80	14.60	7.95	7.61	7.29	3500
4000	36.30	34.80	33.90	33.30	18.20	17.40	17.00	16.70	9.10	8.70	8.33	4000
4500	40.90	39.10	38.10	37.50	20.50	19.60	19.10	18.80	10.20	9.78	9.38	4500
5000	45.40	43.50	42.40	41.70	22.70	21.70	21.20	20.80	11.40	10.90	10.40	5000
6000	54.50	52.20	50.80	50.00	27.30	26.10	25.40	25.00	13.60	13.00	12.50	6000
7000	63.60	60.90	59.30	58.30	31.80	30.40	29.70	29.20	15.90	15.20	14.60	7000
8000	72.70	69.60	67.80	66.70	36.40	34.80	33.90	33.30	18.20	17.40	16.70	8000
9000	81.80	78.30	76.30	75.00	40.90	39.10	38.10	37.50	20.50	19.60	18.80	9000
10000	90.90	86.90	84.70	83.30	45.50	43.50	42.40	41.70	22.70	21.70	20.80	10000

TABLE OF EFFECTIVE WATTAGES FOR HEATER BANDS AND CARTRIDGE HEATERS DESIGNED FOR 120, 240 OR 480 VOLTS

To find the effective wattage output for any heating element, find the "heater rated wattage" and the corresponding actual voltage. For example, a heater rated 150 watts at 120 volts used on 110 volts emits an effective wattage of 126 watts.

HEATER RATED WATTAGE	ACTUAL VOLTAGE APPLIED													Full Rated Voltage						
	94 188 376	96 192 384	98 196 392	100 200 400	102 204 408	104 208 416	106 212 424	108 216 432	110 220 440	112 224 448	114 228 456	116 232 464	118 236 472		120 240 480	122 244 488	124 248 496	126 252 504	128 256 512	130 260 520
50	31	32	33	35	36	38	39	41	42	44	45	47	48	50	52	53	55	57	59	61
75	46	48	50	52	54	56	59	61	63	65	68	70	73	75	78	80	83	85	88	91
100	61	64	67	69	72	75	78	81	84	87	90	93	97	100	103	107	110	114	117	121
125	77	80	83	87	90	94	98	101	105	109	113	117	121	125	129	133	138	142	147	151
150	92	96	100	104	108	113	117	122	126	131	135	140	145	150	155	160	165	171	176	182
175	107	112	117	122	126	131	137	142	147	152	158	164	169	175	181	187	193	199	205	212
200	123	128	133	139	145	150	156	162	168	174	181	187	193	200	207	214	221	228	235	242
225	138	144	150	156	163	169	176	182	189	196	203	210	218	225	233	240	248	256	264	272
250	153	160	167	174	181	188	195	203	210	218	226	234	242	250	258	267	276	284	293	303
275	169	176	183	191	199	207	215	223	231	240	248	257	266	275	284	294	303	313	323	333
300	184	192	200	208	217	225	234	243	252	261	271	280	290	300	310	320	331	341	352	363
350	215	224	233	243	253	263	273	284	294	305	316	327	338	350	362	374	386	398	411	424
375	230	240	250	260	271	282	293	304	315	327	338	350	363	375	388	400	413	427	440	454
400	245	256	267	278	289	300	312	324	336	348	361	374	387	400	413	427	441	455	469	484
450	276	288	300	313	325	338	351	365	378	392	406	421	435	450	465	481	496	512	528	545
500	307	320	333	347	361	376	390	405	420	436	451	467	483	500	517	534	551	569	587	605
525	322	336	350	365	379	394	410	425	441	457	474	491	508	525	543	561	579	597	616	635
550	337	352	367	382	397	413	429	446	462	479	496	514	532	550	568	587	606	626	645	666
575	353	368	383	399	415	432	449	466	483	501	519	537	556	575	594	614	634	654	675	696
600	368	384	400	417	434	451	468	486	504	523	542	561	580	600	620	641	662	683	704	726
650	399	416	434	451	470	488	507	527	546	566	587	607	629	650	672	694	717	740	763	787
675	414	432	450	469	488	507	527	547	567	588	609	631	653	675	698	721	744	768	792	817
700	430	448	467	486	506	526	546	567	588	610	632	654	677	700	724	747	772	796	822	847
750	460	480	500	521	542	563	585	608	630	653	677	701	725	750	775	801	827	853	880	908
800	491	512	534	556	578	601	624	648	672	697	722	748	774	800	827	854	882	910	939	968
825	506	528	550	573	596	620	644	668	693	719	745	771	798	825	853	881	910	939	968	998
850	522	544	567	590	614	638	663	689	714	740	767	794	822	850	879	908	937	967	998	1029
900	552	576	600	625	650	676	702	729	756	784	812	841	870	900	930	961	992	1024	1056	1089
950	583	608	634	660	686	714	741	770	798	828	857	888	919	950	982	1014	1047	1081	1115	1150
975	598	624	650	677	704	732	761	790	819	849	880	911	943	975	1008	1041	1075	1109	1144	1180
1000	614	640	667	694	723	751	780	810	840	871	903	934	967	1000	1034	1068	1103	1138	1174	1210
1050	644	672	700	729	759	789	819	851	882	915	948	981	1015	1050	1085	1121	1158	1195	1232	1271
1100	675	704	734	764	795	826	858	891	924	958	993	1028	1064	1100	1137	1175	1213	1252	1291	1331
1150	706	736	767	799	831	864	897	932	966	1002	1038	1075	1112	1150	1189	1228	1268	1308	1350	1392
1200	736	768	800	833	867	901	936	972	1008	1045	1083	1121	1160	1200	1240	1281	1323	1365	1408	1452
1250	767	800	834	868	903	939	975	1013	1050	1089	1128	1168	1209	1250	1292	1335	1378	1422	1467	1513
1300	798	832	867	903	939	976	1014	1053	1092	1132	1173	1215	1257	1300	1344	1388	1433	1479	1526	1573
1350	828	864	900	938	975	1014	1053	1094	1134	1176	1218	1262	1305	1350	1395	1442	1488	1536	1584	1634
1400	859	896	934	972	1012	1052	1092	1134	1176	1220	1264	1308	1354	1400	1447	1495	1544	1593	1643	1694
1500	920	960	1000	1042	1084	1127	1170	1215	1260	1307	1354	1402	1450	1500	1550	1602	1654	1707	1760	1815
1600	982	1024	1067	1111	1156	1202	1248	1296	1344	1394	1444	1495	1547	1600	1654	1708	1764	1820	1878	1936
2000	1227	1280	1334	1389	1445	1502	1561	1620	1681	1742	1805	1869	1934	2000	2067	2136	2205	2276	2347	2420
2500	1534	1600	1667	1736	1806	1878	1951	2025	2101	2178	2256	2336	2417	2500	2584	2669	2756	2844	2934	3025
3000	1841	1920	2001	2083	2168	2253	2341	2430	2521	2613	2708	2803	2901	3000	3101	3203	3308	3413	3521	3630
3500	2148	2240	2334	2431	2529	2629	2731	2835	2941	3049	3159	3271	3384	3500	3618	3737	3859	3982	4108	4235
4000	2454	2560	2668	2778	2890	3004	3121	3240	3361	3484	3610	3738	3868	4000	4134	4271	4410	4551	4694	4840
5000	3068	3200	3335	3472	3613	3756	3901	4050	4201	4356	4513	4672	4835	5000	5168	5339	5513	5689	5868	6050
6000	3682	3840	4002	4167	4335	4507	4682	4860	5042	5227	5415	5607	5802	6000	6202	6407	6615	6827	7042	7260
7000	4295	4480	4669	4861	5058	5258	5462	5670	5882	6098	6318	6541	6769	7000	7235	7474	7718	7964	8215	8470



TABLE FOR CONVERTING MILLIMETERS INTO INCHES

Milli-meters	Inches	Milli-meters	Inches	Milli-meters	Inches	Milli-meters	Inches	Milli-meters	Inches
1	0.0394	51	2.0079	101	3.9764	151	5.9449	201	7.9134
2	0.0787	52	2.0472	102	4.0157	152	5.9843	202	7.9528
3	0.1181	53	2.0866	103	4.0551	153	6.0236	203	7.9921
4	0.1575	54	2.1260	104	4.0945	154	6.0630	204	8.0315
5	0.1969	55	2.1654	105	4.1339	155	6.1024	205	8.0709
6	0.2362	56	2.2047	106	4.1732	156	6.1417	206	8.1102
7	0.2756	57	2.2441	107	4.2126	157	6.1811	207	8.1496
8	0.3150	58	2.2835	108	4.2520	158	6.2205	208	8.1890
9	0.3543	59	2.3228	109	4.2913	159	6.2598	209	8.2283
10	0.3937	60	2.3622	110	4.3307	160	6.2992	210	8.2677
11	0.4331	61	2.4016	111	4.3701	161	6.3386	211	8.3071
12	0.4724	62	2.4409	112	4.4094	162	6.3780	212	8.3465
13	0.5118	63	2.4803	113	4.4488	163	6.4173	213	8.3858
14	0.5512	64	2.5197	114	4.4882	164	6.4567	214	8.4252
15	0.5906	65	2.5591	115	4.5276	165	6.4961	215	8.4646
16	0.6299	66	2.5984	116	4.5669	166	6.5354	216	8.5039
17	0.6693	67	2.6378	117	4.6063	167	6.5748	217	8.5433
18	0.7087	68	2.6772	118	4.6457	168	6.6142	218	8.5827
19	0.7480	69	2.7165	119	4.6850	169	6.6535	219	8.6220
20	0.7874	70	2.7559	120	4.7244	170	6.6929	220	8.6614
21	0.8268	71	2.7953	121	4.7638	171	6.7323	221	8.7008
22	0.8661	72	2.8346	122	4.8031	172	6.7717	222	8.7402
23	0.9055	73	2.8740	123	4.8425	173	6.8110	223	8.7795
24	0.9449	74	2.9134	124	4.8819	174	6.8504	224	8.8189
25	0.9843	75	2.9528	125	4.9213	175	6.8898	225	8.8583
26	1.0236	76	2.9921	126	4.9606	176	6.9291	226	8.8976
27	1.0630	77	3.0315	127	5.0000	177	6.9685	227	8.9370
28	1.1024	78	3.0709	128	5.0394	178	7.0079	228	8.9764
29	1.1417	79	3.1102	129	5.0787	179	7.0472	229	9.0157
30	1.1811	80	3.1496	130	5.1181	180	7.0866	230	9.0551
31	1.2205	81	3.1890	131	5.1575	181	7.1260	231	9.0945
32	1.2598	82	3.2283	132	5.1969	182	7.1654	232	9.1339
33	1.2992	83	3.2677	133	5.2362	183	7.2047	233	9.1732
34	1.3386	84	3.3071	134	5.2756	184	7.2441	234	9.2126
35	1.3780	85	3.3465	135	5.3150	185	7.2835	235	9.2520
36	1.4173	86	3.3858	136	5.3543	186	7.3228	236	9.2913
37	1.4567	87	3.4252	137	5.3937	187	7.3622	237	9.3307
38	1.4961	88	3.4646	138	5.4331	188	7.4016	238	9.3701
39	1.5354	89	3.5039	139	5.4724	189	7.4409	239	9.4094
40	1.5748	90	3.5433	140	5.5118	190	7.4803	240	9.4488
41	1.6142	91	3.5827	141	5.5512	191	7.5197	241	9.4882
42	1.6535	92	3.6220	142	5.5906	192	7.5591	242	9.5276
43	1.6929	93	3.6614	143	5.6299	193	7.5984	243	9.5669
44	1.7323	94	3.7008	144	5.6693	194	7.6378	244	9.6063
45	1.7717	95	3.7402	145	5.7087	195	7.6772	245	9.6457
46	1.8110	96	3.7795	146	5.7480	196	7.7165	246	9.6850
47	1.8504	97	3.8189	147	5.7874	197	7.7559	247	9.7244
48	1.8898	98	3.8583	148	5.8268	198	7.7953	248	9.7638
49	1.9291	99	3.8976	149	5.8661	199	7.8346	249	9.8031
50	1.9685	100	3.9370	150	5.9055	200	7.8740	250	9.8425

FRACTIONS - DECIMALS - MILLIMETERS

		Decimal	MM			Decimal	MM
	1/64	0.0156	0.396		33/64	0.5156	13.096
	1/32	0.0312	0.793		17/32	0.5312	13.493
	3/64	0.0468	1.190		35/64	0.5468	13.890
1/16	5/64	0.0625	1.587	9/16	37/64	0.5625	14.287
	3/32	0.0781	1.984		19/32	0.5781	14.684
	7/64	0.0937	2.381		39/64	0.5937	15.081
1/8	9/64	0.1093	2.778	5/8	41/64	0.6093	15.478
	5/32	0.1250	3.175		21/32	0.6250	15.875
	11/64	0.1406	3.571		43/64	0.6406	16.271
3/16	13/64	0.1562	3.968	11/16	45/64	0.6562	16.668
	7/32	0.1718	4.365		47/64	0.6718	17.065
	15/64	0.1875	4.762		23/32	0.6875	17.462
1/4	17/64	0.2031	5.159	3/4	49/64	0.7031	17.859
	9/32	0.2187	5.556		51/64	0.7187	18.256
	19/64	0.2343	5.953		25/32	0.7343	18.653
5/16	21/64	0.2500	6.350	13/16	53/64	0.7500	19.050
	11/32	0.2656	6.746		55/64	0.7656	19.446
	23/64	0.2812	7.143		27/32	0.7812	19.843
3/8	25/64	0.2968	7.540	7/8	57/64	0.7968	20.240
	13/32	0.3125	7.937		29/32	0.8125	20.637
	27/64	0.3281	8.334		59/64	0.8281	21.034
7/16	29/64	0.3437	8.731	15/16	61/64	0.8437	21.431
	15/32	0.3593	9.128		31/32	0.8593	21.828
	31/64	0.3750	9.525		63/64	0.8750	22.225
1/2		0.3906	9.921	1		0.8906	22.621
		0.4062	10.318			0.9062	23.018
		0.4218	10.715			0.9218	23.415
		0.4375	11.112			0.9375	23.812
		0.4531	11.509			0.9531	24.209
		0.4687	11.906			0.9687	24.606
		0.4843	12.303			0.9843	25.003
		0.5000	12.700			1.0000	25.400

IMPERIAL LIQUID MEASURE

1 U.S. gallon	0.833 Imperial gallon
1 U.S. gallon	3.785 liters
1 Imperial gallon	1.201 U.S. gallons
1 Imperial gallon	4.546 liters
1 liter	0.264 U.S. gallon

WEIGHTS

1 gram	0.03527 ounce
1 ounce	28.35 grams
1 kilogram	2.2046 pounds
1 pound	0.4536 kilogram
1 metric ton	0.98421 English ton
1 English ton	1.016 metric tons

METRIC EQUIVALENTS - Linear Measure

1 centimeter	0.3937 inch
1 inch	2.54 centimeters
1 foot	0.3048 meters
1 meter	39.37 inches (1.0936 yards)
1 yard	0.9144 meter
1 rod	5.029 meters
1 kilometer	0.621 mile
1 mile	1.609 kilometers