

CONVERSIONS

Linear Conversions (Approximate)

U S Measure		Multiply by	=	SI (Metric)	x	Multiply by	=	US Customary
inches	x	25.4	=	mm	x	0.039	=	in.
inches	x	2.5	=	cm	x	0.39	=	in.
Feet	x	30.5	=	cm	x	3.28	=	ft.
inches	x	0.91	=	m	x	1.09	=	yds.
inches	x	1.61	=	km	x	0.62	=	miles

Area Conversions (Approximate)

U S Measure		Multiply by	=	SI (Metric)	x	Multiply by	=	US Customary
in ²	x	6.5	=	cm ²	x	0.16	=	in ²
ft ²	x	0.092	=	m ²			=	
yd ²	x	0.84	=	m ²	x	1.2	=	yd ²
mile ²	x	2.6	=	km ²	x	0.38	=	mile ²

Concrete Properties Conversion Table

Properties	US Customary		Multiply By	=	SI (Metric)		Multiply by	=	US Customary
Slump	in.	x	2.54	=	Cm	x	0.394	=	in.
Temperature	°F	x	(°F-32)÷1.8	=	°C	x	(°Cx1.8)+32	=	°F
Unit Weight	pcf	x	16.02	=	kg/m ³	x	0.0624	=	pcf
Compressive Strength	psi	x	0.006895	=	MPa(N/mm ²)	x	145.0	=	psi
Flexural Strength	psi	x	0.006895	=	MPa(N/mm ²)	x	145.0	=	psi
Air Content	%	x	----		%		----		%

Metric & English Units

Metric Units			English Units		
Milla	=	1/1000	12 inches	=	1 foot
Centi	=	1/100	3 feet	=	1 yard
Kilo	=	1,000	5280 feet	=	1 mile
Mega	=	1,000,000	144 in ²	=	1 ft ²
			9 ft ²	=	1 yd ²
			1728 in ³	=	1 ft ³
			27 ft ³	=	11 yd ³
			8 fl.oz.	=	1 cup
			2 cups	=	1 pint
			2 pints	=	1 qt.
			4 qt.	=	1 gal.
			1 gal	=	231 in ³
			1 yd ³	=	202 gals
			7.48 gals	=	1 ft ³

CONCRETE METRIC VALUES

Comparison of Typical Concrete Quantities

Metric to US Customary			US Customary to Metric		
1 MPa	=	145 psi	1 ft.	=	0.3 m
1 m ³	=	1.3 yd ³	1 in.	=	2.5 cm
1 liter/m ³	=	0.2 gal./yd ³	1 fl.oz/100 lbs. cement	=	65ml/100 kg cement
1 kg	=	2.2046 lbs.	1 lb./yd ³	=	.06 kg/m ³
1 kg/m ³	=	1.686 lbs/yd ³	1 yd ³	=	0.7646 m ³
Unit weight (water)	=	1 kg/L	1 fl.oz	=	30 ml
1 metric ton (1000 kg)	=	2205 lbs.	1 gal.	=	3.8 liter

Volume Conversions (Approximate)

U S Measure		Multiply by		SI (Metric)		Multiply by		US Customary
in ³	x	16.0	=	ml	x	0.06	=	in ³
fl. oz	x	29.6	=	ml	x	0.03	=	fl. oz
cups	x	0.24	=	liters	x	0.036	=	cups
pints	x	0.47	=	liters	x	2.1	=	pints
quarts	x	0.95	=	liters	x	1.06	=	quarts
gallons	x	3.79	=	liters	x	0.26	=	gallons
ft	x	0.028	=	m	x	35.3	=	ft
yds ³	x	0.76	=	ft	x	1.31	=	yds ³
ft ³	x	28.3	=	liters			=	
yds ³	x	764.5	=	liters			=	

Weight Conversions (Approximate)

U S Measure		Multiply by		SI (Metric)		Multiply by		US Customary
oz.	x	28.3	=	grams	x	0.035	=	oz.
lbs.	x	0.45	=	kg	x	2.2046	=	lbs.
short tons	x	0.91	=	metric tons	x	1.1	=	short tons

Hot Applied Sealant Estimating Table (Pounds/100 Lineal Feet)

Width	Depth	Pounds/100 Lineal Feet
3/8"	3/8"	6.9
3/8"	1/2"	9.3
1/2"	1/2"	12.3
1/2"	1"	24.7
3/4"	1/2"	18.6
3/4"	3/4"	27.8

Conversion Tables

Water		Cement		Temperature	
U.S. Gallons	Pounds	Bags	Pounds	Fahrenheit	Centigrade
1	8.35	0.25	23.5	$^{\circ}\text{C} = \frac{^{\circ}\text{F}-32}{1.8}$ $^{\circ}\text{F} = 1.8 \times ^{\circ}\text{C} + 32$	
2	16.69	0.50	47		
3	25.04	0.75	70.5		
4	33.38	1.00	94		
5	41.73	1.25	117.5	0	-17.8
6	50.07	1.50	141	5	-15
7	58.42	1.75	164.5	10	-12.2
8	66.76	2.00	188	15	-9.4
9	75.11	2.25	211.5	20	-6.7
10	83.45	2.50	235	25	-3.9
11	91.8	2.75	258.5	30	-1.1
12	100.14	3.00	282	32	0
13	108.49	3.25	305.5	35	1.7
14	116.83	3.50	329	40	4.4
15	125.18	3.75	352.5	45	7.2
16	133.52	4.00	376	50	10.0
17	141.87	4.25	399.5	55	12.8
18	150.21	4.50	423	60	15.6
19	158.56	4.75	446.5	65	18.3
20	166.90	5.00	470	70	21.1
21	175.25	5.25	493.5	75	23.9
22	183.59	5.50	517	80	26.7
23	191.94	5.75	540.5	85	29.4
24	200.28	6.00	564	90	32.2
25	208.63	6.25	587.5	95	35.0
26	216.97	6.50	611	100	37.8
27	225.32	6.75	634.5	105	40.6
28	233.66	7.00	658	110	43.3
29	242.01	7.25	681.5	115	46.1
30	250.35	7.50	705	120	48.9
31	258.70	7.75	728.5	125	51.7
32	267.04	8.00	752	130	54.4
33	275.39			135	57.2
34	283.73			140	60.0
35	292.08			145	62.8
36	300.42			150	65.6
37	308.77			155	68.3
38	317.11			160	71.1
39	317.11			165	73.9
40	333.80			170	76.7
41	342.15			175	79.4
42	350.49			180	82.2
43	358.84			185	85.0
44	367.18			190	87.8
45	375.53			195	90.6
				200	93.3
				205	96.1
				210	98.9
				212	100.0

Area and Volume (Formulas)

CIRCLE

Area = Square of Diameter x .7854 or Square of Radius x 3.1416

Circumference = Diameter x 3.1416

Diameter = Circumference x .3183

Doubling diameter increases area four times, tripling diameter increases area nine times, etc.

Area if circular ring = 3.1416 x (outside diameter squared minus inside diameter squared)

SQUARE

Area = Square of Side

Diagonal = Side x 1.4142

Side = Diagonal x .7071

RECTANGLE

Area = Length x Width

Diagonal = Square root of sum of squares of Width and Length

TRIANGLE

Area = Base x ½ of Perpendicular Height

CUBE

Area of Surface = Square of Side x 6

Volume = Cube of Side

Diagonal = Side x 1.732

CYLINDER

Area of Curved Surface = Diameter x Length x 3.1416

Volume = Square of Diameter x Length x .7854

CONE

Area of Curved Surface = Diameter of Base x Slant Height x 1.5708

Volume = Diameter of Base Squared x Perpendicular Height x .2618 or Area of Base x 1/3 Perpendicular Height

**** NOTE ****

These charts are provided to assist in estimating material requirements and is not intended to endorse any shape configuration expressed therein.