

Conversion table of engineering units

[Density]

ton/m ³	kg/m ³	lb/m ³	UK ton/yd ³	US ton/yd ³	lb/ft ³
1	1000	0.03613	0.75247	0.8428	64.423
0.001	1	3.613×10 ⁵	7.525×10 ⁻⁴	8.428×10 ⁻⁴	0.06243
27.680	27680	1	20.828	23.328	1728
1.3289	1328	0.04801	1	1.12	82.955
1.1865	1186	0.04287	0.8929	1	74.074
0.01602	16.019	5.787×10 ⁻⁴	0.01205	0.0135	1

[Inclination]

unit	degrees	arc minutes	arc seconds	μradians	mm/m
degrees	1	60	3600	17453	17.453
arc minutes	0.067	1	60	291	0.291
arc seconds	2.778×10 ⁻⁴	0.0167	1	4.848	0.004848
μradians	5.73×10 ⁻⁵	0.003438	0.206	1	0.001
mm/m	0.0573	3.436	206.2	1,000	1

[Force and Weight]

MN	kN	N	kg-f	ton-f	lb-f
1	1000	1×10 ⁶	1.0196×10 ⁵	100.4	2.248×10 ⁵
0.001	1	1000	101.96	0.1004	224.82
1×10 ⁻⁶	0.001	1	0.10196	1.004×10 ⁻⁴	0.2248
9.807×10 ⁻⁶	0.009807	9.807	1	9.842×10 ⁻⁴	2.2048
0.009964	9.964	9964	1016	1	2240
4.448×10 ⁻⁶	0.004448	4.448	0.45355	4.464×10 ⁻⁴	1

[Pressure]

kN/m ² , kPa	kg-f/cm ²	bar	Atmospheric pressure	mH ₂ O	mmHg	psi, lb-f/in ²
1000	10.2	10	9.869	102.2	7500.6	145.04
1	0.0102	0.01	0.00987	0.1022	7.5006	0.14504
98.07	1	0.9807	0.9678	10	735.56	14.223
100	1.0197	1	0.9869	10.917	750.06	14.504
101.33	1.0332	1.0132	1	10.332	760.02	14.696
9.7855	0.09983	0.09789	0.09661	1	73.424	1.4198
2.9835	0.03043	0.02984	0.02945	0.3048	22.377	0.43275
0.1333	0.0013595	0.001333	0.001315	0.01362	1	0.01934
107.3	1.0942	1.0730	1.0589	10.960	804.78	15.562
6.895	0.07031	0.06895	0.06805	0.7043	51.714	1

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[Volume]

m ³	l	cm ³ , ml	ft ³	in ³	UK gallon	US gallon
1	1000	1×10 ¹⁰	35.311	61013	219.97	264.17
0.001	1	1000	0.03531	61.013	0.220	0.2642
1×10 ⁻⁶	0.001	1	3.531×10 ⁻⁵	6,101	2.199×10 ⁻⁴	2.642×10 ⁻⁴
0.7646	764.6	7.646×10 ⁵	27	46650	168.19	201.99
0.02832	28.32	2.832×10 ⁻⁴	1	1728	6.229	7.481
1.639×10 ⁻⁵	0.01639	16.387	5.787×10 ⁻⁴	1	3605	0.004329
0.005	4.546	4546.09	0.161	277.419	1	1.201
0.004	3.785	3785.412	0.134	231	0.833	1

[Area]

km ²	m ²	cm ²	mm ²	yd ²	ft ²	in ²
1	1×10 ⁶	1×10 ⁶	1×10 ¹²	1.196×10 ⁶	1.076×10 ⁷	1.550×10 ⁹
1×10 ⁻⁶	1	10000	1×10 ⁶	1.1960	10.764	1550
1×10 ⁻¹⁰	1×10 ⁻⁴	1	100	1.196×10 ⁻⁴	0.001076	0.155
1×10 ⁻¹²	1×10 ⁻⁶	0.01	1	1.196×10 ⁻⁶	1.076×10 ⁻⁵	0.00155
2.59	2.59×10 ¹⁰	2.59×10 ⁶	2.59×10 ¹²	3.097×10 ⁶	2.788×10 ⁷	4.01×10 ⁹
0.004047	4047	4.407×10 ⁷	4.407×10 ⁹	4840	43,560	1296
8.36×10 ⁻⁷	0.8361	8361	8.36×10 ⁵	1	9	6.273×10 ⁹
9.29×10 ⁻⁸	0.0929	929	92900	0.1111	1	144
6.45×10 ⁻¹⁰	6.45×10 ⁻⁴	6.4516	645.16	7.716×10 ⁻⁴	0.006944	1

[Permeability]

m/s	cm/s	m/year	ft/year	ft/day
1	100	3.156×10 ⁷	1.035×10 ⁸	2.835×10 ⁵
0.01	1	3.156×10 ⁵	1.035×10 ⁶	2834
3.169×10 ⁻⁸	3.169×10 ⁻⁶	1	3.281	0.008982
9.66×10 ⁻⁶	9.66×10 ⁻⁴	304	1000	2.74
9.658×10 ⁻⁹	9.659×10 ⁻⁷	0.3048	1	0.002738
3.527×10 ⁻⁶	3.527×10 ⁻⁴	111.33	365.25	1