



Basic Formulas

to find	formula
sfm	$\frac{d \times \text{rpm}}{3.82}$
rpm	$\frac{\text{sfm} \times 3.82}{d}$
mpm	$\text{sfm} \div 3.27$
sfm	$\text{mpm} \times 3.27$
ipr	$\frac{\text{ipm}}{\text{rpm}}$
ipm	$\text{ipr} \times \text{rpm}$
mm	$\text{inch} \times 25.4$
inches	$\text{mm} \div 25.4$
cut time	$\frac{\text{loc}}{\text{ipm}}$ (min.)
mrr	$\frac{\pi d^2}{4} \times \text{ipm}$

Hardness Conversion

Brinell			Rockwell			Brinell			Rockwell			Brinell			Rockwell			Brinell			Rockwell			
HB	HRB	HRC	HB	HRB	HRC	HB	HRB	HRC	HB	HRB	HRC	HB	HRB	HRC	HB	HRB	HRC	HB	HRB	HRC	HB	HRB	HRC	
654	—	60	432	—	46	301	—	32	216	96.0	—	156	82.0	—	—	—	—	—	—	—	—	—	—	—
634	—	59	421	—	45	294	—	31	210	95.0	—	153	81.0	—	—	—	—	—	—	—	—	—	—	—
615	—	58	409	—	44	286	—	30	205	94.0	—	150	80.0	—	—	—	—	—	—	—	—	—	—	—
595	—	57	400	—	43	279	—	29	200	93.0	—	147	79.0	—	—	—	—	—	—	—	—	—	—	—
577	—	56	390	—	42	271	—	28	195	92.0	—	144	78.0	—	—	—	—	—	—	—	—	—	—	—
560	—	55	381	—	41	264	—	27	190	91.0	—	141	77.0	—	—	—	—	—	—	—	—	—	—	—
543	—	54	371	—	40	258	—	26	185	90.0	—	139	76.0	—	—	—	—	—	—	—	—	—	—	—
525	—	53	362	—	39	253	—	25	180	89.0	—	137	75.0	—	—	—	—	—	—	—	—	—	—	—
512	—	52	353	—	38	247	—	24	176	88.0	—	135	74.0	—	—	—	—	—	—	—	—	—	—	—
496	—	51	344	—	37	243	100.0	23	172	87.0	—	132	73.0	—	—	—	—	—	—	—	—	—	—	—
481	—	50	336	—	36	237	99.0	22	169	86.0	—	130	72.0	—	—	—	—	—	—	—	—	—	—	—
469	—	49	327	—	35	231	98.5	21	165	85.0	—	127	71.0	—	—	—	—	—	—	—	—	—	—	—
455	—	48	319	—	34	228	98.0	20	162	84.0	—	125	70.0	—	—	—	—	—	—	—	—	—	—	—
443	—	47	311	—	33	222	97.0	—	159	83.0	—	123	69.0	—	—	—	—	—	—	—	—	—	—	—

Abbreviations

- sfm = surface feet per minute
- rpm = revolutions per minute
- mpm = meters per minute
- ipr = inches per revolution
- ipm = inches per minute
- d = diameter
- mm = millimeters
- loc = length of cut
- mrr = metal removal rate

Useful Formulas

- $\text{kW} = \text{hp} \div 1.341022$ / $\text{HP} = \text{kW} \times 1.341022$
- $\text{kN} = \text{lbs.} \div 225$ / $\text{lbs.} = \text{kN} \times 2.25$
- $\text{Nm} = \text{ft.-lbs.} \div .7375621$ / $\text{ft.-lbs.} = \text{Nm} \times .7375621$
- 1 psi = .068948 bars



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Combination Tools

Modular Drills

Indexable Drills

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Metric to Inch Speed and Feed Conversion Chart

	speed		feed	
	m/min.	sfm	mm/rev.	ipr
	10	33	0,02	.001
	15	50	0,03	.001
	20	65	0,04	.002
	25	82	0,05	.002
	30	98	0,06	.002
	35	115	0,07	.003
	40	130	0,08	.003
	45	147	0,09	.004
	50	164	0,10	.004
	55	180	0,11	.004
	60	196	0,12	.005
	65	212	0,13	.005
	75	245	0,14	.006
	85	278	0,15	.006
	95	310	0,16	.006
	100	327	0,17	.007
	125	409	0,18	.007
	150	490	0,19	.007
	175	572	0,20	.008
	200	654	0,21	.008
	225	734	0,22	.009
	250	817	0,23	.009
	275	900	0,24	.009
	300	981	0,25	.010

	speed		feed	
	m/min.	sfm	mm/rev.	ipr
	325	1062	0,26	.010
	350	1145	0,28	.011
	375	1226	0,30	.012
	400	1308	0,32	.013
	425	1390	0,34	.013
	450	1471	0,36	.014
	475	1553	0,38	.015
	500	1635	0,40	.016
	525	1717	0,42	.017
	550	1798	0,44	.017
	575	1880	0,46	.018
	600	1962	0,48	.019
	625	2044	0,50	.020
	650	2125	0,52	.020
	675	2207	0,54	.021
	700	2289	0,56	.022
			0,58	.023
			0,60	.024
			0,62	.024
			0,64	.025
			0,66	.026
			0,68	.027
			0,70	.028

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Reference Table – Metric Conversion to Inch

mm	inch	round off	mm	inch	round off	mm	inch	round off
0,1	.00394	.0039	42	1.65354	1.654	94	3.70078	3.701
0,5	.01969	.020	43	1.69291	1.693	95	3.74015	3.740
1	.03937	.039	44	1.73228	1.732	96	3.77952	3.780
1,5	.05906	.059	45	1.77165	1.772	97	3.81889	3.819
2	.07874	.079	46	1.81102	1.811	98	3.85826	3.858
2,5	.09843	.098	47	1.85039	1.850	99	3.89763	3.898
3	.11811	.118	48	1.88976	1.890	100	3.93700	3.937
3,5	.13780	.138	49	1.92913	1.929	101	3.97637	3.976
4	.15748	.157	50	1.96850	1.969	102	4.01574	4.016
4,5	.17717	.177	51	2.00787	2.008	103	4.05511	4.055
5	.19685	.197	52	2.04724	2.047	104	4.09448	4.094
5,5	.21654	.217	53	2.08661	2.087	105	4.13385	4.134
6	.23622	.236	54	2.12598	2.126	106	4.17322	4.173
6,5	.25591	.256	55	2.16535	2.165	107	4.21259	4.213
7	.27559	.276	56	2.20472	2.205	108	4.25196	4.252
7,5	.29528	.295	57	2.24409	2.244	109	4.29133	4.291
8	.31496	.315	58	2.28346	2.283	110	4.33070	4.331
8,5	.33465	.335	59	2.32283	2.323	111	4.37007	4.370
9	.35433	.354	60	2.36220	2.362	112	4.40944	4.409
9,5	.37402	.374	61	2.40157	2.402	113	4.44881	4.449
10	.39370	.394	62	2.44094	2.441	114	4.48818	4.488
11	.43307	.433	63	2.48031	2.480	115	4.52755	4.528
12	.47244	.472	64	2.51968	2.520	116	4.56692	4.567
13	.51181	.512	65	2.55905	2.559	117	4.60629	4.606
14	.55118	.551	66	2.59842	2.598	118	4.64566	4.646
15	.59055	.591	67	2.63779	2.638	119	4.68503	4.685
16	.62992	.630	68	2.67716	2.677	120	4.72440	4.724
17	.66929	.669	69	2.71653	2.717	121	4.76377	4.764
18	.70866	.709	70	2.75590	2.756	122	4.80314	4.803
19	.74803	.748	71	2.79527	2.795	123	4.84251	4.843
20	.78740	.787	72	2.83464	2.835	124	4.88188	4.882
21	.82677	.827	73	2.87401	2.874	125	4.92125	4.921
22	.86614	.866	74	2.91338	2.913	126	4.96062	4.961
23	.90551	.906	75	2.95275	2.953	127	4.99999	5.000
24	.94488	.945	76	2.99212	2.992	128	5.03936	5.039
25	.98425	.984	77	3.03149	3.031	129	5.07873	5.079
26	1.02362	1.024	78	3.07086	3.071	130	5.11810	5.118
27	1.06299	1.063	79	3.11023	3.110	131	5.15747	5.157
28	1.10236	1.102	80	3.14960	3.150	132	5.19684	5.197
29	1.14173	1.142	81	3.18897	3.189	133	5.23621	5.236
30	1.18110	1.181	82	3.22834	3.228	134	5.27558	5.276
31	1.22047	1.220	83	3.26771	3.268	135	5.31495	5.315
32	1.25984	1.260	84	3.30708	3.307	136	5.35432	5.354
33	1.29921	1.299	85	3.34645	3.346	137	5.39369	5.394
34	1.33858	1.339	86	3.38582	3.386	138	5.43306	5.433
35	1.37795	1.378	87	3.42519	3.425	139	5.47243	5.472
36	1.41732	1.417	88	3.46456	3.465	140	5.51180	5.512
37	1.45669	1.457	89	3.50393	3.504	141	5.55117	5.551
38	1.49606	1.496	90	3.54330	3.543	142	5.59054	5.591
39	1.53543	1.535	91	3.58267	3.583	143	5.62991	5.630
40	1.57480	1.575	92	3.62204	3.622	144	5.66928	5.669
41	1.61417	1.614	93	3.66141	3.661	145	5.70865	5.709

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	mm	inch	round off	mm	inch	round off	mm	inch	round off
Solid Carbide Drills									
Combination Tools	146	5.74802	5.748	198	7.79526	7.795	250	9.84250	9.843
	147	5.78739	5.787	199	7.83463	7.835	251	9.88187	9.882
	148	5.82676	5.827	200	7.87400	7.874	252	9.92124	9.921
	149	5.86613	5.866	201	7.91337	7.913	253	9.96061	9.961
Modular Drills	150	5.90550	5.906	202	7.95274	7.953	254	9.99998	10.000
	151	5.94487	5.945	203	7.99211	7.992	255	10.0394	10.039
	152	5.98424	5.984	204	8.03148	8.031	256	10.0787	10.079
	153	6.02361	6.024	205	8.07085	8.071	257	10.1181	10.118
	154	6.06298	6.063	206	8.11022	8.110	258	10.1575	10.157
Indexable Drills	155	6.10235	6.102	207	8.14959	8.150	259	10.1968	10.197
	156	6.14172	6.142	208	8.18896	8.189	260	10.2362	10.236
	157	6.18109	6.181	209	8.22833	8.228	270	10.6299	10.630
	158	6.22046	6.220	210	8.26770	8.268	280	11.0236	11.024
	159	6.25983	6.260	211	8.30707	8.307	290	11.4173	11.417
QPV Drills	160	6.29920	6.299	212	8.34644	8.346	300	11.8110	11.811
	161	6.33857	6.339	213	8.38581	8.386	350	13.7795	13.780
	162	6.37794	6.378	214	8.42518	8.425	400	15.7480	15.748
	163	6.41731	6.417	215	8.46455	8.465	450	17.7165	17.717
	164	6.45668	6.457	216	8.50392	8.504	500	19.6850	19.685
Twist Drills/Taps & Dies	165	6.49605	6.496	217	8.54329	8.543	600	23.6220	23.622
	166	6.53542	6.535	218	8.58266	8.583			
	167	6.57479	6.575	219	8.62203	8.622			
	168	6.61416	6.614	220	8.66140	8.661			
	169	6.65353	6.654	221	8.70077	8.701			
Counterboring Tools	170	6.69290	6.693	222	8.74014	8.740			
	171	6.73227	6.732	223	8.77951	8.780			
	172	6.77164	6.772	224	8.81888	8.819			
	173	6.81101	6.811	225	8.85825	8.858			
Rotating Boring Tools	174	6.85038	6.850	226	8.89762	8.898			
	175	6.88975	6.890	227	8.93699	8.937			
	176	6.92912	6.929	228	8.97636	8.976			
	177	6.96849	6.968	229	9.01573	9.016			
	178	7.00786	7.008	230	9.05510	9.055			
Holemaking Tech Data	179	7.04723	7.047	231	9.09447	9.094			
	180	7.08660	7.087	232	9.13384	9.134			
	181	7.12597	7.126	233	9.17321	9.173			
	182	7.16534	7.165	234	9.21258	9.213			
Special Tooling/Adapters	183	7.20471	7.205	235	9.25195	9.252			
	184	7.24408	7.244	236	9.29132	9.291			
	185	7.28345	7.283	237	9.33069	9.331			
	186	7.32282	7.323	238	9.37006	9.370			
	187	7.36219	7.362	239	9.40943	9.409			
	188	7.40156	7.402	240	9.44880	9.449			
Toolholding Systems	189	7.44093	7.441	241	9.48817	9.488			
	190	7.48030	7.480	242	9.52754	9.528			
	191	7.51967	7.520	243	9.56691	9.567			
	192	7.55904	7.559	244	9.60628	9.606			
	193	7.59841	7.598	245	9.64565	9.646			
Index	194	7.63778	7.638	246	9.68502	9.685			
	195	7.67715	7.677	247	9.72439	9.724			
	196	7.71652	7.717	248	9.76376	9.764			
	197	7.75589	7.756	249	9.80313	9.803			

The calculations here are based upon the following formula:

(mm) x .03937 = inch decimal equivalent

This chart is for reference only.

Conversion Charts



English Measures — unless otherwise designated, are those used in the United States, and the units of weight and mass are avoirdupois units.

Gallon — designates the U.S. gallon. To convert into the Imperial gallon, multiply the U.S. gallon by 0.83267. Likewise, the word ton designates a short ton, 2,000 pounds.

Exponents — Figures 10^{-1} , 10^{-2} , 10^{-3} , etc. denote 0.1, 0.01, 0.001, etc., respectively. Figures 10^1 , 10^2 , 10^3 , etc. denote 10, 100, 1000, etc., respectively.

Properties of water — water freezes at 32°F, and is at its maximum density at 39.2°F. In the multipliers using the properties of water, calculations are based on water at 39.2°F in a vacuum, weighing 62.427 pounds per cubic foot, or 8.345 pounds per U.S. gallon.

multiply	by	to obtain
acres	43,560	square feet
acres	4047	square meters
acres	1.562×10^{-3}	square miles
acres	4840	square yards
acre-feet	43,560	cubic feet
acre-feet	325,851	gallons
acre-feet	1233.49	cubic meters
atmospheres	76	cms. of mercury
atmospheres	29.92	inches of mercury
atmospheres	33.90	feet of water
atmospheres	10,333	kgs./sq. meter
atmospheres	14.70	lbs./sq. inch
atmospheres	1.058	tons/sq. ft.
barrels—oil	42	gallons—oil
barrels—cement	376	pounds—cement
bags or sacks—cement	94	pounds—cement
board feet	144 sq. in. x 1 in.	cubic inches
British Thermal Units	0.02520	kilogram—calories
British Thermal Units	777.5	foot—lbs.
British Thermal Units	3.927×10^{-4}	horsepower—hrs.
British Thermal Units	107.5	kilogram—meters
British Thermal Units	2.928×10^{-4}	kilowatt—hrs.
B.T.U./Min.	12.96	foot—lbs./sec.
B.T.U./Min.	0.02356	horsepower
B.T.U./Min.	0.01757	kilowatts
B.T.U./Min.	17.57	watts
centares (centiares)	1	square meters
centigrams	0.01	grams
centiliters	0.01	liters
centimeters	0.3937	inches
centimeters	0.01	meters
centimeters	10	millimeters
centimeters of mercury	0.01316	atmospheres
centimeters of mercury	0.4461	feet of water

multiply	by	to obtain
centimeters of mercury	136.0	kgs./sq. meter
centimeters of mercury	27.85	lbs./sq. ft.
centimeters of mercury	0.1934	lbs./sq. inch
centimeters/second	1.969	feet/minute
centimeters/second	0.03281	feet/second
centimeters/second	0.036	kilometers/hour
centimeters/second	0.6	meters/minute
centimeters/second	0.02237	miles/hour
centimeters/second	3.728×10^{-4}	miles/minute
cms./sec./sec.	0.03281	feet/sec./sec.
cubic centimeters	3.531×10^{-5}	cubic feet
cubic centimeters	6.102×10^{-2}	cubic inches
cubic centimeters	10^{-6}	cubic meters
cubic centimeters	1.308×10^{-6}	cubic yards
cubic centimeters	2.642×10^{-4}	gallons
cubic centimeters	10^{-3}	liters
cubic centimeters	2.113×10^{-3}	pints (liquid)
cubic centimeters	1.057×10^{-3}	quarts (liquid)
cubic feet	2.832×10^4	cubic cms.
cubic feet	1728	cubic inches
cubic feet	0.02832	cubic meters
cubic feet	0.03704	cubic yards
cubic feet	7.48052	gallons
cubic feet	28.32	liters
cubic feet	59.84	pints (liquid)
cubic feet	29.92	quarts (liquid)
cubic feet/minute	472.0	cubic cms./ sec.
cubic feet/minute	0.1247	gallons/second
cubic feet/minute	0.4720	liters/second
cubic feet/minute	62.43	pounds of water/minute
cubic feet/second	0.646317	millions gallons/day
cubic feet/second	448.831	gallons/minute
cubic inches	16.39	cubic centimeters
cubic inches	5.787×10^{-4}	cubic feet
cubic inches	1.639×10^{-5}	cubic meters
cubic inches	2.143×10^{-5}	cubic yards
cubic inches	4.329×10^{-3}	gallons
cubic inches	1.639×10^{-2}	liters
cubic inches	0.03463	pints (liquid)
cubic inches	0.01732	quarts (liquid)
cubic meters	10^6	cubic centimeters
cubic meters	35.31	cubic feet
cubic meters	61.023	cubic inches
cubic meters	1.308	cubic yards
cubic meters	264.2	gallons
cubic meters	10^3	liters
cubic meters	2113	pints (liquid)
cubic meters	1057	quarts (liquid)
cubic yards	7.646×10^5	cubic centimeters
cubic yards	27	cubic feet
cubic yards	46,656	cubic inches
cubic yards	0.7646	cubic meters
cubic yards	202.0	gallons
cubic yards	764.6	liters
cubic yards	1616	pints (liquid)
cubic yards	807.9	quarts (liquid)
cubic yards/minute	0.45	cubic feet/second
cubic yards/minute	3.367	gallons/second
cubic yards/minute	12.74	liters/second
decigrams	0.1	grams
deciliters	0.1	liters
decimeters	0.1	meters
degrees (angle)	60	minutes
degrees (angle)	0.01745	radians

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	multiply	by	to obtain
		3600	seconds
degrees (angle)		0.01745	radians/second
degrees/second		0.1667	revolutions/minute
degrees/second		0.002778	revolutions/second
dekagrams		10	grams
dekaliters		10	liters
dekameters		10	meters
drams		27.34375	grams
drams		0.0625	ounces
drams		1.771845	grams
fathoms		6	feet
feet		30.48	centimeters
feet		12	inches
feet		0.3048	meters
feet		1/3	yards
feet of water		0.02950	atmospheres
feet of water		0.8826	inches of mercury
feet of water		304.8	kgs./square meter
feet of water		62.43	lbs./square foot
feet of water		0.4335	lbs./square inch
feet/minute		0.5080	centimeters/second
feet/minute		0.01667	feet/second
feet/minute		0.01829	kilometers/hour
feet/minute		0.3048	meters/minute
feet/minute		0.01136	miles/hour
feet/second		30.48	centimeters/second
feet/second		1.097	kilometers/hour
feet/second		0.5921	knots
feet/second		18.29	miles/minute
feet/second		0.6818	miles/hour
feet/second		0.01136	miles/minute
foot/sec./sec.		30.48	cms./sec./sec.
foot/sec./sec.		0.3048	meters/sec./sec.
foot-pounds		1.286 x 10 ⁻³	British Thermal Units
foot-pounds		5.050 x 10 ⁻⁷	horsepower-hrs.
foot-pounds		3.241 x 10 ⁻⁴	kilogram-calories
foot-pounds		0.1383	kilogram-meters
foot-pounds		3.766 x 10 ⁻⁷	kilowatt-hours
foot-pounds/minute		1.286 x 10 ⁻³	B.T.U./minute
foot-pounds/minute		0.01667	foot-pounds/second
foot-pounds/minute		3.030 x 10 ⁻⁵	horsepower
foot-pounds/minute		3.241 x 10 ⁻⁴	kg.-calories/minute
foot-pounds/minute		2.260 x 10 ⁻⁵	kilowatts
foot-pounds/second		7.717 x 10 ⁻²	B.T.U./minute
foot-pounds/second		1.818 x 10 ⁻³	horsepower
foot-pounds/second		1.945 x 10 ⁻²	kg.-calories/minute
foot-pounds/second		1.356 x 10 ⁻³	kilowatts
gallons		3785	cubic centimeters
gallons		0.1337	cubic feet
gallons		231	cubic inches
gallons		3.785 x 10 ⁻³	cubic meters
gallons		4.951 x 10 ⁻³	cubic yards
gallons		3.785	liters
gallons		8	pints (liquid)
gallons		4	quarts (liquid)
gallons-Imperial		1.20095	U.S. gallons
gallons-U.S.		0.83267	Imperial gallons
gallons water		8.3453	pounds of water
gallons/minute		2.228 x 10 ⁻³	cubic feet/second
gallons/minute		0.06308	liters/second
gallons/minute		8.0208	cubic feet/hour
gallons/minute		8.0208	overflow rate
		area (square foot)	feet/hour
gallons water/minute		6.0086	tons water/24 hours

	multiply	by	to obtain
grains (troy)		L	grains (avoir.)
grains (troy)		0.06480	grams
grains (troy)		0.04167	pennyweights (troy)
grains (troy)		2.0833 x 10 ⁻³	ounces (troy)
grains/U.S. gallon		17.118	parts/million
grains/U.S. gallon		142.86	lbs./million gallons
grains/Imperial gallon		14.254	parts/million
grams		980.7	dynes
grams		15.43	grains
grams		10 ⁻³	kilograms
grams		103	milligrams
grams		0.03527	ounces
grams		0.03215	ounces (troy)
grams		2.205 x 10 ⁻³	pounds
grams/cm.		5.600 x 10 ⁻³	pounds/inch
grams/cubic cm.		62.43	pounds/cubic foot
grams/cubic cm.		0.03613	pounds/cubic inch
grams/liter		58.417	grains/gallons
grams/liter		8.345	pounds/1000 gallons
grams/liter		0.062427	pounds/cubic feet
grams/liter		1000	parts/million
hectares		2.471	acres
hectares		1.076 x 10 ⁵	square feet
hectograms		100	grams
hectoliters		100	liters
hectometers		100	meters
hectowatts		100	watts
horsepower		42.44	B.T.U./minute
horsepower		33,000	foot-lbs./minute
horsepower		550	foot-lbs./second
horsepower		1.014	horsepower (metric)
horsepower		10.70	kg.-calories/minute
horsepower		0.7457	kilowatts
horsepower		745.7	watts
horsepower (boiler)		33,479	B.T.U./hour
horsepower (boiler)		9.803	kilowatts
horsepower-hours		2547	B.T.U.
horsepower-hours		1.98 x 10 ⁶	foot-lbs.
horsepower-hours		641.7	kilogram-calories
horsepower-hours		2.737 x 10 ⁵	kilogram-meters
horsepower-hours		0.7457	kilowatt-hours
inches		2.540	centimeters
inches of mercury		0.03342	atmospheres
inches of mercury		1.133	feet of water
inches of mercury		345.3	kgs./square meter
inches of mercury		70.73	lbs./square foot
inches of mercury		0.4912	lbs./square inch
inches of water		0.002458	atmospheres
inches of water		0.07355	inches of mercury
inches of water		25.40	kgs./square meter
inches of water		0.5781	ounces/square inch
inches of water		5.202	lbs./square foot
inches of water		0.03613	lbs./square inch
kilograms		980,665	dynes
kilograms		2.205	lbs.
kilograms		1.102 x 10 ⁻³	tons (short)
kilograms		10 ³	grams
kilograms-calories		3.968	B.T.U.
kilograms-calories		3086	foot-pounds
kilograms-calories		1.558 x 10 ⁻³	horsepower-hours
kilograms-calories		1.162 x 10 ⁻³	kilowatt-hours
kilograms-cal./min.		51.43	foot-pounds/sec.
kilograms-cal./min.		0.09351	horsepower
kilograms-cal./min.		0.06972	kilowatts

Conversion Charts



multiply	by	to obtain	multiply	by	to obtain
kgs./meter	0.6720	lbs./foot	miles	5280	feet
kgs./square meter	9.678×10^{-5}	atmospheres	miles	1.609	kilometers
kgs./square meter	3.281×10^{-3}	feet of water	miles	1760	yards
kgs./square meter	2.896×10^{-3}	inches of mercury	miles/hour	44.7	centimeters/second
kgs./square meter	0.2048	lbs./square foot	miles/hour	88	feet/minute
kgs./square meter	1.422×10^{-3}	lbs./square inch	miles/hour	1.467	feet/second
kgs./square millimeter	10^6	kgs./sq. meter	miles/hour	1.609	kilometers/hour
kiloliters	10^3	liters	miles/hour	0.8684	knots
kilometers	10^5	centimeters	miles/hour	26.82	meters/minute
kilometers	3281	feet	miles/minute	2682	centimeters/second
kilometers	10^3	meters	miles/minute	88	feet/second
kilometers	0.6214	miles	miles/minute	1.609	kilometers/minute
kilometers	1094	yards	miles/minute	60	miles/hour
kilometers/hour	27.78	centimeters/second	milliers	10^3	kilograms
kilometers/hour	54.68	feet/minute	milligrams	10^{-3}	grams
kilometers/hour	0.9113	feet/second	milliliters	10^{-3}	liters
kilometers/hour	0.5396	knots	millimeters	0.1	centimeters
kilometers/hour	16.67	meters/minute	millimeters	0.03937	inches
kilometers/hour	0.6214	miles/hour	milligrams/liter	1	parts/million
kms./hr./sec.	27.78	cms./sec./sec.	million gallons/day	1.54723	cubic feet/second
kms./hr./sec.	0.9113	ft./sec./sec.	miner's inches	1.5	cubic feet/minute
kms./hr./sec.	0.2778	meters/sec./sec.	minutes (angle)	2.909×10^{-4}	radians
kilowatts	56.92	B.T.U./min.	ounces	16	drams
kilowatts	4.425×10^4	foot-lbs./min.	ounces	437.5	grains
kilowatts	737.6	foot-lbs./sec.	ounces	0.0625	pounds
kilowatts	1.341	horsepower	ounces	28.349527	grams
kilowatts	14.34	kg.-calories/min.	ounces	0.9115	ounces (troy)
kilowatts	10^3	watts	ounces	2.790×10^{-5}	tons (long)
kilowatt-hours	3415	B.T.U.	ounces	2.835×10^{-5}	tons (metric)
kilowatt-hours	2.655×10^6	foot-lbs.	ounces (troy)	480	grains
kilowatt-hours	1.341	horsepower-hrs.	ounces (troy)	20	pennyweights (troy)
kilowatt-hours	860.5	kilogram-calories	ounces (troy)	0.08333	pounds (troy)
kilowatt-hours	3.671×10^5	kilogram-meters	ounces (troy)	31.103481	grams
liters	10^3	cubic centimeters	ounces (troy)	1.09714	ounces (avoir.)
liters	0.03531	cubic feet	ounces (fluid)	1.805	cubic inches
liters	61.02	cubic inches	ounces (fluid)	0.02957	liters
liters	10^{-3}	cubic meters	ounces/square inch	0.0625	lbs./square inch
liters	1.308×10^{-3}	cubic yards	overflow rate (feet/hour)	0.12468 x	
liters	0.2642	gallons	area (sq. ft.)	8.0208	gallons/minute
liters	2.113	pints (liquid)	1/overflow rate (feet/hour)	0.0584	square feet/gallon/minute
liters	1.057	quarts (liquid)	parts/million	0.07016	grains/U.S. gallon
liters/min.	5.886×10^{-4}	cubic feet/second	parts/million	0.07016	grains/Imperial gallon
liters/min.	4.403×10^{-3}	gallons/second	parts/million	8.345	lbs./million gallon
lumber width (in.) x			pennyweights (troy)	24	grains
thickness (in.)/12	length (ft.)	board feet	pennyweights (troy)	1.55517	grams
meters	100	centimeters	pennyweights (troy)	0.05	ounces (troy)
meters	3.281	feet	pennyweights (troy)	4.1667×10^{-3}	pounds (troy)
meters	39.37	inches	pounds	16	ounces
meters	10^{-3}	kilometers	pounds	256	drams
meters	10^3	millimeters	pounds	7000	grains
meters	1.094	yards	pounds	0.0005	tons (short)
meters/minute	1.667	centimeters/second	pounds	453.5924	grams
meters/minute	3.281	feet/minute	pounds	1.21528	pounds (troy)
meters/minute	0.05468	feet/second	pounds	14.5833	ounces (troy)
meters/minute	0.06	kilometers/hour	pounds (troy)	5760	grains
meters/minute	0.03728	miles/hour	pounds (troy)	240	pennyweights (troy)
meters/second	196.8	feet/minute	pounds (troy)	12	ounces (troy)
meters/second	3.281	feet/second	pounds (troy)	373.24177	grams
meters/second	3.6	kilometers/hour	pounds (troy)	0.822857	pounds (avoir.)
meters/second	0.06	kilometers/minute	pounds (troy)	13.1657	ounces (avoir.)
meters/second	2.237	miles/hour	pounds (troy)	3.6735×10^{-4}	tons (long)
meters/second	0.03728	miles/minute	pounds (troy)	4.1143×10^{-4}	tons (short)
microns	10^{-6}	meters	pounds (troy)	3.7324×10^{-4}	tons (metric)
miles	1.609×10^5	centimeters	pounds of water	0.01602	cubic feet

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