

Tablo 1.1.3 Uzunluk birimleri

milimetre	santimetre	metre	kilometre	inch	foot
mm	cm	m	km	in	ft
1	0.1	0.001	0.000001	0.03937	0.003281
10	1	0.01	0.00001	0.393701	0.032808
1000	100	1	0.001	39.37008	3.28084
1000000	100000	1000	1	39370.08	3280.84
25.4	2.54	0.0254	0.000025	1	0.083333
304.8	30.48	0.3048	0.000305	12	1
914.4	91.44	0.9144	0.000914	36	3
1609344	160934.4	1609.344	1.609344	63360	5280

Tablo 1.1.4 Alan birimleri

mm ²	cm ²	m ²	in ²	ft ²
1	0.01	0.000001	0.00155	0.000011
100	1	0.0001	0.155	0.001076
1000000	10000	1	1550.003	10.76391
645.16	6.4516	0.000645	1	0.006944
92903	929.0304	0.092903	144	1
836127	8361.274	0.836127	1296	9

Tablo 1.1.5 Hacim birimleri

cm ³	m ³	L	in ³	ft ³	US gal	US brl
1	0.000001	0.001	0.061024	0.000035	0.000264	0.000006
1000000	1	1000	61024	35	264	6.29
1000	0.001	1	61	0.035	0.264201	0.00629
16.4	0.000016	0.016387	1	0.000579	0.004329	0.000103
28317	0.028317	28.31685	1728	1	7.481333	0.178127
3785	0.003785	3.79	231	0.13	1	0.02381
4545	0.004545	4.55	277	0.16	1.20	0.028593
158970	0.15897	159	9701	6	42	1

Tablo 1.1.21 Sıcaklık birimleri

santigrad derece (°C)	$(^{\circ}\text{F} - 32) \times 5/9$
	$(\text{K} - 273.15)$
Fahrenheit (°F)	$(^{\circ}\text{C} \times 9/5) + 32$
	$(1.8 \times \text{K}) - 459.67$
Kelvin (K)	$(^{\circ}\text{C} + 273.15)$
	$(^{\circ}\text{F} + 459.67) \div 1.8$

Tablo 1.1.22 Isıl iletkenlik birimleri

W/m.K (W/m.°C)	Btu/h.ft.°F	kcal/h.m.°C (kcal/h.m.K)
1	0,57817598	0,86042
1,7295772	1	1,48816394
1,16222	0,67196769	1

Tablo 1.1.23 Isı transfer katsayısı birimleri

W/m².K (W/m².°C)	Btu/h.ft².°F	kcal/h.m².K (kcal/h.m².°C)
1	0,176110184	0,859845228
5,678263	1	4,882427636
1,163	0,204816144	1

Tablo 1.1.24 Özgül ısı birimleri

kJ/kg.K (kJ/kg.°C)	Btu/lb.°F (Btu/lb.°R)	kcal/kg.K (kcal/kg.°C)
1	0,238846	0,238846
4,1868	1	1

Tablo 1.1.25 Özgül entropi birimleri

kJ/kg.K (kJ/kg.°C)	Btu/lb.°F (Btu/lb.°R)	kcal/kg.K (kJ/kg.°C)
1	0,238846	0,2388
4,1868	1	1

Tablo 1.1.26 Özgül iç enerji ve entalpi birimleri

kJ/kg	Btu/lb	kcal/kg
1	0,4299	0,2388
2,326	1	0,5555
4,1868	1,8	1

Tablo 1.1.11 Basınç ve gerilme birimleri (yüksek basınç değerleri için)

bar	kPa	atm	atü (kgf/cm ²)	m SS	cm Hg	psi
1	100	0.987167	1.01968	10.2	75.00188	14.50326
0.06895	6.895	0.068065	0.070307	0.703	5.171379	1
0.01	1	0.00987	0.01020	0.102	0.75002	0.1450
10	1000	9.8717	10.197	101.937	750.02	145.03
0.9807	98.07	0.968115	1	9.907	73.55434	14.22335
0.001333	0.13333	0.001316	0.00136	0.01359	0.1	0.019337
1.013	101.3	1	1.032936	10.326	75.9769	14.69181

Tablo 1.1.12 Basınç birimleri (düşük basınç değerleri için)

Pa	m SS	ft H ₂ O	mm Hg	in Hg	in H ₂ O
9806	1	3.280696	73.56339	2.896043	39.36572
2989	0.304813	1	22.42311	0.882753	11.9992
1333	0.135937	0.445989	10	0.39368	5.351265
3386	0.345299	1.13282	25.40135	1	13.59293
249.1	0.025403	0.083339	01.06872	0.073568	1
1	0.000102	0.000335	0.0075	0.000295	0.004014

Tablo 1.1.13 Hız birimleri

m/s	m/min	km/h	ft/s	ft/min	mi/h
1	59.968	3.599712	3.28084	196.8504	2.237136
0.01667	1	0.060007	0.054692	3.281496	0.037293
0.2778	16.66467	1	0.911417	54.68504	0.621477
0.3048	18.28434	1.097192	1	60	0.681870
0.00508	0.304739	0.018287	0.016667	1	0.011365
0.447	26.81464	1.609071	1.466535	87.99213	1

Tablo 1.1.14 Kuvvet birimleri

N (J/m)	kgf	lbf	lb.ft/s ²	dyne
1	0,10197	0,2248	7,233	100000
0,00001	1,0197x10 ⁻⁶	2,2481x10 ⁻⁶	7,233x10 ⁻⁵	1
9,80665	1	2,2046226	70,931635	980665
4,44822	0,45359	1	32,17405	444822,16
0,138255	0,014098	0,03108	1	13825,495

Tablo 1.1.15 Moment (Tork) birimleri

N.m	kgf.m	ft.lb	in.lb
1	0.101972	0.737561	8.850732
9.80665	1	7.233003	86.79603
1.35582	0.138255	1	12
0.112985	0.011521	0.083333	1

Tablo 1.1.16 Dinamik viskozite birimleri

N.s/m ² (Pa.s)	cP (centipoise)	P (poise)	lb/ft.s
0,001	1	0,01	0,000672
0,1	100	1	0,067197
1,48816	1488,16	14,8816	1
1	1000	10	0,671968975

Tablo 1.1.17 Kinematik viskozite birimleri

m ² /s	cSt (centistoke)	St (stoke)	ft ² /s
1x10 ⁻⁶	1	0,01	0,000011
1x10 ⁻⁴	100	1	0,001076
0,92903	92903	929,03	1
1	1000000	10000	10,76392

Tablo 1.1.18 Enerji (Isı ve İş) birimleri

kJ	kWh	kcal	Btu	therm	ft.lbf	kgf.m
1	0,000278	0,239	0,948	9,48x10 ⁻⁶	737,562	101,97
1000	0,278	239	948	9,48x10 ⁻³	737562	101970
3600	1	859,18	3412,14	0,0341	2655223	367097,8
4,187	0,001163	1	3,9683	0,0000397	3090,4	427,263
1055,87	0,000293	0,252	1	0,00001	778,768	107,669
105587	29,32972	25199,64	100000	1	77876856,8	10766877,6
1,356	0,0003766	0,00032358	0,001284	1,28x10 ⁻⁴	1	0,138255
9,8067	0,002724	0,0023405	0,0092877	9,29x10 ⁻⁴	7,233	1

Tablo 1.1.19 Güç birimleri

kW, kJ/s	kJ/h	kcal/h	Btu/s	Btu/h	hp, BG	ft.lbf/s
1	3600	860,42	0,948	3414,4	1,34102	737,56
0,0002778	1	0,239	0,0002631	0,947086	0,0003725	0,204878
0,0011622	4,184	1	0,0011	3,952609	0,0015586	0,85721
1,5587	3801,132	908,49235	1	3600	1,415943	778,76857
0,0002933	1,05587	0,252359	0,0002778	1	0,0003933	0,2163246
0,7457	2684,5236	641,6165	0,706243	2542,4755	1	550
0,0013558	4,88095	1,166575	0,001284	4,6226827	0,0018182	1

Tablo 1.1.20 Açgı birimleri

derece	radyan
°	rad
360	2π

Tablo 1.1.11 Basınç ve gerilme birimleri (yüksek basınç değerleri için)

bar	kPa	atm	atü (kgf/cm ²)	m SS	cm Hg	psi
1	100	0.987167	1.01968	10.2	75.00188	14.50326
0.06895	6.895	0.068065	0.070307	0.703	5.171379	1
0.01	1	0.00987	0.01020	0.102	0.75002	0.1450
10	1000	9.8717	10.197	101.937	750.02	145.03
0.9807	98.07	0.968115	1	9.997	73.55434	14.22335
0.001333	0.13333	0.001316	0.00136	0.01359	0.1	0.019337
1.013	101.3	1	1.032936	10.326	75.9769	14.69181

Tablo 1.1.12 Basınç birimleri (düşük basınç değerleri için)

Pa	m SS	ft H ₂ O	mm Hg	in Hg	in H ₂ O
9806	1	3.280696	73.56339	2.896043	39.36572
2989	0.304813	1	22.42311	0.882753	11.9992
1333	0.135937	0.445969	10	0.39368	5.351265
3386	0.345299	1.13282	25.40135	1	13.59293
249.1	0.025403	0.083339	01.86872	0.073568	1
1	0.000102	0.000335	0.0075	0.000295	0.004014

Tablo 1.1.13 Hız birimleri

m/s	m/min	km/h	ft/s	ft/min	mi/h
1	59.988	3.599712	3.28084	196.8504	2.237136
0.01667	1	0.060007	0.054692	3.281496	0.037283
0.2778	16.66467	1	0.911417	54.68504	0.621477
0.3048	18.28434	1.097192	1	60	0.681879
0.00508	0.304739	0.018287	0.015667	1	0.011365
0.447	26.81464	1.609071	1.466535	87.99213	1

Tablo 1.1.14 Kuvvet birimleri

N (J/m)	kgf	lbf	lb.ft/s ²	dyne
1	0.10197	0.2248	7.233	100000
0.00001	1.0197x10 ⁻⁶	2.2481x10 ⁻⁶	7.233x10 ⁻⁵	1
9.80665	1	2.2046226	70.931635	980665
4.44822	0.45359	1	32.17405	444822.16
0.138255	0.014098	0.03108	1	13825.495

Tablo 1.1.15 Moment (Tork) birimleri

N.m	kgf.m	ft.lb	in.lb
1	0.101972	0.737561	8.850732
9.80665	1	7.233003	86.79603
1.35582	0.138255	1	12
0.112985	0.011521	0.083333	1

Tablo 1.1.6 Kütle birimleri

gram	kilogram	metrik ton	short ton	long ton	pound	ounce
g	kg	ton	sh-ton	l-ton	lb	oz
1	0.001	0.000001	0.000001	9.84e-07	0.002205	0.035273
1000	1	0.001	0.001102	0.000984	2.204586	35.27337
1000000	1000	1	1.102293	0.984252	2204.586	35273.37
907200	907.2	0.9072	1	0.892913	2000	32000
1016000	1016	1.016	1.119929	1	2239.859	35837.74
453.6	0.4536	0.000454	0.0005	0.000446	1	16
28	0.02835	0.000028	0.000031	0.000028	0.0625	1

Tablo 1.1.7 Yoğunluk birimleri

g/mL, g/cm ³	kg/m ³	lb/ft ³	lb/in ³
1	1000	62.42197	0.036127
0.001	1	0.062422	0.000036
0.01602	16.02	1	0.000579
27.68	27680	1727.84	1

Tablo 1.1.8 Hacimsel debi birimleri (sıvılar için)

L/s	L/dk	m ³ /h	ft ³ /min	ft ³ /hr	gal/min	US br/d
1	60	3.6	2.119093	127.1197	15.85037	543.4783
0.016666	1	0.06	0.035317	2.118577	0.264162	9.057609
0.277778	16.6667	1	0.588637	35.31102	4.40288	150.9661
0.4719	28.31513	1.69884	1	60	7.479791	256.4674
0.007867	0.472015	0.02832	0.01667	1	0.124689	4.275326
0.06309	3.785551	0.227124	0.133694	8.019983	1	34.28804
0.00184	0.110404	0.006624	0.003899	0.2339	0.029165	1

Tablo 1.1.9 Hacimsel debi birimleri, (gazlar için)

Nm ³ /hr	Scf/h	Scf/m
1	35.31073	0.588582
0.02832	1	0.016669
1.699	59.95294	1

Tablo 1.1.10 Kütlesel debi birimleri

kg/h	kg/s	t/h	lb/hour
1	0.000278	0.001	2.204586
0.4536	0.000126	0.000454	1
3600	1	3.6	7936.508
1000	0.277778	1	2204.586