

Non-SI units used in the United States

See notes at end of table

Unit Name	Abbr.	Definition		Quantity	Origin
acre (commercial) (36 000 ft ²)	ac	3344.523	m ²	area	6
acre (US survey) (43 560 ft ²)	ac	4046.873	m ²	area	1
acre foot (43 560 ft ³)	af	1233.5	m ³	volume	6
acre foot per day	af/d	14.276 49	L/s	flow, volumetric	6
acre foot per year	af/y	39.114	mL/s	flow, volumetric	6
acre inch (3630 ft ³)	ac-in	102.79	m ³	volume	6
agate (1/14 inch)		1.814	mm	length	6
American wire gauge	AWG	<i>varies</i>	m	length	6
angstrom	Å	100*	pm	length	4
API "weight" (petroleum)		<i>equation</i>	Pa·s	viscosity, absolute	6
astronomical unit	AU, ua	149.5979	Gm	length	3
atmosphere (standard)	atm	101.325*	kPa	pressure	4
atomic mass unit (unified)	u	1.660 566	yg	mass	3
barn	b	100*	fm ²	area	4
barrel (drum, 55 US gallons)		208.4	L	volume	6
barrel (petroleum)	bbl	135	kg	mass	6
barrel (petroleum, statistical) (42 gal)	bbl	158.99	L	volume	6
barrel (US cranberry) (5826.5 in ³) ?	bbl	95.5	L	volume	6
barrel (US dry) (105 US dry qt)	bbl	115.628	L	volume	1
barrel (US fed. proof spirits) (40 gal) ?	bbl	151.416	L	volume	1
barrel (US federal) (31 gal)	bbl	117.348	L	volume	1
barrel (US liquid) (31.5 gal)	bbl	119.24	L	volume	1
billion cubic feet (gas)	Bcf	28.317	hm ³	volume	6
Birmingham wire gauge (Stubs Standard)	BWG	<i>varies</i>	m	length	6
board foot (nominal)	bf	2.36	L	volume	1
body mass index (human health)	BMI	1*	kg/m ²	mass per height squared	4
bottle (wine)		750*	mL	volume	4
British thermal unit (International table)	BtuIT	1.055 056	kJ	energy	5
British thermal unit (thermochemical)	Btuth	1.054 350	kJ	energy	5
Btu per hour (international table) ("BTU")	BTU/H	293	mW	power	5
bushel (barley) (USDA)	bu	21.8	kg	mass	6
bushel (oats) (USDA)	bu	14.5	kg	mass	6
bushel (shelled corn or rye) (USDA)	bu	25.4	kg	mass	6
bushel (US volume) (2150.42 in ³)	bu	35.239	L	volume	1
bushel (wheat, soybeans, potatoes)	bu	27.2	kg	mass	6
cable (US Navy) (120 fathoms) ?	ca	219	m	length	5
cable (US) (100 fathoms) ?	ca	182.9	m	length	5
caliber (US)	cal	254*	µm	length	6
calorie (international table)	calIT	4.1868*	J	energy	4
Calorie (nutritional) (ADA)	Cal	4.186*	kJ	energy	4
calorie (thermochemical)	calth	4.184*	J	energy	4
candlepower (candle)	cp	1*	cd	luminous intensity	4
carat (metric)	ct	200*	mg	mass	3
cc (slang for cubic centimeter)	cc	1*	mL	volume	4
centipoise	cp	1*	mPa·s	viscosity, absolute	4
century		3.156	Gs	time	3
chain (US survey)	ch	20.116 84	m	length	1
charge unit	e	160.2189	zC	electric charge	3
circular inch (p[0.5 in] ²) ?	cir in	5.067 075	cm ²	area	5

circular mil (p[0.5 mil] ²)	cm	506.7075	µm ²	area	5
cord (128 ft ³)	cd	3.63	m ³	volume	2
cord foot (16 ft ³)	cd-ft	453	L	volume	1
cubic foot	cu ft	28.316 847	L	volume	1
cubic foot per minute	cfm	471.95	mL/s	flow, volumetric	5
cubic foot per second ("cusec," "second foot")	cfs	28.316 85	L/s	flow, volumetric	5
cubic inch	cu in	16.387 064*	mL	volume	1
cubic inch per minute ?	cim	273.1	µL/s	flow, volumetric	5
cubic mile (147 197 952 000 ft ³)	mi ³	4.168	km ³	volume	5
cubic yard (27 ft ³)	cy	764.6	L	volume	2
cufic foot per hour	CFH	7.866	mL/s	flow, volumetric	5
cup (US)	C	240	mL	volume	6
curie	Ci	37*	GBq	radioactivity	4
dalton (atomic mass unit)	Da	1.660 566	yg	mass	3
day (sidereal)	d	86.164 09	ks	time	3
day (solar)	d	86.4	ks	time	3
decade		315.6	Ms	time	3
decibel (sound level)	dB	<i>equation</i>	W/m ²	intensity, sound	4
decibel (sound pressure level)	dB	<i>equation</i>	Pa	pressure	4
degree (arc degree)	°	17.453 29	mrاد	angle, plane	3
degrees Ammoniameter (ammonia) ?	°Am	<i>equation</i>	kg/m ³	density	5
degrees API (API gravity) (petroleum)	G	<i>equation</i>	kg/m ³	density	6
degrees Bark (tanning liquors) ?	°Bk	<i>equation</i>	kg/m ³	density	3
degrees Baumé (heavy) ?	Bé	<i>equation</i>	kg/m ³	density	3
degrees Baumé (light) ?	Bé	<i>equation</i>	kg/m ³	density	3
degrees Beck ?	°Beck	<i>equation</i>	kg/m ³	density	3
degrees Brix (sugar solutions) ?	°Brix	<i>equation</i>	kg/m ³	density	3
degrees Fahrenheit	°F	<i>equation</i>	K	temperature	5
degrees oleometer (vegetable oils) ?		<i>equation</i>	kg/m ³	density	5
degrees Rankine	°R	<i>equation</i>	K	temperature	5
degrees Soxhlet (milk) ?	°Sx	<i>equation</i>	kg/m ³	density	3
degrees Twaddel ?	Tw°	<i>equation</i>	kg/m ³	density	3
denier		0.111	mg/m	linear density	4
Dobson unit	DU	21.4	mg/m ²	areal density	6
dram (avoirdupois)	dr	1.771 845	g	mass	1
drill numbers		<i>varies</i>	m	length	6
drop	gtt	50*	µL	volume	6
dyne	dyn	10*	µN	force	4
Einstein unit	EU	<i>equation</i>	J	energy	4
electron rest mass	<i>me</i>	9.1096 × 10 ⁻³¹	kg	mass	3
electronvolt	eV	160.2189	zJ	energy	3
energy efficiency ratio ([Btu/h]/W)	EER	<i>equation</i>	W/W	power ratio	6
erg	erg	100*	nJ	energy	4
exposure value	EV	<i>equation</i>	lx·s	illuminance	5
faraday (carbon-12) ?		96,487.00	C	electric charge	3
fathom	fm	1.8288	m	length	1
feet of air ?		3.656	Pa	pressure	5
fermi ?		1*	fm	length	4
flask (mercury)		34.5	kg	mass	5
flat (strawberries) (24 US dry pints)		13.2	L	volume	6
fluid ounce (US) ("shot")	fl oz	29.574	mL	volume	6
foot (International)	ft	30.48*	cm	length	1
foot (US survey)	ft	30.480 061	cm	length	1
foot of water (39.2 °F)	ftWC	2.988 98	Pa	pressure	5
foot per hour	fph	84.66	µm/s	speed	5
foot per minute	fpm	5.08*	mm/s	speed	5
foot per second	fps	0.3048*	m/s	speed	5

foot pound (pound-force foot)	ft·lb	1.355 818	J	energy	5
foot pound (pound-force foot)	ft·lb	1.356	N·m	torque	5
foot ton (ton-force foot)	ft·tonf	2.711 636	kJ	energy	6
footcandle	fc	10.764	lx	illuminance	4
footcandle (apparent or effective) ?	fc	10.76	cd/m ²	luminance	4
foot-lambert ?	ft-L	3.426	cd/m ²	luminance	4
furlong	fur	201.168	m	length	1
gal	Gal	10*	mm/s ²	acceleration	4
gallon (US liquid)	gal	3.785	L	volume	1
gallon (US) per day	gpd	43.813	μL/s	flow, volumetric	6
gallon (US) per day per square foot	gpd/sf	0.144	mm ² /s	viscosity, kinematic	6
gallon (US) per hour	gph	1.0515	mL/s	flow, volumetric	6
gallon (US) per minute	gpm	63.09	mL/s	flow, volumetric	6
gallon (US) per second	gps	3.785	L/s	flow, volumetric	6
gauss	Gs	100*	μT	magnetic flux density	4
grain	gr	64.798 91*	mg	mass	1
hand		10.16*	cm	length	1
horsepower (mechanical)	hp	745.7	W	power	5
horsepower hour	hp·h	2.6856	MJ	energy	5
horsepower year	hp·yr	23.526	GJ	energy	5
hour (sidereal)	h	3.590 170	ks	time	3
hour (solar)	h	3.6*	ks	time	3
hour of right ascension (astronomy)	h RA	261.7994	mrad	angle, plane	3
hundredweight (short or net)	cwt	45.4	kg	mass	6
inch	in	2.54*	cm	length	1
inch of mercury (60 °F)	inHg	3.376 85	kPa	pressure	5
inch of water (60 °F)	² WC	248.84	Pa	pressure	5
inch per minute ?	ipm	423.3	μm/s	speed	5
inch per second	ips	25.4*	mm/s	speed	5
inch pound (pound-force inch)	lbf·in	112.9848	mJ	energy	5
jigger (US) (1.5 fl oz)	ji	44	mL	volume	6
keg (US large beer) (1/2 US fed bbl)		58.7	L	volume	1
keg (US small beer) (1/4 US fed bbl)		29.3	L	volume	1
kilogram-force ("kilogram")	kgf	9.806 65*	N	force	4
kilometer per hour	kph	0.2777	m/s	speed	4
kip (kilopound-force) (1000 lbf)	kip	4.448 222	kN	force	6
kip foot (1000 lbf·ft)	kip·ft	1.356	kJ	energy	6
kip per square inch	ksi	6.894 757	MPa	pressure	6
klik or K (slang)		1*	km	length	4
knot	kt	0.514	m/s	speed	3
lambert ?	L	1*	lm/cm ²	luminance	4
langley (calth/cm ²)	ly	41.84*	kJ/m ²	irradiation	6
light minute		18	Gm	length	3
light second		300	Mm	length	3
light year	ly	9.46	Pm	length	3
link (US survey) (1/100 chain) ?	li	20.116 84	cm	length	1
liter atmosphere (45° latitude)	L·atm	101.3	J	energy	4
liter per minute	L/min	16.666	mL/s	flow, volumetric	4
liters per flush	Lpf	1*	L	volume	6
lumen hour	lm·h	3600*	lm·s	luminous energy	4
lumerg (talbot) ?		1*	lm·s	luminous energy	4
Mach number	mach	<i>equation</i>	m/s	speed	3
magnitude (apparent stellar)	mag	<i>equation</i>	W/m ²	intensity	3
magnum (champagne)		1.5*	L	volume	4
maxwell	Mx	10*	nWb	magnetic flux	4
mean horizontal candlepower ?	MHCP		lm	luminous flux	4
mean spherical candlepower ?	MSCP	π/4*	lm	luminous flux	4

metric ton	t	1*	Mg	mass	4
metric ton of coal equivalent (UN std)	mtce	29.3076*	GJ	energy	4
metric ton of oil equivalent (1010 calth)	mtoe	41.84*	GJ	energy	4
mho		1*	S	electric conductance	3
microinch	μin	25.4*	nm	length	6
micron		1*	μm	length	4
mig (medical slang for milligram)		1*	mg	mass	4
mil	mil	25.4*	μm	length	6
mil (angular) (1/6400 circle)	mil	0.981 748	mrad	angle, plane	6
mile (International)	mi	1.609 344*	km	length	1
mile (nautical)	NM	1.852*	km	length	3
mile (US survey)	mi	1.609 347	km	length	1
mile per hour	mph	0.447	m/s	speed	5
mile per hour per second	mphps	0.447 04*	m/s ²	acceleration	5
mile per minute	mpm	26.82	m/s	speed	5
mile per second	mps	1.609	km/s	speed	5
mill (slang for milliliter)		1*	mL	volume	4
millennium		31.56	Gs	time	3
millibar	mb	100*	Pa	pressure	4
millimeter of mercury	mmHg	133.322	Pa	pressure	4
millimeters of water	mmH ₂ O	9.8064	Pa	pressure	4
million acre feet	maf	1233	km ³	volume	6
million acres	MMAc	4047	km ²	area	6
million barrels (petroleum)	MMbbl	158,987	m ³	volume	6
million board feet	MMbf	2360	m ³	volume	6
million Btu (International table)	MMBtu	1.056	GJ	energy	5
million cubic yards	MMcy	0.765	hm ³	volume	6
million gallons (US) per day	mgd	43.812 64	L/s	flow, volumetric	6
miners inch (AZ, CA, MT, OR)		707.9	mL/s	flow, volumetric	5
miners inch (CO)		737.4	mL/s	flow, volumetric	5
miners inch (ID, KS, NE, NM, NV, SD, UT)		566.3	mL/s	flow, volumetric	5
minim (US) ?		61.61	μL	volume	1
minute (mean solar)	min	60	s	time	3
minute (sidereal)	m	59.836 17	s	time	3
minute of arc (arc minute)	¢	290.8882	μrad	angle, plane	3
minute of right ascension (astronomy)	m RA	4.363 323	mrad	angle, plane	3
month (mean calendar)	mo	2.63	Ms	time	3
month (sidereal)	mo	2.360 591	Ms	time	3
month (synodic or lunar)	mo	2.551 443	Ms	time	3
nail penny	d	<i>varies</i>	m	length	2
neper	Np	<i>equation</i>		ratio	3
nit ?		1*	cd/m ²	luminance	4
noy ?		<i>equation</i>	W/m ²	intensity, sound	6
oersted ?	Oe	79.577 47	A/m	magnetic field strength	4
ohm circular mil per foot		1.662 426	nW·m	electric resistivity	5
ounce (avoirdupois)	oz	28.349 523 125*	g	mass	1
ounce (troy)	ozt	31.103 476 8*	g	mass	1
ounce inch (ounce-force inch) ?	ozf-in	7.061 553	mJ	energy	5
ounce per square yard ("ounce")	oz	34	g/m ²	areal density	5
ounce-force ("ounce")	ozf	278.0139	mN	force	5
ounce-force per square inch	ozf	430.922	Pa	pressure	5
pace (geometrical) (60 inches)		1.52	m	length	1
pace (military) (30 inches)		76	cm	length	1
parsec (astronomy)	pc	30.857	Pm	length	3
parts per billion	ppb	1	μg/L	concentration	6
parts per million	ppm	1	mg/L	concentration	6
parts per trillion	ppt	1	ng/L	concentration	6

peck (US dry)	pk	8.81	L	volume	1
pennyweight (troy)	dwt	1.555 174	g	mass	2
percent grade	%	<i>equation</i>	m/m	angle, plane	3
phon		<i>equation</i>	W/m ²	intensity, sound	4
phot ?	ph	10*	klx	illuminance	4
pica (US computers)	pca	4.233	mm	length	6
pica (US printers)	pca	4.217 518	mm	length	6
pint (US dry)	pt	550.6	mL	volume	1
pint (US liquid)	pt	473.2	mL	volume	1
pitch (roofs)		<i>equation</i>	m/m	angle, plane	5
point (compass) (1/32 circle)	pt	196.3495	mrاد	angle, plane	3
point (jewelers)	pt	2*	mg	mass	3
point (US computers)	pt	352.8	μm	length	6
point (US printers)	pt	351.4598*	μm	length	6
pound (avoirdupois) (poundmass)	lb	453.592 37*	g	mass	1
pound (basis weight of bond paper) (sub)	lb	3.76	g/m ²	areal density	5
pound (basis weight of book paper)	lb	1.48	g/m ²	areal density	5
pound (basis weight of cover paper)	lb	2.70	g/m ²	areal density	5
pound (basis weight of newsprint)	lb	1.63	g/m ²	areal density	5
poundal ?	pdl	138.255	mN	force	5
pound-force ("pound")	lbf	4.448 222	N	force	5
pound-force per square foot	psf	47.88	Pa	pressure	5
pound-force per square inch	psi	6.894 757	kPa	pressure	5
Powerpoint centimeter	cm	1.0583	cm	length	6
quad (Q-unit) (quadrillion Btu)	Qbtu	1.055	EJ	energy	6
quart (US dry)	qt	1.101	L	volume	1
quart (US liquid)	qt	946.4	mL	volume	1
rad	rd	10*	mGy	radiation absorbed dose	4
radar nautical mile ?		12.261	μs	time	6
redwood second ?		?	m ² /s	viscosity, kinematic	6
rem (Roentgen equivalent man)	R	10*	μSv	radiation dose equivalent	4
revolution (turn)	r	6.283 185	rad	angle, plane	3
revolution per minute	rpm	104.72	mrاد/s	angular speed	3
revolution per second	rps	6.2832	rad/s	angular speed	3
reyn (lbf·/in ²) ?		6.894 76	kPa·s	viscosity, absolute	5
Richter magnitude	M	<i>equation</i>	J	energy	6
rod (US survey) (16.5 survey feet)	rd	5.029 210	m	length	1
roentgen	R	258	μC/kg	radiation exposure	4
R-value	R	0.1761	K·m ² /W	thermal insulance	6
sack (bag) (1/6 US dry bbl)		19.3	L	volume	6
saybolt second ?		?	m ² /s	viscosity, kinematic	6
screw numbers	#	<i>varies</i>	m	length	6
second (sidereal)	s	0.997 269 6	s	time	3
second of arc (arc second)	''	4.848 137	μrad	angle, plane	3
second of right ascension (astronomy)	s RA	72.722 05	μrad	angle, plane	3
shoe size (US childrens)		<i>equation</i>	m	length	6
shoe size (US mens)		<i>equation</i>	m	length	6
shoe size (US womens)		<i>equation</i>	m	length	6
shotgun gauge	ga	<i>varies</i>	m	length	5
slug (gee-pound)	sl	14.593 90	kg	mass	5
solar luminosities		383	YW	power	3
sones		<i>equation</i>	W/m ²	intensity (of sound)	6
specific gravity (relative density)	sp gr	1	Mg/m ³	density	3
speed of light	c	299.792 458*	Mm/s	speed	3
square (roofing) (100 ft ²)	sq	9.29	m ²	area	5
square degree	deg ²	304.617 42	μsr	angle, solid	3
square foot	sq ft	929.0304*	cm ²	area	1

square inch	sq in	645.16*	mm ²	area	1
square mil	sq mil	645.16*	µm ²	area	5
square mile (International)	sq mi	2.589 998	km ²	area	1
square yard	sq yd	0.836 127 4	m ²	area	1
standard cubic foot (natural gas)	scf	20.2	g	mass	5
standard cubic foot (natural gas)	scf	28.328	L	volume	6
standard gravity, free fall, or "gee"	<i>g</i>	9.806 65*	m/s ²	acceleration	3
stokes (cm ² /s)	st	0.0001	m ² /s	viscosity, kinematic	4
tablespoon (US)	Tbsp	15	mL	volume	1
teaspoon (US)	tsp	5	mL	volume	1
tex ?		1*	mg/m	linear density	4
therm (GPA std) (100 000 BtuIT)	th	105.506	MJ	energy	5
thousand acre feet	Maf	1.233	hm ³	volume	6
thousand board feet	Mbf	2.36	m ³	volume	6
ton (assay)	AT	29.167	g	mass	6
ton (freight) (40 ft ³)		1.1327	m ³	volume	2
ton (long, gross, or displacement)	T	1016	kg	mass	1
ton (nuclear explosive devices)	t	4.184*	GJ	energy	6
ton (refrigeration, US com'l) (200 Btu/min)	ton	3.517	kW	power	6
ton (refrigeration, US standard) ?	ton	303.9	MJ	energy	6
ton (register) (100 ft ³) (ships)	ton, CCF	2.832	m ³	volume	5
ton (short or net)	tn	907.185	kg	mass	6
ton mile (ton-force mile)	tonf-mi	14.32	MJ	energy	6
ton-force (2000 lbf) ("ton")	tonf	8.896	kN	force	6
township	twp	93.2	km ²	area	6
township or range	T or R	9.66	km	length	6
trillion cubic feet (gas)	tcf	28.317	km ³	volume	6
unit pole		125.6637	nWb	magnetic flux	4
USS standard plate gauge	USS	<i>varies</i>	m	length	6
vinyl gauge	ga	<i>varies</i>	m	length	6
Washburn & Moen gauge	W&M	<i>varies</i>	m	length	6
week (calendar)	wk	604.8	ks	time	3
week (work)	wk	144	ks	time	3
yard	yd	91.44*	cm	length	1
year (anomalistic)		31.558 43	Ms	time	3
year (common calendar)	yr	31.536 001	Ms	time	3
year (leap calendar)		31.622	Ms	time	3
year (lunar)		30.617 309	Ms	time	3
year (sidereal)		31.558 15	Ms	time	3
year (tropical or seasonal)	a	31.556 926 06	Ms	time	3

NOTES

Column A: Unit name

Alternate names or explanations are in (parentheses). Names in "quotes" are slang expressions.

The current status of those units followed by a question mark (?) is uncertain; some may no longer be used.

Units included on this list

Individual non-SI units used in the United States today, regardless of origin, including slang terms for SI units.

Compound (derived) units with special names or abbreviations (e.g., psi, cfs, gpm, mgd).

Old units no longer in widespread use but still encountered in some areas or fields (e.g., hand, furlong, grain).

Gauges used as units, even if the increment is not consistent (e.g., AWG, USS ga).

Non-linear scales used as units (e.g., Richter magnitude).

Units excluded from this list

Compound units without special names or abbreviations (e.g., feet per second).

Obsolete units found *only* in historical sources (e.g., scruple, dry gallon, troy pound, cubit).

Prefixed multiples (e.g., milligal), *unless* prefixes are not normally used with that unit (e.g., microinch).

Column B: Abbreviation or symbol

Many units have several alternative symbols or abbreviations. The most common or preferred is given here.

Columns C & D: Definition

The definition is given in SI units, since all non-SI units are now ultimately defined by the SI base units.

Exact definitions are followed by an asterisk (*); others are rounded to a precision appropriate for that unit.

Equation means the unit is defined by an equation rather than a numerical factor.

Varies means the unit increment varies slightly, so no single conversion factor can be given.

Column E: Quantity

The name of the quantity the unit measures. Some quantities have alternative names, not given here.

Column F: Origin

Most non-SI units have multiple origins and complex histories that are often obscure.

An attempt is made here to assign each unit to one of the six categories below, based on its earliest use.

The precise value may have changed over time, due to inaccurate standards.

1. Medieval (pre-1700) English version of an old European unit of Greek, Roman, French, Germanic, or other origin.
2. Medieval English invention (no known precedent in other countries).
3. Worldwide customary or scientific unit (neither metric nor English). Some are approved for use with SI.
4. Metric but non-SI unit, or a metric-English hybrid. A few are approved for use with SI.
5. British scientific or industrial unit (non-metric), invented after 1700.
6. US unit invented after 1800 (includes non-metric business, industry, and scientific units).