

PLTW Engineering Formula Sheet 2020 (v20.0)

Engineering Abbreviations and Symbols

a	acceleration	IU	international unit
A	ampere	J	joule
A	area	J	pinned truss joints
a.m.	ante meridiem	k	thermal conductivity
AC	alternating current	k	Kips
Btu	British thermal unit	K	kelvin
Btuh	British thermal unit / hour	kg	kilogram
c	calorie	km	kilometer
C	circumference	kph	kilometers / hour
°C	degree Celsius	kW	kilowatt
cc	cubic centimeters	L	length
cm	centimeter	L	liter
cps	cycles / second	lb	pound or pounds
Δ	change	lbf	pound force
δ	deformation	lb-ft	pound feet
d	diameter	lpm	liters / minute
d	displacement	m	mass
D	distance	m	meter
dB	decibel	M	Moment
DC	direct current	M	truss member(s)
deg/s	degrees / second	μ	population mean
ε	strain or unit elongation	μ_k	coefficient of friction (sliding or kinetic)
E	effort	μ_s	coefficient of friction (static)
E	electromotive force	μm	micrometer
E	modulus of elasticity	MA	mechanical advantage
F	force	mA	milliampere
°F	degree Fahrenheit	mg	milligram
ft	feet	min	minute
ft-lb	foot-pounds	mL	milliliter
g	gram	mm	millimeter
g	gravity	mph	miles / hour
ga	gauge	ms	millisecond
gal	gallons	M Ω	mega ohm
gpm	gallons / minute	N	Newton
GR	gear ratio	n	number
H	height	N-m	Newton-meters
hp	horsepower	ns	nanosecond
hr	hour	oz	ounce
Hz	hertz	p	pitch
I	current	p	momentum
I	moment of inertia	P	power
in.	inch (with a period)	p	pressure
in.-lb	Inch-pounds	p.m.	post meridiem

Engineering Abbreviations and Symbols

π	pi (3.1416)	t	time
psi	pounds per inches squared	τ	torque
Q	heat flow	τ	shear stress
Q	fluid flow rate	T	temperature
r	radius	U	u-value
R	resistance	v	fluid flow velocity
R	rate	v	velocity
R	reaction force	V	Volt
R	R-value	V	volume
$^{\circ}\text{R}$	degree Rankine	w	weight
rad	radian	W	watt
rpm	revolutions / minute	W	work
ρ	density	ω	angular velocity
s	second	Ω	Ohm
s	sample standard deviation	x	horizontal displacement
σ	normal stress	$\bar{x}$	sample mean or average
σ	population standard deviation	y	vertical displacement
Σ	sum	Z	plastic section modulus
t	thickness		