

Tables of Consistent Units

Property or Load	Unit System as classified by the ANSYS command /UNITS				
	SI	CGS	MPA	BFT	BIN
Mass	[kg]	[g]	[tonne]	[slug]	$\frac{[\text{lbf}][\text{sec}]^2}{[\text{in}]}$
Length	[m]	[cm]	[mm]	[ft]	[in]
Time	[s]	[s]	[s]	[sec]	[sec]
Temperature	[K]	[K]	[K]	[°R]	[°R]
Velocity	$\frac{[\text{m}]}{[\text{s}]}$	$\frac{[\text{cm}]}{[\text{s}]}$	$\frac{[\text{mm}]}{[\text{s}]}$	$\frac{[\text{ft}]}{[\text{sec}]}$	$\frac{[\text{in}]}{[\text{sec}]}$
Acceleration	$\frac{[\text{m}]}{[\text{s}]^2}$	$\frac{[\text{cm}]}{[\text{s}]^2}$	$\frac{[\text{mm}]}{[\text{s}]^2}$	$\frac{[\text{ft}]}{[\text{sec}]^2}$	$\frac{[\text{in}]}{[\text{sec}]^2}$
Force	[N]	[dyn]	[N]	[lbf]	[lbf]
Moment	[N][m]	[dyn][cm]	[N][mm]	[ft][lbf]	[in][lbf]
Pressure	[Pa]	[Ba]	[MPa]	$\frac{[\text{lbf}]}{[\text{ft}]^2}$	[psi]
Density	$\frac{[\text{kg}]}{[\text{m}]^3}$	$\frac{[\text{g}]}{[\text{cm}]^3}$	$\frac{[\text{tonne}]}{[\text{mm}]^3}$	$\frac{[\text{slug}]}{[\text{ft}]^3}$	$\frac{[\text{lbf}][\text{sec}]^2}{[\text{in}]^3}$

1 [cP] = 0.001 [Pa][s]
 1 [lbf] = 32.2 [ft] / [sec]² * 1 [lbm] = 386.4 [in] / [sec]² * 1 [lbm]
 1 [BTU] = 777.65 [ft][lbf] = 9331.8 [in][lbf]

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	SI	CGS	MPA	BFT	BIN
Energy	[J]	[erg]	[mJ]	[ft][lbf]	[in][lbf]
Heat Flow	[W]	$\frac{[erg]}{[s]}$	[mW]	$\frac{[ft][lbf]}{[sec]}$	$\frac{[in][lbf]}{[sec]}$
Heat Flux	$\frac{[W]}{[m]^2}$	$\frac{[erg]}{[cm]^2 [s]}$	$\frac{[mW]}{[mm]^2}$	$\frac{[ft][lbf]}{[ft]^2 [sec]}$	$\frac{[in][lbf]}{[in]^2 [sec]}$
Film Coefficient	$\frac{[W]}{[m]^2 [K]}$	$\frac{[erg]}{[cm]^2 [K] [s]}$	$\frac{[mW]}{[mm]^2 [K]}$	$\frac{[ft][lbf]}{[ft]^2 [sec] [^{\circ}R]}$	$\frac{[in][lbf]}{[in]^2 [sec] [^{\circ}R]}$
Heat Generation	$\frac{[W]}{[m]^3}$	$\frac{[erg]}{[cm]^3 [s]}$	$\frac{[mW]}{[mm]^3}$	$\frac{[ft][lbf]}{[ft]^3 [sec]}$	$\frac{[in][lbf]}{[in]^3 [sec]}$
Conductivity	$\frac{[W]}{[m][K]}$	$\frac{[erg]}{[cm][K] [s]}$	$\frac{[W]}{[m][K]}$	$\frac{[ft][lbf]}{[ft] [sec] [^{\circ}R]}$	$\frac{[in][lbf]}{[in] [sec] [^{\circ}R]}$
Specific Heat Capacity	$\frac{[J]}{[kg][K]}$	$\frac{[erg]}{[g][K]}$	$\frac{[mJ]}{[tonne][K]}$	$\frac{[ft][lbf]}{[slug] [^{\circ}R]}$	$\frac{[in][lbf]}{[lbf][sec]^2 / [in] [^{\circ}R]}$
Dynamic Viscosity	[Pa][s]	[Ba][s]	[MPa][s]	$\frac{[lbf]}{[ft]^2} [sec]$	[psi][sec]

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