1	Area	$[L^2]$	$metre^2$
2	Volume	$[L^3]$	$metre^3$
3	Velocity	$[LT^{-1}]$	ms^{-1}
4	Acceleration	$[LT^{-2}]$	ms^{-2}
5	Force	$[MLT^{-2}]$	newton (N)
6	Work or energy	$[ML^2T^{-2}]$	joule (J)
7	Power	$[ML^2T^{-3}]$	$J\ s^{-1}$ or watt
8	Pressure or stress	$[ML^{-1}T^{-2}]$	Nm^{-2}
9	Linear momentum or Impulse	$[MLT^{-1}]$	$kg\ ms^{-1}$
10	Density	$[ML^{-3}]$	$kg\ m^{-3}$
11	Strain	Dimensionless	Unitless
12	Modulus of elasticity	$[ML^{-1}T^{-2}]$	Nm^{-2}
13	Surface tension	$[MT^{-2}]$	Nm^{-1}
14	Velocity gradient	T^{-1}	$second^{-1}$
15	Coefficient of velocity	$[ML^{-1}T^{-1}]$	$kg\ m^{-1}s^{-1}$
16	Gravitational constant	$[M^{-1}L^3T^{-2}]$	Nm^2/kg^2
17	Moment of inertia	$[ML^2]$	$kg\ m^2$
18	Angular velocity	$[T^{-1}]$	rad/s
19	Angular acceleration	$[T^{-2}]$	rad/S^2
20	Angular momentum	$[ML^2T^{-1}]$	$kg\ m^2S^{-1}$
21	Specific heat	$L^2T^{-2}\theta^{-1}$	$kcal\ kg^{-1}K^{-1}$
22	Latent heat	$[L^2T^{-2}]$	kcal/kg
23	Planck's constant	ML^2T^{-1}	J^{-s}
24	Universal gas constant	$[ML^2T^{-2}\theta^{-1}]$	J/mol K

Homogeneity Principle

If the dimensions of left hand side of an equation are equal to the dimensions of right hand side of the equation, then the equation is dimensionally correct. This is known as **homogeneity principle.**

Mathematically [LHS] = [RHS]

Applications of Dimensions

1. To check the accuracy of physical equations.
2. To change a physical quantity from one system of units to another system of units.
3. To obtain a relation between different physical quantities.

Significant Figures

In the measured value of a physical quantity, the number of digits about the correctness of which we are sure plus the next doubtful digit, are called the significant figures.