

Topic \rightarrow conductivity, specific conductance, ~~and~~ Equivalent conductance and Molar conductance.

Conductance \rightarrow

Conductance describes the ease with which current flows through a conductor. It is equal to reciprocal of resistance. It is denoted by C or G .

$$C \text{ or } G = \frac{1}{R}$$

Unit of conductance is ohm^{-1} , mho or Siemens

Resistance (R) is given by

$$R \propto \frac{l}{A} \text{ or } R = \rho \frac{l}{A}$$

where l is length of the conductor
 A = Area of cross-section of the conductor.
 ρ is specific resistance or resistivity. Its value depends on the material of the conductor. Its S.I. unit is ohm metre

Conductivity \rightarrow

Conductivity of material is the conductance when it is one metre long and its cross sectional area is one metre². It is denoted by k .

~~to unit~~

$$k = \text{conductance} \times \frac{1}{\frac{l}{A}} = \frac{\text{ohm}^{-1} \times \text{cm}^2}{\text{cm}}$$

$\text{ohm}^{-1} \text{cm}^{-1}$ or siemen cm^{-1} .

