

Electrons within its sphere of influence is known as metallic bond"

* Theories of Metallic Bond *

The following theories have been proposed to explain the different properties of metals

1. Drude-Lorentz theory or electron sea theory
2. Resonance or valence bond theory
3. Molecular orbital theory or Band theory

1. Drude-Lorentz theory or electron sea theory

This theory was proposed by Drude in 1900 and later on developed by Lorentz in 1916.

According to this theory, metals have low ionisation energies. It indicates that valence electron of each atom are loosely bound to the core in metals. Thus each atom in a atom crystal loses all its valence electrons which move freely from one core to another.

The electron thus obtained from an electron pool and the positively charged metal ions are held together by this electron pool. The positively charged metal ions do not float in the sea of electrons but have definite positions in the crystal lattice. Thus, according to this theory, metallic solids may be regarded as a collection of positively charged atomic cores immersed in a sea

