

Relation between magnetic intensity (H) and magnetic field (B):

$$B = \mu_0(1 + \chi)H$$

Where, χ is the magnetic susceptibility

Classification of magnetic materials:

- **Diamagnetic substances:** When such substances are placed in an external magnetic field, they get feebly magnetised in the direction opposite to the field.
- **Paramagnetic substances:** When such substances are placed in an external magnetic field, they get feebly magnetised in the direction of the field.
- **Ferromagnetic substances:** When such substances are placed in an external magnetic field, they get strongly magnetised in the direction of the field.

Hysteresis: It is the phenomenon in which the intensity of magnetisation lags behind the magnetic field intensity when a specimen of a magnetic material is subjected to a cycle of magnetisation.

