

* Alloy: The homogeneous solid obtained by melting together two or more metals or metal and non-metals or metals with metalloids is called an alloy.

→ Note: When one of the constituents metal of an alloy is mercury (Hg) it is known as Amalgam.

* Types of alloys :-

1. Ferrous Alloys: The alloy containing iron as the main constituent is called a ferrous alloy.

Example: Stainless steel, Manganese steel etc.

2. Non-Ferrous Alloy: The alloy which doesnot contain iron as the main constituent is called an non-ferrous alloy.

Example: Brass, Bronze, Gun metal etc.

3. Amalgam: Alloys containing mercury as one of the constituents is called amalgam. Example: Silver amalgam, Sodium amalgam, Copper amalgam is used for filling dental cavities; Tin amalgam is used for silvering cheap mirrors.

* Composition and uses of Brass, Bronze, Alnico and Duralumin :

| <u>Sl. no.</u> | <u>Alloys</u> | <u>Composition</u> | <u>Uses</u> |
|----------------|---------------|--|--|
| 1. | Brass | Cu = 60-80% Zn = 40-20% | Utensils, Condenser tubes and Cartridges. |
| 2. | Bronze | Cu = 75-90% Sn = 25-10% | Utensils, coins, statues |
| 3. | Alnico | Steel = 50% Ni = 21% Al = 20% Co = 9% | It is used for making permanent magnets |
| 4. | Duralumin | Al = 95% Cu = 4% Mn = 0.5% Mg = 0.5% | It is used for making aircships, light weight vehicular parts etc. |