Activities in smelting in extraction of copper

- · Mix roasted ore with powdered coke and sand
- · Heat strongly in jacketted blast furnace
- Oxidize cuprous and ferrous sulphides
- · Form ferrous silicate slag
- · Hinder copper oxidation by iron sulphide

Structure of arrangement at the top of blast furnace in extraction of copper

- Charging arrangement
- · Outlet of waste gases

Structure of arrangement at the bottom of blast furnace in extraction of copper

- · Outlet of molten slag
- Outlet of matte

Function of tuyeres in blast furnace in extraction of copper

· Provide hot blast of air

Copper matte in extraction of copper

Copper sulphide containing trace amount of iron sulphide

Expression for reaction of formation of slag of ferrous silicate in extraction of copper

$$FeO + SiO_2 \longrightarrow FeSiO_3$$

Reactants for expression of reaction of formation of slag of ferrous silicate in extraction of copper

- Ferrous oxide
- Silicate

Expression for reaction of hindrance of ferrous sulphide in oxidation of copper in extraction of copper

$$Cu_2O + FeS \longrightarrow Cu_2S + FeO$$

Reactants in expression for reaction of hindrance of ferrous sulphide in oxidation of copper in extraction of copper

- Cuprous oxide
- Ferrous sulphide

Products in expression for reaction of hindrance of ferrous sulphide in oxidation of copper in extraction of copper

- Cuprous sulphide
- Ferrous oxide