Mine Ventilation

تهوية المناجم
Mine Ventilation

* Why do we need mine ventilation?
  • Bringing fresh air and enough amount of oxygen for labors’ breathing.
  • Get rid of harmful gases, e.g. CH4, SO2, CO & CO2.

* When do we need ventilation?
  • In case of underground mines.
There are 3 Types Mine Ventilation

1. Ventilation Tubes
2. Vertical Ventilation Shafts
3. Refrigeration Units
Ventilation tube
Ventilation tubes

- They are made of plastic (PVC or poly vinyl chloride).
- Diameter ranges from 30 to 50 cm.
- Supported to ceiling using metal rings.
- Air is brought from outside using air-pumps.

- **Advantages:** 1) Easy to use and
  2) Inexpensive

- **Disadvantage:** Easy to be cut
Vertical ventilation shafts

- Fresh and polluted air goes through two parallel vertical shafts.
- Air is brought from outside and from inside the mine using air-pumps.
- **Advantages:**
  1) Gives good ventilation
  2) Circulate air all-round-the clock
- **Disadvantage:**
  Expensive
Refrigeration Units

- Electrical refrigeration units put in the underground in a mine level, in a certain chamber.
- Depends also on the theory of air circulation.
- **Advantages:**
  1) Gives good ventilation for deep mines
  2) Circulate air all-round-the clock
- **Disadvantage:**
  1) So expensive
  2) Units are huge and should be disintegrated before going down
Mine Ventilation
(Fans & Compressors)