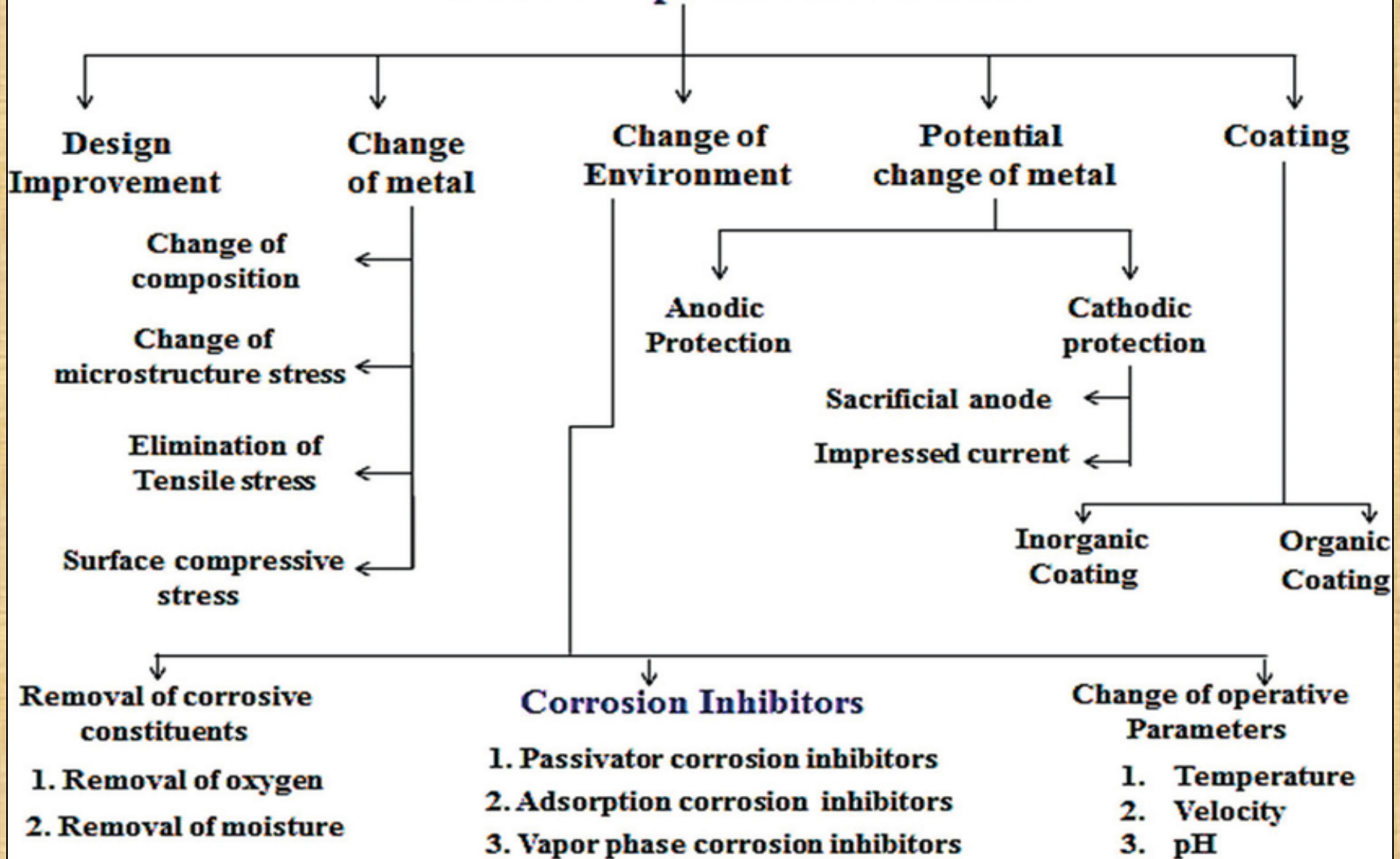




# CORROSION CONTROL





## Corrosion protection methods





# CATHODIC PROTECTION METHODS

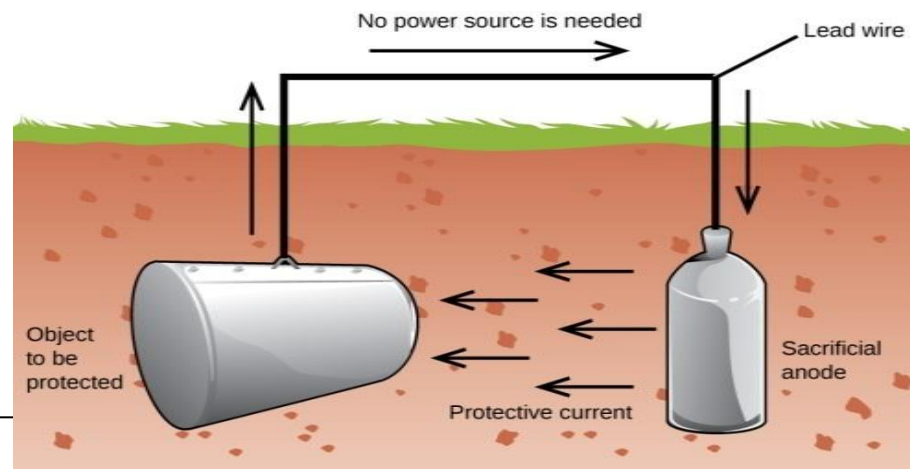


-  **Sacrificial anodic (or) Galvanic Protection method**
-  **Impressed current cathodic protection method**



# Sacrificial anodic (or) Galvanic Protection method

- Metallic structure to be protected is made cathode by connected it with more active metal (anodic metal)
- All the corrosion will concentrate only on the active metal.
- The more active metal itself gets corroded slowly while the metallic structure (cathode) is protected.





- Process is known as sacrificial anodic protection.
- The anode used for this purpose is called sacrificial **anode**.
- **Ex: Al, Zn, Mg and their alloys.**

### **Advantages of sacrificial anodic protection method**

- External power supply is not necessary.
- It can be used in remote area.
- Low installation cost.
- Minimum maintenance cost.



## Limitations of sacrificial anodic protection method

- Limited driving potential and current output.
- Frequent replacement
- Less soil resistivity
- Not suitable for larger size object



# APPLICATIONS

- Used for the protection of ships and boats. Sheets of Mg or Zn are hung around the hull of the ship which will act as an anode compared to Fe (ship / boat made of Fe). Hence, corrosion concentrates on Zn or Mg than Fe.
- Protection of underground pipelines cables from soil corrosion.
- Insertion of Mg sheets into domestic water boilers to prevent the rust.

