

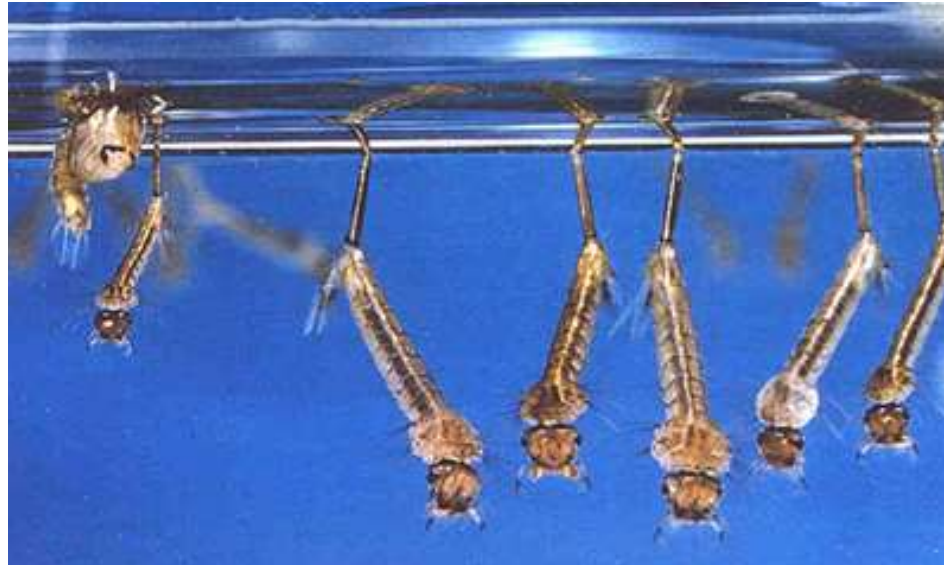
Surface Tension :

“ **Surface tension** is the elastic tendency of liquids that makes them acquire the least surface area possible. Surface tension causes insects usually denser than water to float and stride on the water surface ”



Application of Surface Tension

- Eggs of Mosquitoes can stay on water surface due to surface tension. So with the growth of this mosquitoes in rainy season various diseases spreads rapidly.



- To prevent this various diseases from spreading some medicines are sprayed on the water surface so the surface tension breaks down and eggs of mosquitoes will dip in water

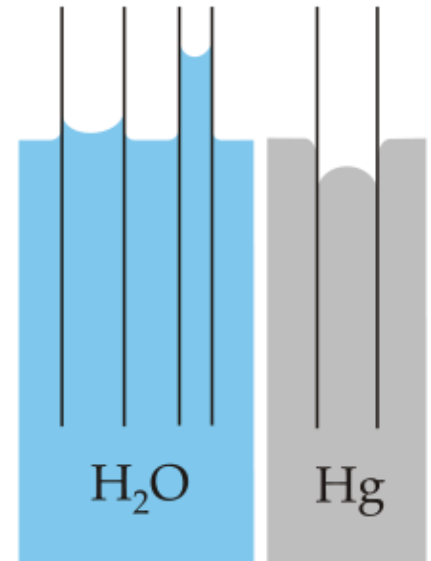


Capillary

“**Capillary action** is the ability of a liquid to flow in narrow spaces without the assistance of and in opposition to external forces like gravity”

Responsible Forces:

1. Cohesion force – capillary down
2. Adhesion force – capillary rise



Application Of Capillary in Self Lubricating Bearing

“IMPREGNATION ”

- PM components is kept in an oil bath. The oil penetrates into the voids by **Capillary Forces** and remains there.
- The Oil is used for lubrication of the component when necessary.
- During the actual working conditions, oil is released slowly to provide the necessary lubrication.



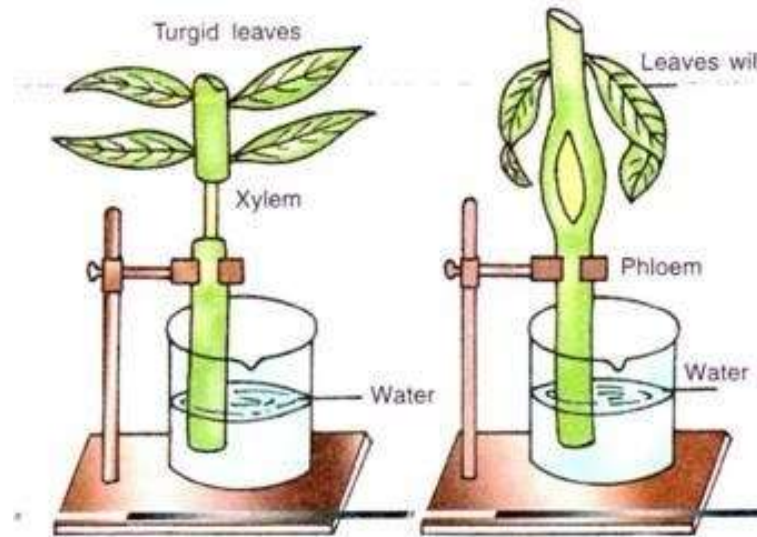
“ INFILTRATION ”

- Component is dipped into a low melting temperature alloy liquid.
- The liquid would flow into the voids simply by **Capillary Action** thereby decreasing the porosity and improving the strength of the component.



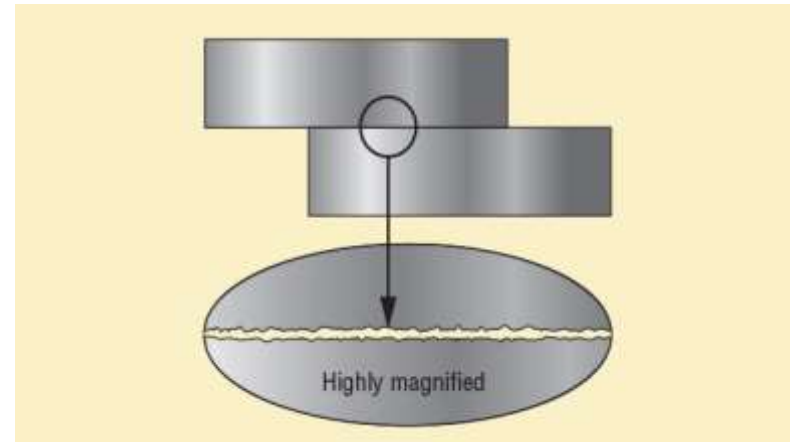
“ ASCENT OF SAP ”

- The **Ascent of Sap** in the xylem tissue of plants is the upward movement of water and minerals from the root to the crown.
- One of the theories which explain the **ascent of sap** in plants is **Capillary**.

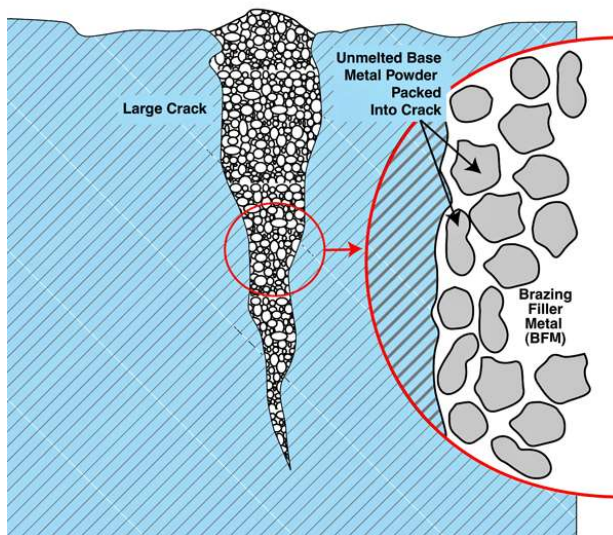


“ Brazing ”

Brazing is a metal joining process in which two or more metal items are joined together by melting and flowing a filler metal into the joint, the filler metal having a lower melting point than the adjoining metal.



Repairing Cracks With Gap Filling Compounds



Parts are fitted with very narrow spacing so liquid filler material will automatically be drawn inside the spacing by capillary action