



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

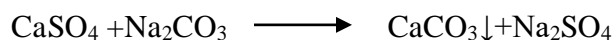


INTERNAL TREATMENT OF HARDWATER

Scale formation can be prevented by internal treatment that involve addition of chemical to the boiler water either to ppt the scale forming impurities in the form of sludge so that they can be removed by blow down method or to convert them into soluble compounds.

Colloidal conditioning: In low-pressure boilers, scale formation can be avoided by adding organic substances like kerosene, tannin, agar-agar (a gel), etc., which get coated over the scale forming precipitates, thereby forming loose deposits, which can easily be removed by blow-down operation.

Carbonate conditioning: In low pressure boilers scale formation can be avoided by adding sodium carbonate to boiler water

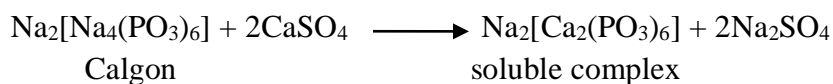


Calcium is precipitated as loose sludge of CaCO_3 which can be removed by blow down operation.

Phosphate Conditioning: Scale formation can be removed by adding sodium phosphate, which reacts with hardness of water and form soft sludge of Ca and Mg phosphates which can be removed by blow-down operation.



Calgon Conditioning: Calgon is sodium hexa meta phosphate, which can be used to covert CaSO_4 into soluble complex.



Since the complex is highly soluble there is no problem of sludge disposal.