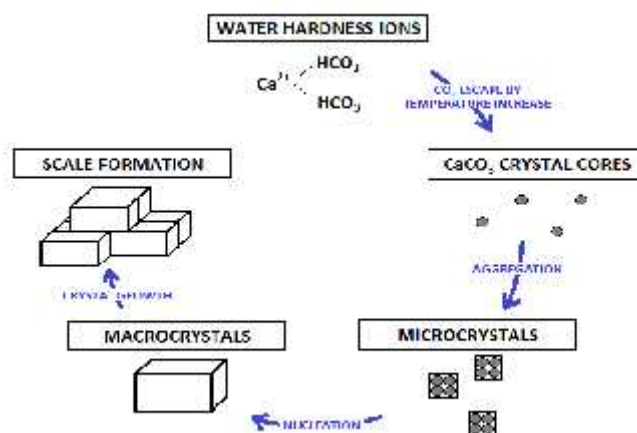


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	translation :	

Classic scale formation & prevention

Most of the supply water contains hardness ions from natural origin. This mineral content is called "temporary hardness" and is highly influenced by the temperature increase of the water leading to driving out CO_2 gas and crystal growth of the CaCO_3 (calcium carbonate) which is experienced as scale formation. The process involves a number of steps in which microcrystals nucleate to macrocrystals.



The classic scale prevention is the complete or partial removal of the water hardness ions calcium and magnesium by exchange with no scale forming sodium (water softening by ion exchange with salt).

Alternative method for scale prevention by TAC

By using a unique technique, water hardness ions are influenced to form nanometer-size crystal cores at the catalytic functioning surface of a special medium. During this process, there is no change of the chemical composition of the water with no addition of salt or discharge of rinse water. By this, the process is classified as "physical water treatment".

Template Assist Crystallization or TAC, makes use of a medium of polymeric beads with a catalytic surface in order to initiate the formation of the crystal cores. At the same time, the crystal cores produce microcrystals at localized sites, called templates. The microcrystals are in this stage not able to produce macrocrystals by further nucleation.

The catalytic function of the surface involves also that the medium is only playing a role as intermedium, and so that it is not consumed. Once the microcrystals are formed into template sizes, they are released and remain suspended in the water. They may settle down but they have no intention to grow further to macrocrystals or forming scale (hard to remove fixed crystal layers).

The medium will function independently of the mass of hardness (water volume x hardness) and only the necessary contact time should be respected : 4 gpm flow rate / L of medium. Catalytic surfaces loose their strength over time and so the medium must be replaced every 3 years of normal exposure.

