

Natural treated water

[Science](#), [Chemistry](#)



Natural/Treated Water

Natural/treated water Corrosion is the deterioration of material by reaction to its environment. The four conditions necessary for corrosion to take place are: there must be something that corrodes (anode), there must be continuous conductive liquid path, there must be a cathode and there must be a conductor to carry the flow of electrons from the anode to the cathode. The elimination of any of the above conditions will result to no corrosion.

Water corrosion

Water corrosion is one of the common types of corrosion. At normal atmospheric temperatures the moisture from the air is just enough to instigate corrosion. Therefore, a more comprehensive process has to be developed to limit or eliminate water corrosion.

Treatment process

The major factor in preventing water corrosion is to prevent the liquid from intruding into the insulation. As a result, the focus shifts to chemical methods of corrosion control. The chemical treatments are aimed at stabilizing the water, to form a protective film on the pipe surface or to kill problematic bacteria. The simplest form of controlling corrosion is through stabilizing the water. It involves adding of alkalinity in the form of lime, caustic soda or soda ash to stabilize the corrosive water. When used for stabilization, the chemicals should be fed after filtration to prevent cementing of the filter sand during, before or after chlorination. Apart from stabilization of the water, corrosion inhibitors are utilized to form thin protective films on pipe walls, thereby preventing corrosion. As much as the chemicals used might be expensive, this process is efficient for large scale corrosion prevention.

Glassy phosphate such as sodium hexametaphosphate or tetrasodium pyrophosphate is the most used chemicals during this process. The following is a typical water treatment process that prevents corrosion.

Work cited

Crittenden, John C. *Mwbs Water Treatment: Principles and Design*. Hoboken, N. J: John Wiley and Sons, 2012. Internet resource.