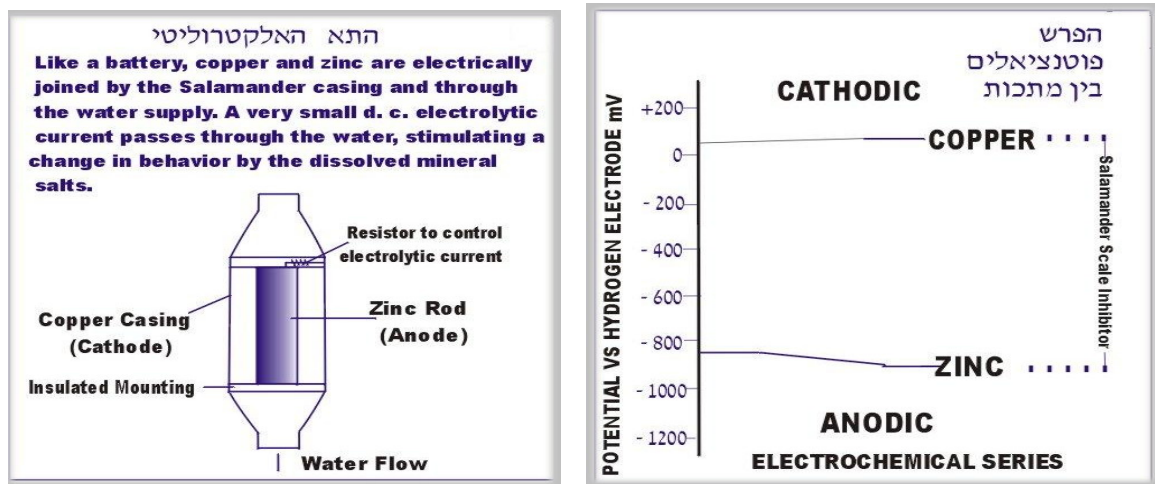


The Electrolytic Process

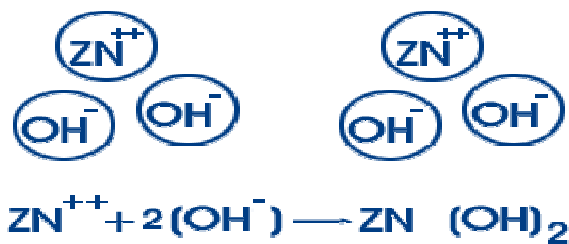
The AM.HILL work process

The AM.HILL is an electrolytic cell composed of zinc and copper (copper cathode and zinc anode).

The tension existing between the metals measures between 500–950 millivolts this difference in potential enables an ion exchange of zinc ions uniting with hydroxide ions in water—[see illustration](#).



In other words, AM.HILL acts as a battery emitting a tiny electrical current (measuring up to 5 milliamperes), leading to a process in which the crystallization structure of lime scale changes from a cubic structure (calcite) to a needle structure (aragonite). In this process zinc hydroxide, $Zn(OH)_2$, is formed, which is chemically similar to dried salt crystals.



The dissolved zinc diluted in the water is present in minimal quantities measuring up to ~0.4 milligrams per liter; the W.H.O standard allowable zinc level is 5 milligrams per liter.

- Because of the presence of zinc in the water, the change created in the crystallization structure of lime scale is lasting, with no limitations on effectiveness related to time or distance.
- The electrolytic process is operative under all flow conditions—low and variable, from '0' flow, up to the maximum adjusted flow for each diameter within a unit.



The change in the crystallization structure of lime scale produces the following results:

- A thin, protective solid layer of lime scale remains on the pipe and heating elements, with additional crystallization taking form as a suspension of brittle pieces and crust.
- Old lime scale in pipes and electrical appliances is worn away.
- Passive cathode protection within the pipe.
- A thin coating of zinc oxide (ZnO) forms in new and old galvanized pipes as a film that is not uniform in thickness, but is continuous and provides a protective layer.