



## **Electrical Grounding**

Electrical Grounding: defined as the electrical connection to earth. The direct contact with earth is usually a metal rod or stake driven into the soil connected to the electrical panel, sometimes it is a connection to buried pipe. The National Electric Code (NEC) requires the electrical system to be grounded and has always recognized metallic water pipes as one of the primary grounding electrodes. The resistance of the electrode-to-earth determines its quality. Electricity, like water, follows the path of least resistance. Water is not a good conductor of electricity but plastic plumbing materials are even more resistant.

Each time the metallic continuity of the pipe is interrupted, and a ground strap linking the two metallic ends is not installed, electricity may travel through water. This can allow electrolysis reactions to occur. Electrolysis may result in pinhole leaks in pipe, high copper levels in water and blue green staining. Installing a ground strap is recommended whenever the metallic continuity is interrupted for plumbing in any non-metallic water treatment equipment such as a sediment filter or water softener. A ground strap consists of two clamps and properly-sized copper wire.

In cases where there is non-metallic water service or lateral pipe and/or non-metallic interior piping, the grounding system should be maintained or updated by a licensed electrician. (NEC-section 250-50/250-52)