

Pool bonding



Although most devices, ladders, etc. in swimming-pools are made of stainless steel, oxidation is still possible. There are two important causes for corrosion:

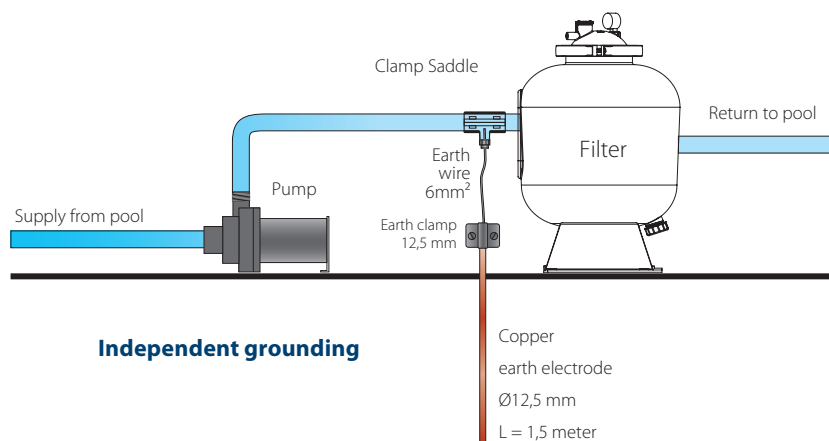
1. Insufficient grounding of pool water (pool bonding)
2. Corrosive water

Grounding

Every pool must be grounded independently (i.e. not to the electricity network). This in particular for fibreglass/ polyester pools, pools with salt electrolysis and pools with stainless steel parts (pool ladders, UV-C units, etc.). A special grounding set ensures that potential differences created by static electricity, will be lead away. This will prevent depositing and/or oxidation to the pool, parts or technical equipment.

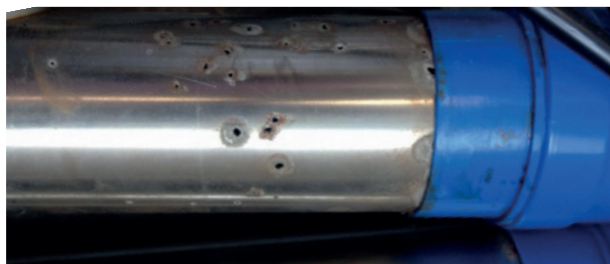
Salt

For Stainless steel 316 devices (such as UV-C lamps) the **maximum salt concentration is 5 grams/liter** for salt electrolysis systems.



Corrosive water

The tap water that is used to (re)fill up the pools normally has a constant and known composition. By adding chemical products for disinfection, pH regulation and by heating and moving the water, this composition changes. Pool water might turn corrosive (calcium dissolving) and can slowly dissolve the existing lime (in concrete and in joints between the tiles). Metals (ladders, heaters, UV-C devices, etc.) can also be affected.



Reversely, the water can also have calcium precipitating characteristics that can turn the water cloudy and the walls and floors can be covered by lime scale deposits.

To determine, whether the water is neutral, corrosive or calcium precipitating, you can use the so-called "Langelier Saturation Index". The Langelier saturation index (LSI) is a calculated number used to predict the calcium carbonate stability of water. It indicates whether the water will precipitate, dissolve or be in equilibrium with calcium carbonate. The LSI is expressed as the difference between the actual system pH and the saturation pH.

Examples of stainless steel 316L devices, which are damaged by corrosive water and/or grounding problems. These are no manufacturing or material faults, so they are not covered under warranty.