

# ZINC - NICKEL TREATMENT

Zinc coating is a process by which a zinc cover is applied on a metallic product to protect it against *galvanic corrosion*.

Corrosion occurs as a processed metal reverts back to its natural state. This process is known as oxidation. It cannot be stopped but it can be controlled by creating a barrier that isolates the base metal from electrolytes.

## TYPES OF CORROSION:

- **White corrosion:** oxidation of the zinc layer on a metal part
- **Red corrosion:** oxidation of the base metal of the plated part



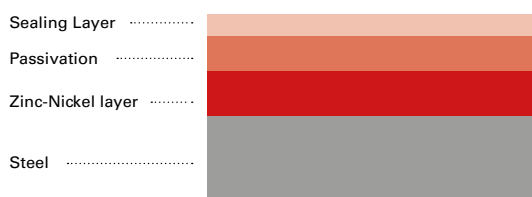
White corrosion



Red corrosion

The negative impacts of corrosion include:

- Threat to the integrity of the fluid conveyance system
- Risk of safety or failure of the system
- Costly downtime
- Early replacement cost
- Decreased equipment utilization
- Unpleasant aesthetic appearance



## NEW SOLUTION

We propose and apply on our fittings a layer of zinc-nickel, followed by a passivation free of chrome and sealing, further protection for the zinc-plated item.

The use of a sealing increases the resistance to corrosion of 48-96 hours to neutral salt test.

The zinc-nickel resistance to corrosion is a lot higher with regards to the layer of only zinc and this allows a more elevated protection of the fitting, improving it also in transport phase and in the assembling operations, where the coating can be damaged.

The endurance of the coating zinc-nickel based is up to 10 times more elevated with respect to a common zinc covering.



## RESISTANCE TESTS RESULTS

The fittings pictured on this page, some crimped and some not, underwent to resistance tests in standard salty fog. The photos refer to a test of **over 500 hours**.

The test results are more than satisfying. After more than 500 hours, we have noticed the white rust only on fitting which had not been crimped, while red rust appeared on the crimped fittings after 500 hours.



## THE MARKETS

The new zinc-nickel treatment is the right solution for the most demanded applications, including those in the following fields:

