



# ANTI-CORROSION TREATMENT FOR LIFELONG PERFORMANCE



**nDurance™**  
years ahead for paint quality and protection

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# PROTECTING YOUR INVESTMENT

A crane is constantly exposed to the elements of nature. Rain, dust, sand and sunlight are all unforgiving forces that wear on the crane all year around. To uphold the quality and performance of the crane year after year, it is absolutely crucial to provide it with an effective anti-corrosion surface protection.

This is why we have created nDurance. A technologically advanced and environmentally sound pre-treatment and paint process, based on nanotechnology combined with state-of-the-art e-coating and powder painting. With nDurance we can offer the industry's best hi-tech protection for your crane.

When you invest in a Hiab, Jonsered or Loglift crane, you're investing in high performance and superior quality over time. nDurance safeguards a long and cost-effective ownership with a good looking crane throughout its lifetime.

In this folder you can read about nDurance, how the process is structured and the advantages you get from having your crane protected by nDurance.



QUALITY



PERFORMANCE



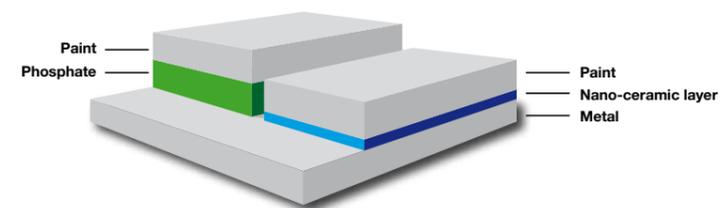
DURABILITY



**nDurance**

# NANOTECHNOLOGY COVERS IT ALL

The greatest benefit of using nanotechnology for anti-corrosion treatment is its ability to cover every square millimeter of the treated goods. As the word suggests the process works with the smallest elements imaginable, molecules and even atoms, to create a comprehensive and superior corrosion resistance.



## Letting organic chemistry do the job

The chemistry behind the nanotechnology is based on organo-silane polymers that react at room temperature creating an organic layer that is much thinner than a conventional phosphate crystal layer. The polymers are carefully selected due to their anti-corrosion and paint adhesion properties.

## Strong environmental profile

The nDurance process is 100% phosphate-free, thus replacing iron and zinc phosphate processes. It doesn't use any heavy metals and leaves basically no waste – resulting in an environmentally sound process with great savings on energy and water.

The backbone of the nDurance process consist of three different protective layers, each contributing to making your crane highly resistant to corrosion and the hardwearing environments that it is exposed to every day. Below the process is described step-by-step.



1. Nano pre-treatment



2. E-coating



3. Painting (powder coating)



Control & testing

### Step one

#### Nano pre-treatment

After thorough cleansing, degreasing and blasting of the metal parts, the first anti-corrosion layer is applied. This is conducted in a dip tank, creating an ultra thin, chrome-free, nano-ceramic shield that protects all surface areas, including cavities and areas that are usually difficult to access. The nano-ceramic shield occurs when hydroxyl groups react with each other on atom level to form a dense, cross-linked molecular network bound to the metal surface. This solid layer gives excellent corrosion resistance, and also work as foundation for the second protective layer.

### Step two

#### Lacquer polymer e-coating

Step two in the nDurance process is the application of the lacquer polymer coating using the latest technology in e-coating. The electrified paint bath makes the primer particles stick effectively to the nano-ceramic shield, ensuring improved corrosion resistance. The technique leaves no drip or sag marks and also increases film-thickness on edges with up to 100% compared to standard e-coating systems.

**Corners, holes, sharp edges**



**↑ 2,5 times extra thickness**

### Step three

#### Powder coating

The third step in the process is the powder coating, which is carried out in a strictly controlled environment. Most of the painting is automated, but some parts are made by hand. In the oven the powder paint turns into a hard and durable surface that features excellent protection and mechanical properties to cope in the harshest of working environments.

### Quality assurance

#### Control & testing

After the completion of the nDurance process, all parts are thoroughly controlled before going into the actual manufacturing of our cranes. Following Hiab Paint Standards we periodically also run tests in an external laboratory to verify the resistance to corrosion, adherence and permeation – all to secure the quality and performance of your crane for years to come.

# CREATING SUPERIOR CORROSION RESISTANCE



**nDurance™**



**Atlas Polar**  
IT'S ALL ABOUT QUALITY™

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