



PHARMA



FOOD



INOX
Passivation

SETTING THE NEW STANDARD FOR CHEMICAL CLEANING

CHEMICAL CLEANING - STAINLESS STEEL
Pre-commissioning & Maintenance

- » Passivation
- » Biofilm removal
- » Riboflavin testing/cleaning validation
- » Derouging
- » Oxygen Cleaning
- » Planned preventative maintenance

PARTNERSHIP FOR INNOVATION & SUSTAINABLE GROWTH

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PREFERRED SUPPLIER

We work with the ambition to set the new standard for project based chemical cleaning, causing the absolute minimal disturbance.

Excel with technical solutions

- » Thorough analysis to reduce risk
- » Comprehensive work preparation to perform effectively and efficiently
- » Dedicated state of the art equipment, chemistry and cleaning procedure

Culture beneficial to all stakeholders

- » Transparent project management and reporting to the client
- » The team is encouraged to participate in solving technical challenges
- » Responsible solutions for waste treatment to protect the environment

Continuous improvement of the QHSE system

- » Trained and certified staff
- » Procedures based on cGMP principles and ICH guidelines
- » Highest safety standards with verification of chemical removal
- » Full traceability with unique identification of all components

THOROUGH UNDERSTANDING OF YOUR BUSINESS AND QUICK RESPONSE.

STANDARD TREATMENT PROCEDURE

After determination of the metal composition and the contamination, our Standard Treatment Procedure (STP) is selected. Each STP is based on proven technology and leading standards such as ASTM and ASME-BPE, with documentation according to cGMP.

DEROUGING

Rouge is a form of corrosion found in high purity water/steam systems. We take each project on a case by case basis as it is rarely a situation where one solution fits all. We offer a range of dedicated products, from phosphoric acid-based blends and chelating organic acids to modern pH neutral chemicals that are friendly to your equipment and the environment.

OXYGEN CLEANING

Oxygen cleaning is a high-quality cleaning process used on equipment and pipework utilised in the handling, storage and transport of oxygen. We remove contaminants that could lead to a fire or explosion, such as hydrocarbon oils, greases, metal swarf, dust and lint.

PASSIVATION OF STAINLESS STEEL

Our core business and area of expertise is the passivation of stainless steel. Stainless steels get their corrosion resistant qualities from an extremely thin layer that covers the surface.

This is the chrome-oxide layer (or passive layer) and it forms spontaneously when the chromium within stainless steel is exposed to the oxygen in normal atmospheric conditions.

Chemical passivation is the process in which the stainless steel surface is exposed to (usually) an acid in order to remove any contamination and increase the chromium to iron ratio. This leaves the surface inert and in optimal condition for forming a dense chrome oxide-layer.

Depending upon the existing condition of your equipment, there may be a requirement for supplementary chemical cleaning processes.

For example: degreasing, pickling or derouging. These supporting processes are there to ensure the surface is free of contaminants to facilitate effective passivation.



**ROUGE
CONTAMINATION**



**AFTER
DEROUGING**



SSSTS

BIOFILM REMOVAL

Biofilms are usually found in water systems. If undetected and allowed to develop, they can become quite complex and difficult to remove. Apart from product contamination, they may also cause severe damage to your system, such as MIC.

RIBOFLAVIN TESTING

This is used to reveal any damaged, blocked, incorrectly specified or poorly positioned spray balls. To validate the effectivity of the coverage, a highly visible indicator is applied on the surfaces of the vessel. Then a standard cleaning cycle with water is carried out. The vessel surfaces are then inspected, using a U.V. light. If full coverage has been achieved, there should be no fluorescence during the inspection.

BESPOKE PROJECT-METHOD SELECTION

The design of the component will usually determine which method is used:

CIRCULATION

Fixed pipework and process equipment (vessels, heat-exchangers,...) can be circulated through. During the engineering, the system requirements dictate the detailed configuration of the temporary cleaning system.

IMMERSION

Typically smaller items are immersed. This a cost effective method.

SPRAY PICKLING

Items that are too large to be immersed can be sprayed.

Also it can be preferable to spray a small, complicated fabrication rather than to immerse it – where it is at risk of acid entrapment, formation of air-pockets and handling damage.

TANK CLEANING

For the cleaning of storage and production tanks, an internal spray method can be used. Typically a spray-ball, or high impact nozzles are used.

BRUSH PICKLING

Brush pickling is mostly used for the treatment of field welds and repair works. Although these kind of works are in the eyes qualified as simple work, strict safety and quality control is of the essence.

This requires a prudent approach with sufficient training and know-how.



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SIR
STICHTING INDUSTRIËLE REINIGING

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DE-CONTAMINATION

Due to contamination, the efficiency of your manufacturing process may reduce. Lime-scale or a build-up of your own products restrict the flow of your process. These substances can be removed with chemical cleaning.

PICKLING

We offer a pickling service for both carbon and stainless steel. Pickling is a chemical cleaning process in which a strong acid is used to remove scale (mill-scale and/or weld-heat-tint), rust and other contaminants.

WHAT WE DO

Our main focus is improving the life expectancy and efficiency of your equipment. We restore the corrosion resistance of metals and we remove contamination.

We offer project-based cleaning on-site with a flexible team of professionals and state of the art equipment. The correct assessment of your technical challenge and the engineering of a bespoke solution is the start of a successful project. We execute the cleaning procedure, based on proven technologies.

With our mobile system (pump, tank, hoses, etc.), we connect to your system and circulate a suitable chemical formula.

We are also skilled for manual cleaning such as brush pickling.

BIG OR SMALL WE LIKE TO DO IT ALL.

CUNIFER

This chemical treatment procedure improves the corrosion resistance of CuNiFer to increase the life expectancy, also in an aggressive atmosphere, such as seawater.

HYDROGEN PEROXIDE SERVICE

Similar to equipment used in enriched-oxygen service, hydrogen peroxide storage equipment should be very clean. Hydrogen peroxide is an unstable product and an incredibly small amount of contamination within your plant can result in it decomposing, causing a massive liberation of oxygen.

We have had extensive experience working with the leading peroxide manufacturers and are well conversed in their chemical cleaning requirements. As a minimum, thorough degreasing, passivation and stability testing will be required.





INDUSTRY



MARINE



MAAS
Technology Team

PROTECT YOUR INVESTMENT, MINIMISE DOWNTIME AND OPTIMISE YOUR PROCESS.

CHEMICAL TECHNICAL CLEANING

- » Decontamination/descaling
- » Pickling
- » CuNiFer Passivation
- » Microbial induced corrosion (MIC)
- » Immersion
- » Brush pickling
- » Circulation
- » Spray pickling
- » Heat exchanger service
- » Cooling water system service
- » Hydrogen peroxide service

CONTACT US IF YOU NEED ASSISTANCE WITH YOUR PROJECT

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