



OUR TAILORED SOLUTIONS FOR YOU

We are entirely committed – in the biochemicals industry and the pharmaceuticals sector. Our core competence: passivation of new systems, also derouging and repassivation of stainless systems. Our innovation: we offer you full service and tailored solutions in all matters relating to the removal of surface contamination. Including complete documentation.

Cleaning – new is not the same as clean

Dust, graphite and oil layers produce dirt during the installation of new systems. This contamination means that effective passivation is not possible and that expert cleaning is a basic requirement for any further operation.

We use pH-neutral chemicals in our cleaning. They do not attack stainless steel and can be disposed of environmentally sound. We fight harmful bacteria by taking away their breeding ground.

Passivation – a protective layer, rich in chromium oxide

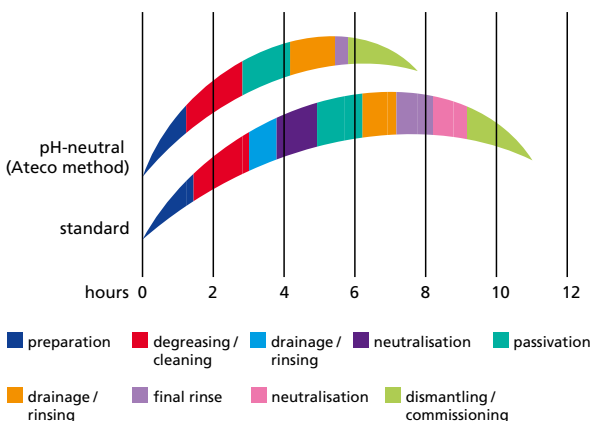
Besides iron, stainless steel alloys contain chromium, nickel, molybdenum and other constituents. Chromium in particular, when exposed to oxygen, forms a stable layer rich in chromium oxide that protects the system against rouging.



Chemical passivation can additionally strengthen this so-called passive layer, therefore providing an even more effective barrier to rouge.

Our recommendation: repeat cleaning, i.e. derouging, from time to time. This successfully counteracts the spread of rouge due to high temperatures, damaged surfaces or simply an extended service life.

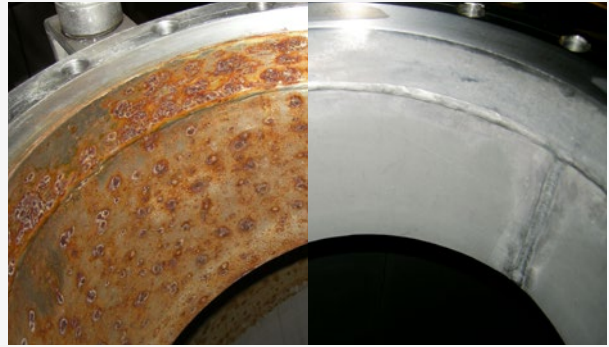
Timeline comparison of the cleaning and passivation procedures



Derouging – using pH-neutral derouging media.

Things need to move fast as soon as rouging is detected in a system. The rouge layer is removed chemically to prevent contamination of products and systems. This is handled pH-neutral using our patented proprietary product DIRUNEUTRA.

A medium is passed through the entire system in a closed cycle; this removes the iron oxide layer; subsequent repassivation then forms a protective chromium oxide layer.



Pickling – for tenacious contamination

In many cases the standard detergents are not up to the task when faced with tenacious contamination on stainless surfaces. Here, the pickling process strips the uppermost metal layer. Then an oxidation agent is used to passivate the surface once it has been cleaned and rinsed thoroughly with water.

Biofilms – stopping microbial contamination

A biofilm is a layer of slime in which microorganisms, bacteria, algae, fungi and protozoans (pathogens) are embedded. This organic growth develops wherever water comes into contact with hard surfaces. Microorganisms populate all border and contact surfaces between water and walls. They join to form extremely efficient communities; biofilm cells bond with biofilm cultures and therefore prevent run-off. However, removal is frequently difficult and time-consuming; but the cleaning procedure we have developed delivers ideal results.

Descaling – extending service lifespan

Lime secretions can affect lifespan and performance of a heat exchanger. As a consequence, a layer of lime forms on the metal surface and affects the transfer of heat. Only by carrying out regular chemical descaling can processes in systems be safeguarded. For this purpose we use specific combinations of acids adapted to suit the materials on which they are used.

Expertises – on-site inspections

As rouging specialist, we also conduct on-site inspections on behalf of our customers. Photos and swab samples are taken at selected inspection points. The results are recorded in a report, which also proposes possible measures. These reports are used as the basis for our rouge monitoring. It is easy to monitor a system's rouge development by conducting these inspections on an annual basis.



Safety – clean and verifiable

Chemical cleaning operations such as derouging and passivation produce waste water that requires professional disposal in accordance with the statutory provisions. Our full service includes the correct treatment and disposal of accumulated waste water as specified in the relevant safety regulations. The continuous documentation of our work, the use of precisely defined chemicals of proven provenance and the outstanding skill and experience of our employees mean we can guarantee operational success for any application you require – without disturbance of your systems.

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