



Pharma

Providing our services to
guarantee the quality of
your products.



The Passive Layer.

A pharmaceutical stainless steel surface requires an intact, homogeneous passive layer to ensure maximum functionality. This passive layer largely guarantees the stainless steel's resistance to corrosion. This, in turn, serves as a guarantee that the pharmaceutical medium will not become contaminated with corrosion products. This is why treating the surface of the material at hand is of critical importance in aseptic production areas in particular. Contamination of the medium or the pharmaceutical products with foreign particles should be avoided at all costs.

Expert electropolishing is the best method for achieving the desired surface state. Electropolishing optimises the surface in terms of

- | Topography
- | Morphology
- | Energy level / energetic potential

We have over 30 years of experience in processing pharmaceutical stainless steel surfaces and apply our expertise to all of your components, systems and installations.

Electropolishing.

We electropolish tubes, moulded parts, tanks, recuperator devices and more. Technical details are provided below:

- | DIN, ISO and imperial tube dimension ranges (from an internal diameter of 2 mm)
- | Tube lengths up to 18 metres (including U-tubes)
- | Tanks up to 150 m³ in volume
- | On-site electropolishing for tanks is available
- | Materials 1.4404, 1.4435, 1.4539, Hastelloy®, etc.
- | Surface roughness up to Ra 0.2 µm
- | Pharmaceutically compliant processing documentation

Request our EP flyer
now.

Passivation.

Before putting new systems into operation for the first time, passivation is recommended in order to achieve the best possible surface area ratio. In addition, the process flushes out impurities and contaminants that accumulate during the installation of the system.

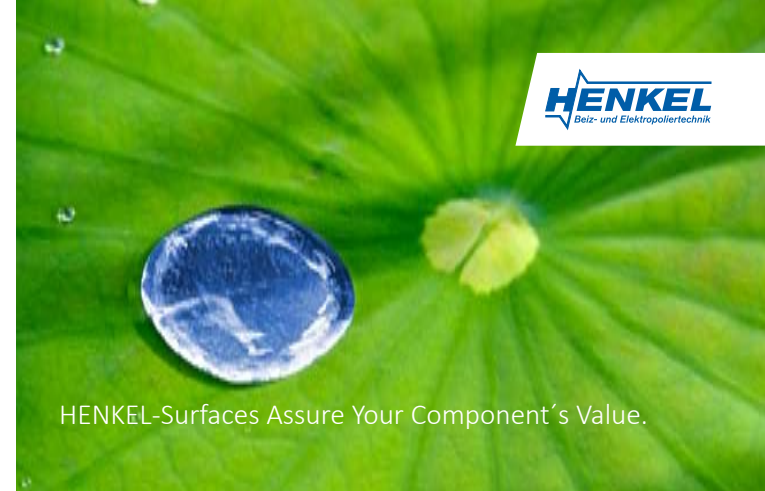
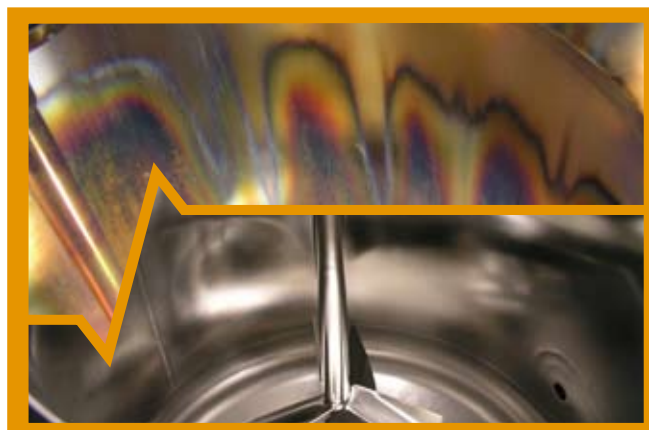
Our services include:

- | Plant/system inspection
- | Preliminary cleaning (degreasing)
- | Wet-chemical passivation
- | Chemicals produced in accordance with GMP
- | Documentation of processes in accordance with GMP
- | Expert processing of waste chemicals and chemical solutions / water used for rinsing

Derouging and Repassivation.

The use of ultrapure water or pure steam as media in stainless steel systems leads to rouge coatings inside the systems due to various thermodynamic / chemical processes. The failure to remove these coatings in good time may mean that the established specification goal of being „visually clean“ can no longer be achieved, thereby causing the pharmaceutical medium to become contaminated. Another consequence is that the coatings can be carried over into the production systems. As a result, the patches of rouge have to be removed from the entire system, which is expensive and highly time-consuming. It is therefore recommended to remove these rouge coatings in good time and at regular intervals.

Pharmaceutical tank before and after derouging treatment by HENKEL.



HENKEL
Beiz- und Elektropoliertechnik

HENKEL-Surfaces Assure Your Component's Value.

Our Service Range.

- | On-site and factory service
- | Electrochemical polishing
- | Anodic cleaning
- | Chemical polishing / deburring
- | Chemical pickling and passivation
- | Professional cleaning (also in clean room)
- | Derouging and repassivation
- | Process and cleaning chemicals
- | Documentation
- | Construction



HENKEL Beiz- und Elektropoliertechnik

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Electrochemical Derouging.

For removing coatings and scratches, surfaces can be chemically derouged as well as anodically or electrochemically cleaned. Both processes are effective, but differ in terms of processing time and the final result. The anodic process (similar to electropolishing) usually improves the surface considerably, as not only the coatings but also material in the micrometre range are removed from the surface (5-10 XXXm). This results in a so-called micro-smoothing of the surface, which, among other things, greatly reduces the tendency to form coatings. A further advantage is the significantly reduced use of chemicals.

Electrochemical derouging can be used with almost all container sizes. Only piping systems cannot be processed with this procedure.



Materials.

Every material has particular characteristics. The composition of the metallic alloy has a considerable effect on the further treatment of the surface. The HENKEL processes referred to above support the following materials, amongst others:

Stainless steels (1.4301/304L, 1.4435/1.4404/316L, 1.4539/904L, etc.), duplex steels (e.g. 1.4462), nickel and nickel alloys (alloy 59, Hastelloy®, Inconel®, etc.), aluminium, copper, niobium, titanium and titanium alloys (incl. nitinol), zirconium, tantalum, other materials on request.

Components.

There are next to no limits when it comes to chemical and electrochemical processing. In essence, the geometry of the component is decisive in terms of how it can be processed. Practical examples include:

Tubes, moulded parts, special parts, heat exchanger tubes / plates, valves, pumps, storage tanks, mixing and batch tanks, cryostats, fermenters, agitators and fixtures, reactors, apparatus, plant systems and much more.

Your Benefits.

Working together with HENKEL offers many advantages for you and your products:

- | Over 30 years of experience in processing pharmaceutical surfaces
- | A method tailored to your product
- | Cost-efficient on-site processing is possible
- | Component/surface inspection through extensive quality assurance
- | All-in-one supplementary services, including pickling, anodic cleaning, final cleaning in the clean room, customer-specific labelling and packaging, etc.
- | Adherence to delivery dates and order processing



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