

# Automotive Industry

Our services for  
mobile perfection.



## Stainless Steel in Vehicle Manufacture.

Stainless steel has surprising properties, which offer interesting extra values also for the automotive industry. These properties depend on the composition of the alloys. The key properties are:

- \* Optimum price-performance ratio
- \* High corrosion resistance
- \* Favourable cutting and milling processing properties
- \* Optimal rations in connection with mechanical strength and weight properties
- \* Stable availability in addition to constant quality
- \* 100 % recyclable

The functionality of both, optics and material (corrosion resistance, cleaning etc.), can be significantly improved through professional surface treatment.



### Functionality.

All parts must fit the >> automotive << end product and perform their own function in accordance with the specification. However, the functionality of the whole set of parts can be negatively affected by both, environmental impacts and the production process. These include maritime transport of the parts in corrosive atmospheres, contaminations with particles, oils and greases related to the manufacture or cutting burrs.

Before the use of these parts at their final destination, it is not

only advisable but essential to perform professional surface treatment.

The chemical and e-chemical HENKEL procedures provide for the care of the component and the increase of its value. Corrosion layers, foreign particles and remnants will be removed depending on the task to be performed. Therefore the lifetime of the parts increases, and their processing becomes easier so that each part can optimally perform its function.

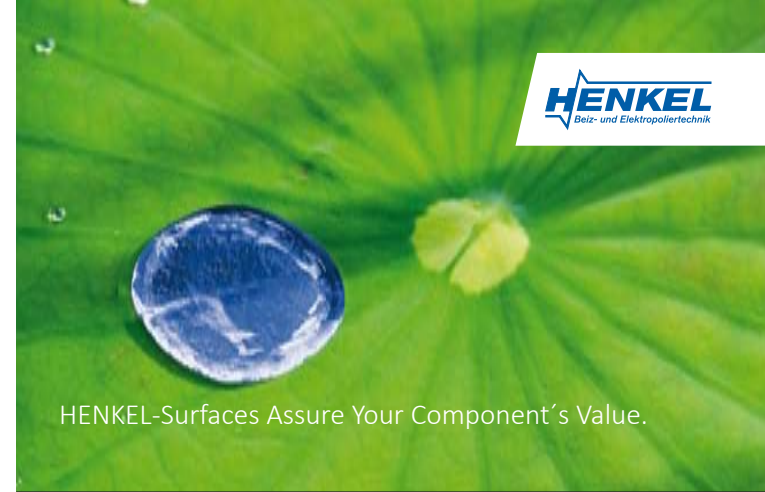


### Design.

„Form Follows Function“ (FFF), this long known design principle exists also in automotive industry. The increase of efficiency and efficacy is only one of the many factors. Due to the processing of metal surfaces a set of interesting design aspects can be achieved, which improve also the functionality. However, FFF can be interpreted reversely: „Function Follows Form“

### Grit Blasting.

We also have a modern grit blasting automatic unit which is intended to clean parts, remove burrs and mat parts. The gentle processing using glass beads provides mat finish on the metal surfaces. If necessary, grease is removed in advance from the parts and/or the parts are pickled for the most perfect end result.



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 Elektropolieretechnik**

Waidhofen-Thaya (AT) | Győr (HU) | Neustadt-Glewe (DE)

info@henkel-epol.com | www.henkel-epol.com

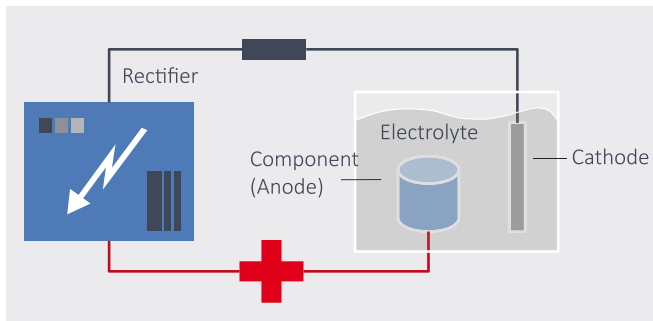


## Electropolishing.

Electrochemical surface treatment - a HENKEL speciality - is another possibility for a creative finish. In particular, a combination of grit blasting and electropolishing results in a quite special light effect. In addition, the electropolished surfaces have the following properties:

- \* Smooth and bright surfaces
- \* High corrosion resistance
- \* Optimal cleaning
- \* Deburring in the micro and macro ranges
- \* Optimal welding and soldering
- \* Etc.

Under the influence of continuous current, metal is removed of the anodically contacted component within an electrolyte.



## Colouring.

A passive layer is a unique property of stainless steel which protects it against corrosion as a protective layer. This layer can be built by using the HENKEL interference technique. In that case the initial material is coloured as a result of the interference effect depending on the final layer thickness. No application of paints or pigments is necessary, and therefore a fading or the optical cover of the special stainless steel is excluded.

## Materials.

Each material has its own properties. The composition of the metal alloy significantly affects further surface treatment. The above mentioned HENKEL procedures support the following materials, among others:

*Stainless steels (e.g. 1.4301, 1.4404/1.4435/316L, 1.4571, 1.4539/904L etc.), duplex stainless steels (1.4462 etc.), nickel and nickel alloys (e.g. Alloy 59, Hastelloy®, Inconel®), aluminium, titanium and titanium alloys.*

## Components.

Mechanical, chemical and electrochemical processing is limited only by very few aspects. Essentially the components geometry is a key factor for the processing. Examples of the operational practise are:

*Body components, motor components (internal and external), decorative battens, exhaust end mufflers, underdrive and collision protection mechanisms, cover frames, profiles, special parts, various (internal and external) design elements etc.*



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