



# STI Surface Center Germany

English

Surface solutions by **STI Group**



# Functional surface solutions



Your and your customers' components have to function reliably, work cost-effectively and must be flexibly available. "Surfaced by STI Group" is the quality mark of surface technology that is designed to make your products more functional and successful.

## Flexible and close to our customers

The STI Surface Center in Sternenfels-Diefenbach (DE) has been equipped with state-of-the-art coating machinery and has been designed to produce top surface quality for one-off components and serial production parts.

In our 18,000 m<sup>2</sup> large facility we can process small and medium-sized components measuring up to 1,200 mm in diameter and 4,500 mm in length. We give your components the desired properties and functionalities: from wear and corrosion protection through to the specified shape and position tolerances.

## Environmental management to ISO 14001

STI Group's high-quality surface-coated products are produced with tried-and-tested processes in which environmental protection plays an important role. We focus on staff training with a view to careful use of resources, as well as optimised use of energy, low wastewater and air emissions and the protection of the environment. The STI Surface Center in Sternenfels-Diefenbach complies with international ISO 14001 standards for environmental certification as well as the ISO 9001 standard for quality management.



**STI Group** Surface solutions worldwide.

STI SURFACE CENTER GERMANY

# Quality and precision

STI Group offers a comprehensive range of services to produce customised, reproducible surface treatment solutions of top quality and cost-effectiveness.

## Hard chrome

Hard chrome surface treatment offers the advantage that simple, unalloyed steel can be coated rather than highly alloyed steels. Hard chrome surface treatment is used in all applications where a very hard surface is required without loss of material, coupled with low wear, minimal adhesion and good corrosion resistance properties.

Our production line for hard chrome surfacing and electropolishing screen baskets has been developed to comply with top quality functional and cost-effectiveness requirements. We are able to accurately comply with individually specified tolerances.

## Electroless nickel coating

Electroless nickel coating produces surfaces with excellent corrosion resistance. It does not contain toxic heavy metals, is X-ray-amorphous, homogenous and free from pores. It is used for complex components and expensive base materials that have to be surface-coated true to size and contours. Our plant in Sternenfels-Diefenbach boasts one of the largest automatic electroless nickel coating installations in Europe.

## Mechanical processing

Thanks to its state-of-the-art processes, the STI Surface Center supplies components that have been ground and polished to a very high precision and are ready for installation. Likewise, compliance with very exacting shape and position tolerances is part of our service spectrum.

## Teikuro Hartchrom

The Hartchrom Teikuro process offers a unique hard chrome technology for deep-drawing, forming and cutting tools used in the automotive industry. The surface protects the shape of the tool and prevents any adverse effects from friction and reduces maintenance and substantially increases the reliability of processes.



# Strong partnerships

With its wide technology spectrum and modern infrastructure, STI Group undertakes surface treatment of components for the paper & print, film & foil, textile, food, aviation and automotive industries as well as for engine construction, shipping, general mechanical and plant engineering and defence technology.



## Surface technologies for your applications

Treatments*	Capacity	Characteristics
Hard chrome	Ø up to 1,200 mm length up to 4,500 mm weight up to 5,000 kg	Excellent hardness (up to 1,100 HV), excellent wear protection, good corrosion protection, minimal adhesion properties, low co-efficient of friction, no distortion of the base material
Electroless nickel Nitrag®	Ø up to 600 mm length up to 2,500 mm weight up to 2,000 kg	Surface coating of components with complex shapes, true to size and contours, X-ray amorphous, non-magnetic layer, excellent ductility, good corrosion protection, phosphor content in weight % up to 12, hardness up to approx. 550 HV, possible up to 1'000 HV with heat treatment, coating free from pores, suitable for foodstuffs, meets the requirements of EN ISO 4527, RAL-RG 660, Mil-C-26074B and AMS 2404B
Hard nickel Microdur®	Ø up to 600 mm length up to 2,500 mm weight up to 2,000 kg	Surface coating of components with complex shapes, true to size and contours, excellent hardness (approx. 750 HV without heat treatment), coating free from pores, excellent wear protection, ferro-magnetic, phosphor content weight % up to 4
Nickel chrome	Ø up to 600 mm length up to 2,500 mm weight up to 2,000 kg	Combination of the wear-resistant chrome layer and the corrosion-resistant nickel layer
Cylindrical grinding and polishing	Ø up to 1,200 mm length up to 4,000 mm weight up to 5,000 kg	Concentricity < 0.002 mm, cylindricity < 0.003 mm, parallelism < 0.003 mm, roughness Rmax < 0.1 µm
Hartchrom Teikuro Prozess (Spezialverfahren)	L x B x H 5,000 x 2,700 x 1,500 mm weight up to 25,000 kg	Excellent hardness (up to 1'100 HV), extremely smooth coating with low friction, excellent wear protection

Base materials suitable for surface coating: steel, stainless steel, cast, non-ferrous metal, light-weight metal and others.

\* Larger component sizes and other processes on request or visit [www.sti-surface.com](http://www.sti-surface.com)

# STI Group Factors of Success

Individual Solutions	STI Group offers you individual overall solutions – from comprehensive analyses and consulting, development and innovation to the actual treatment process, mechanical processing, the final quality check and transport.
Industrial Areas	Automotive, Aviation, Defense Technology, Film, Foil, Food, General Industries, Hydraulics, Marine & Powertrain, Paper, Power Generation, Print, Textile, Tools etc.
Range of technologies	Hard chrome (including Triplex, structural chrome and Nanochrom), electroless nickel, galvanic nickel, hybrid layers, dispersion layers, thermal spraying (HVOF, plasma, wire flame spraying), Dry Coating (plasma nitriding, PVD, PACVD), painting, grinding, polishing, milling, turning, boring. Various special processes are available on request.
Quality and Precision	STI Group surface treatments stand for precision, functionality and quality. STI Group guarantees the required process safety to achieve the narrowest tolerance ranges and create tailor-made, reproducible surfaces.
S to XXL Components	STI Group develops innovative, tailor-made surface solutions for components up to 6,000 mm in diameter, 27,000 mm in length and 64 tons weight.
Complex Geometries	One of the core competencies of STI Group is the coating of components with complex geometries. STI freeform surfaces are renowned for their optimized characteristics, the highest level of quality and reproducibility.
Single Parts and Series	STI Group is your specialist for custom-designed surfaces, both for individual parts and series. Know-how, experience and modern infrastructure guarantee optimum results.
Research & Development	STI Group carries out systematic application-oriented and pure research and development. Our focus is on high-performance, individually optimized surface solutions for you and your success.

[www.sti-surface.com](http://www.sti-surface.com)



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