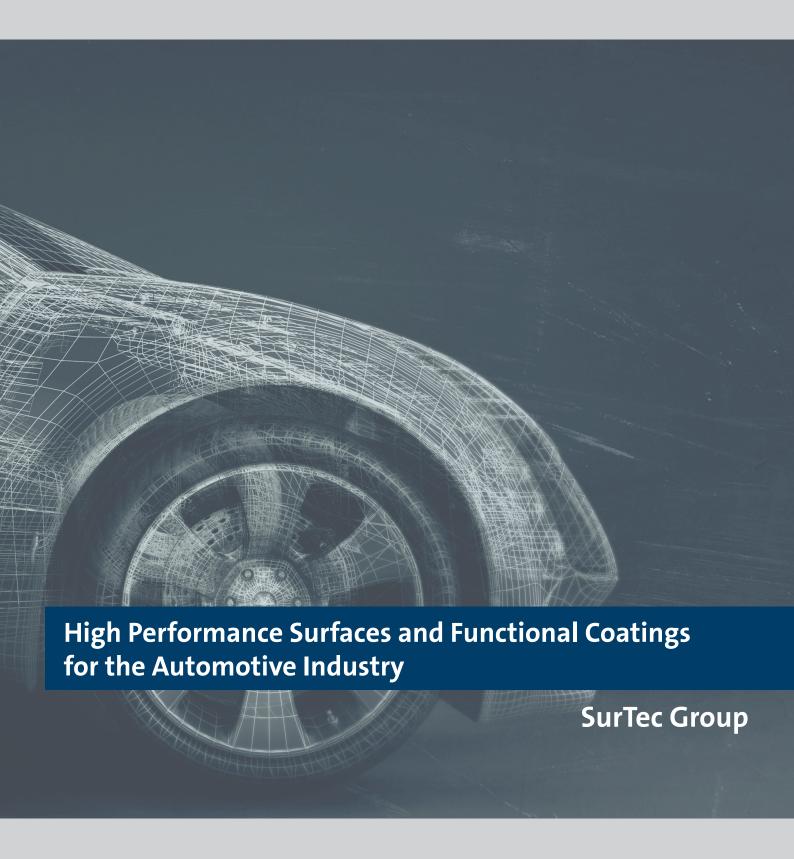
Protection upgraded







Innovating Together at the Freudenberg Group

Internal combustion engines, hybrid technologies, fuel cells, pure electric vehicles and autonomous driving – getting from A to B by passenger car has never been so diverse. The Freudenberg Group, a global technology group with 50,000 innovators, has its finger on the pulse of change and continues to pioneer mobility concepts of tomorrow. These innovative solutions stretch beyond electric mobility.

As a part of the Freudenberg Group, SurTec contributes to progressive technologies by providing surface treatment chemical specialities tailor-made for the automotive industry. Together with customers, partners and sister companies we strive for the optimum solution.

From cleaning technologies throughout the manufacturing process, to high performance, light metal corrosion protection, functional coatings, and to state-of-the-art quality decorative chrome plating for interior and exterior design, SurTec is your global partner assuring the success of your project.



Sustainable Technologies

Since our company founding in 1993, we were already committed to the development of environmentally friendly processes, a philosophy unchanged to this day. Furthermore – in all our decisions we pay special attention to sustainability, matching business activities to the smallest possible environmental impact.

Our strategic aim is to provide innovative solutions that enable our customers to achieve their goals with minimal impact on natural resources.



Custom-made Chemical Specialities for Surface Treatment

SurTec develops, manufactures and supplies solutions for Industrial Parts Cleaning, Metal Pre-treatment, Functional Coatings, Decorative and Functional Electroplating. Our products and process solutions meet complex specifications and the highest requirements of our global

With our in house formulations we are an industry pioneer. Dedicated customer collaboration, high Research & Development intensity and decades of valued expertise within our global expert team keep us relevant and cutting edge.









E-Mobility

Key Corrosion Protection Technologies for Battery Systems

SurTec is the preferred partner to the Automotive industry from design stage, prototype conception to final high-volume manufacture. Choosing the right surface treatment technology enables state-of-the-art light weight battery housings with reliable and durable lifespans.

The power brand 'SurTec 650' is the chromium(III) benchmark pre-treatment technology at leading OEMs and Tiers. Available from qualified applicators in all relevant markets.

Are You Qualified Yet?

Together with leading OEMs from the Automotive as well as Electronics and Aerospace industries, SurTec has developed a process that allows applicators of **SurTec 650** to qualify for a specific requirement. The resulting qualification gives the end customer or OEM an indication of the process suitability of a **SurTec 650** coater for a defined requirement. A list of Qualified Applicators can be found on the SurTec website.



Let's Stick Together!

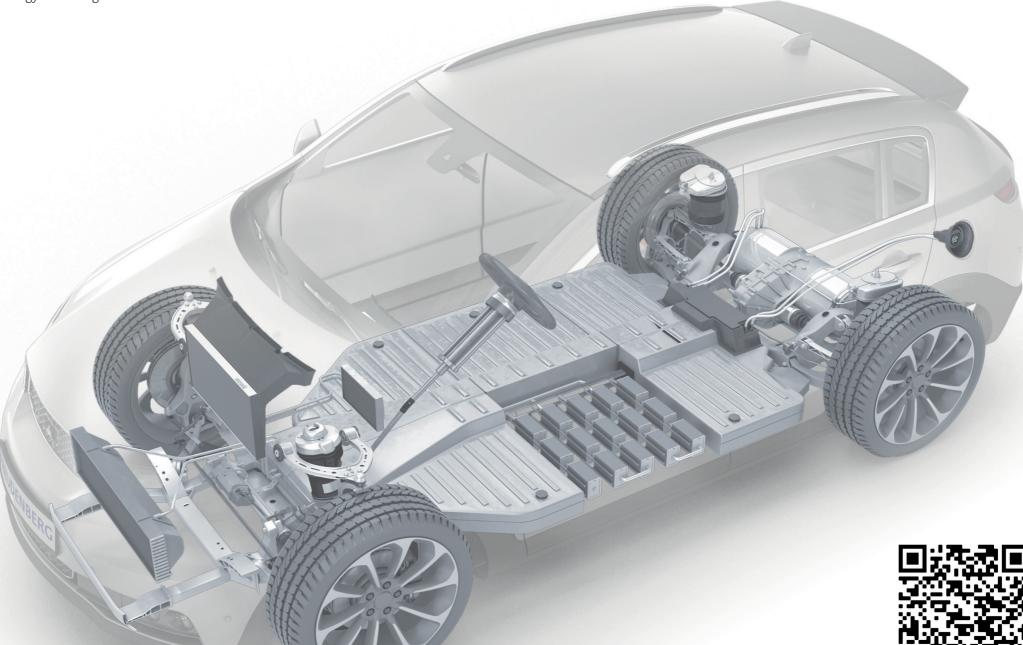
SurTec 650 treatment also includes a high-performance cleaning and a desmutting step which ensures an homogeneous surface, ready for subsequent joining processes including adhesive bonding and welding. Due to this surface conditioning, it is possible to process aluminium parts also long after they have been treated with SurTec 650. This gives customers greater flexibility in their production processes and in the procurement of parts as well as independence from locations, storage and transport times.

Corrosion Protection for Electrical Powertrains

SurTec 650 in combination with a gasket optimally prevents corrosive seal creepage of moisture into a battery compartment and ensures low electrical contact resistance. The technology also provides electromagnetic compatibility (EMC) and is hence the perfect solution for surface treatment of e.g. battery pack housings and Electronic Control Unit (ECU) housings. Due to its best-in-class bare metal corrosion protection, additional e-coating applications of the battery housing could be considered redundant.







Functional Coatings

Complete Coating Solutions for Technical Applications

Through strategic acquisitions of omniTECHNIK Mikroverkapselungs GmbH, precote® USA, and the anti-friction coatings from OKS Spezialschmierstoffe and Klüber Lubrication, SurTec has strengthened its ability to provide advanced coating solutions tailored specifically for the automotive industry. The precote® products offer reliable locking, sealing, and clamping functions, making them essential for high-performance automotive applications.

Engineers need minimum one of the following functional coatings

Anti friction

Reduce stick-slip ■ Wear resistance



Your Single Source Partner for High-Performance Coatings

Working with SurTec means streamlining your process and eliminating the hassle of coordinating with multiple suppliers. As specialists in functional coatings, we combine expertise in the coating and finishing segment of metals (especially fasteners such as screws, etc.) and plastics. With SurTec, you receive a go-to expert for essential fastener functions. By partnering with us, you save time, reduce costs, and receive world-class service with guaranteed quality. SurTec is your single-source for reliable, high-performance coatings for every automotive fastener application.

Product Highlights

We provide a complete range of coating solutions under one roof, from corrosion protection to thread locking, sealing, and friction control. Our comprehensive portfolio, including SurTec 717 and SurTec 556 RT for corrosion resistance, SurTec Coat for friction control, and precote® 85 and precote® 15 for locking and sealing, ensures compatibility and top performance.



Functional Coatings

Comprehensive Product Portfolio from Locking & Sealing

to Dry Lubrication

The SurTec Group is a trusted single-source partner for the global automotive industry, offering specialized technical consulting and a comprehensive product portfolio designed to meet every coating function, from fasteners and O-rings to solenoid switches.

Screw locking

World's leading high strength microencapsulated screw locking product. Retention of the preload over life. Screws for interior, engine, battery pack, car chassis

Possible Coatings

- ▶ precote® 30
- ▶ precote® 85



Wear resistance

wear resistance & smooth running

Resistance against wear is the damaging, gradual removal or deformation of material at solid surfaces e.g. on Sliding bearings

Possible Coatings:

- ► Klübertop TM 09-321
- ► Unimoly C 220

Friction reducing for assembly

- e.g. reduces COF for on self tapping screws in safety belts systems
- e.g. reduces friction for O-ring assembly

Possible coatings:

- ► Anti Friction Coatings: Klüberflex 300-0 N
- ► Wax Coatings: precote® Top 300

Rattle & squeaking reducing

avoids unwanted noises → it is primarily an issue of quality perception, e.g. on door sealings

Possible coatings

- ► Klübertop TP 18-810 N
- ► Klübertop TP 22-1310 N

Sealing

Coating used for thread and under-head sealing. Prevent of leakage of gases and/or liquids e.g. screws for battery pack

Possible Coatings

- ▶ precote° 15
- ▶ precote® 200





Design Elements

From Firn to Ice

SurTec's advanced satin technology **SurTec 851** enables semi-gloss and non-reflecting nickel coatings with an xtremely even and diverse set of finishes ranging from subtle satin to grunge matt. Its robust additive system prevents pores, black spots and rapid agglomerations.

SurTec 851 meets all colour requirements of OEMs:

- VW Group 3Q7
- Porsche Galvano Silver 09
- BMW Pearl Gloss
- PSA HDX-M018
- Daimler Silver Shadow
- and many more



Trivalent Chromium Processes with the broadest Range of Colours and Tones

SurTec is a leader in the development of chromium(VI) replacements. With 25 years of expertise, recognised as a leader in this field, our novel high-quality technologies continue to evolve with the market. **SurTec 883 XT** is the original proprietary formulation achieving identical colour values to standard chromium(VI) and hence perfectly suited for automotive applications, where exact colour matches are required.

In addition, the SurTec 88X-family covers a comprehensive palette of aesthetically appealing chrome colours ranging from blue bright to deep dark.



Product Highlights

100% Chromium(VI) Replacement: **SurTec 883 XT**

Exclusive Satin Nickel Finish:

SurTec 851

Dark 'blue' Chromium:

SurTec 886







Our Favourite Colour is Chrome!

SurTec 883 XT consistently achieves identical colour values as established chromium(VI) processes comparable to chromium(VI):

L = 83 to 85

a = -0.5 to -0.8

b = -0.5 to -1.5



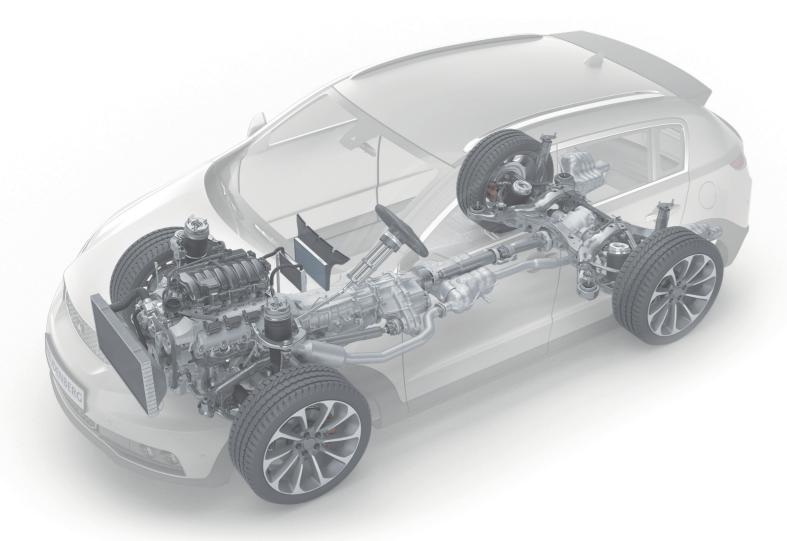


Driving in the Dark

SurTec 886 provides a reproducible, even and consistent dark, blue colour. Due to its high deposition rate a minimal number of process cycles is required. In addition, the surface shows impressively high corrosion protection results meeting industry standards.

L = 60 to 64 | a = -0.2 to 0.2 | b = 1.0 to 1.5

Components Solutions



Product Highlights

Alkaline Zinc/Nickel Process: **SurTec 717**

Alkaline Zinc Process: **SurTec 704**

Bright Acid Zinc Process:

SurTec 758 BC

Low-Temperature Chromiting: **SurTec 688**

Enabling Reliable Drive Technologies

Battery, hydrogen cell or something new? No matter what the future of vehicle drive systems, SurTec is ready to support in the successful implementation of future-oriented projects.

Meanwhile, we ensure that every single screw and fastener reliably does what it's supposed to do: holding the vehicle together. Sounds simple but resisting high temperatures and other environmental impacts requires robust surface finishing. Every component – whether small or large – has to be protected against corrosion to guarantee passenger safety and long vehicle life.



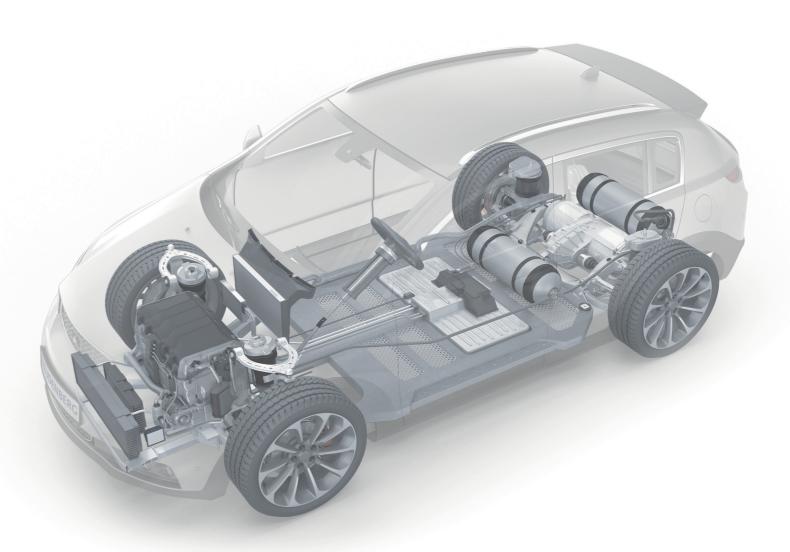
Pushing Sustainability

SurTec's Low-Temperature Chromiting process **SurTec 688** supports the applicator in reducing his environmental footprint and increases productivity. **SurTec 688** leads to a significant reduction in energy consumption, reduces necessary exhaust capacities and increases output and capacity by a long bath life. It produces a clear and only slightly iridescent passivation layer with a good corrosion protection and attractive appearance even without sealing.



Don't Stress

Cathodic corrosion protection with zinc/nickel is the method of choice when it comes to corrosion protection for heavily stressed vehicle parts. The modular system **SurTec 717** has a proven track record exceeding 10 years in the surface treatment industry. The process is characterised by an outstanding metal distribution and a permanently high current efficient operation. Due to the extraordinarily stable electrolyte, extremely long service life is achieved.



Components Solutions



Imperceptible yet Essential

It takes more than 10,000 parts to build a modern car. From the smallest and invisible screws to the more obvious, large body panels. Every single component plays its part in the big picture – the final, smoothly functioning and safe car.

It is indispensable to make sure even the smallest parts are high-quality and fulfil the highest demands. With Industrial Parts Cleaning and Metal Pre-treatment technologies by SurTec the focus is set on preparing car components for their important future tasks.

It's Getting Hot In Here!

Whether it is cleaning prior to or after heat treatment or prior to welding steps — **SurTec 042** is an easy to handle, yet powerful cleaner for steel and its alloys.





Keeping Everything Under Control

When it comes to cleaning of Aluminium, e.g. cooling plates for thermal control of car batteries, **SurTec 102 FL** delivers strong performance with close-to-zero cleaner residues after rinsing.



Anything But Average

Cold formed parts are needed for all types of power supply. **SurTec 199 P** is the solution for reliable dephosphating processes. Due to the absence of hard complexing agents it simplifies waste water treatment and significantly increases bath life time compared to standard caustic dephosphating.



The Perfect Match

Increase the efficiency of your phosphating process with tailor-made solutions from SurTec: **SurTec 617 F** is the perfect choice when it comes to the preparation of your car components prior to e-coat. It's the industry standard for tri-cationic zinc phosphating. Sustainability and Process Cost Optimization were the driving forces to launch the highly innovative modular Zn-Phosphating approach. By taking care about the entire value chain SurTec identifies saving potentials not only in the chemical stream, but also by minimizing energy and water consumption as well as maximum throughput. And on top, modular Zn-Phosphating processes ensures high end performance of Zn-Phosphating operation no matter if prior E-coat or powder coat.



Setting the Course

Car components need optimal pre-treatment for subsequent sealing, bonding and painting processes. The etch passivation for Aluminium, **SurTec 641**, convinces with optimal Zr-optics without stains or marks and easy bath maintenance.



More Versatile Than Ever Before

SurTec 168 LT is an alkaline builder cleaner for multi-metal applications with the option for low temperature operation. It can be applied at temperatures of 60°C, but also at low temperatures down to 30°C. It can have a demulsifying or emulsifying effect and makes spray applications possible depending on the accompanying surfactant blend.

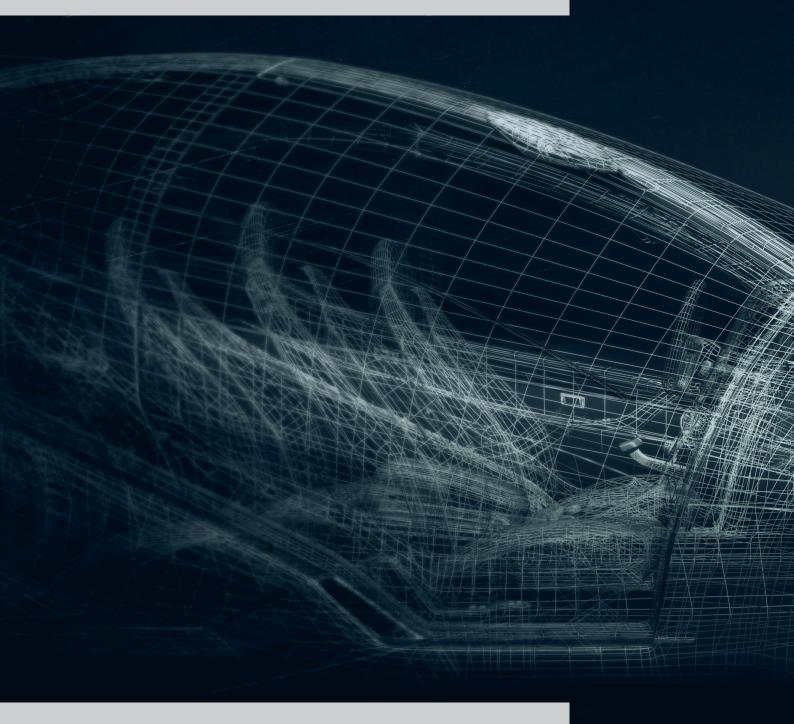


They See Me Rollin

Aluminium wheels have to meet the highest demands of car manufacturers in terms of corrosion and weather resistance. SurTec has developed the innovative technology **SurTec 644**, a process which not only fulfils all quality requirements – even for machine faced wheels - but also offers the wheel manufacturer the possibility to realise significant cost advantages by reduced energy in the cleaning stage and reducing maintenance efforts in all process steps.

Your Reliable Partner for Global Megatrends

With its globally active team of specialists, SurTec develops highly innovative technologies for surface treatment specifically tailored to the needs and requirements of the Automotive industry. As a design partner, we are at your side from project conception to successful realisation of local and global projects.





Get in contact with us!

Dr. Jens Krömer Director Global Sales & Markets

E-Mail: Jens.Kroemer@SurTec.com Tel.: +49 (0)173 303 79 40

For more products and information, see www.SurTec.com





