



Protection upgraded

Chromium(VI)-free Decorative Electroplating

SurTec Group



a brand of
 FREUDENBERG

Decades of Experience in Chromium(VI) Replacement at SurTec

SurTec is a world leader in the replacement of hexavalent chromium for Decorative Electroplating and has done pioneering work in this field. Trivalent chromium technologies from SurTec were the first to be brought to market maturity and have established themselves as standard processes in many areas of electroplating technology.



more than **25 years** of excellent expertise in product development

Custom-made Chemical Specialities for Surface Treatment

SurTec develops, manufactures and supplies solutions for Industrial Parts Cleaning, Metal Pre-treatment, Functional and Decorative Electroplating. Our products and process solutions meet complex specifications and highest requirements of our global customers. Since 2010, SurTec has been part of the German technology group Freudenberg with more than 50,000 employees in over 60 countries worldwide.

About SurTec



22 locations
worldwide



9 certified
production sites



8 Tech Centres
in all regions



Since 2017
Chromium(VI)-free

Discover Chromium(VI)-free Technologies Offering a Premium Colour Range

SurTec 88X stands for a comprehensive cluster of chromium(VI)-free technologies that create a wide range of high quality surfaces in different colours. Aesthetic, decorative surfaces from the product family SurTec 88X cover the whole spectrum from bright white to very dark and are based on in-house developed formulations which are continuously optimised.

Discover the whole colour range and further details on page 7-8.



Trusted Technologies

Decorative Electroplating processes by SurTec have been tested and used by numerous applica-tors in different industries.

600,000l
of Cr(III)
worldwide



420,000l
in project
phase

Plating on Plastics

Plating on plastics processes by SurTec meet a large number of global automotive OEM requirements. Some examples are the following:

- VW/Audi TL 528
- GM GM-14668
- Honda 0096Z-TZ6
- Daimler DBL 8465
- Toyota TSH6504G
- Ford WSS-M1P83-D1
- PSA B15 4140
- and many more

Process Sequence

Etching:
SurTec 961

Electroless Nickel (ammonium-free):
SurTec 971

Copper:
SurTec 866

Semi-bright Nickel:
SurTec 853

Bright Nickel/Satin Nickel:
SurTec 859/SurTec 851

MPS Nickel:
SurTec 849

Chromium(VI)-free Finish:
SurTec 88X

Passivation:
SurTec 880 B



Plating on Brass

Plating on brass is a typical application for the sanitary or furniture industry. SurTec's Decorative Electroplating processes have been developed exclusively to meet special requirements from well-known manufacturers in these sectors worldwide.

Process Sequence

Pre-treatment:
SurTec 1XX

Semi-bright Nickel:
SurTec 853

Bright Nickel/Satin Nickel:
SurTec 855/SurTec 851

Chromium(VI)-free Finish:
SurTec 88X

Passivation:
SurTec 880 B





Plating on Steel

Plating on steel is again a widely spread application in the automotive industry where fulfilling manufacturers' requirements is vital for functionality and safety of the end product. This applies also for the furniture industry: Meeting requirements for the plating on steel application is crucial especially for the longevity of the final piece of furniture.

Some examples of OEM specifications that are met by SurTec processes are:

- VW/Audi TL 203
- Fiat 9.57410
- Daimler DBL 8459
- and many more

Process Sequence

Pre-treatment:

SurTec 1XX

Semi-bright Nickel:

SurTec 853

Bright Nickel:

SurTec 856

Chromium(VI)-free Finish:

SurTec 88X

Passivation:

SurTec 880 AC



Plating on Zinc Die Cast

Crucial parts made of zinc die cast are used on a daily basis. If it's razors, car keys or door handles - SurTec's chromium(III) technologies for decorative surfaces meet various requirements of the consumer goods industry. They also pass various stress tests such as:

- condensed water test
- thermal cycle test
- cross hatch tape pull test
- and many more

Process Sequence

Pre-treatment:

SurTec 1XX

Alkaline Cyanide-free Copper:

SurTec 864

Acid Copper:

SurTec 866

Bright Nickel/Satin Nickel:

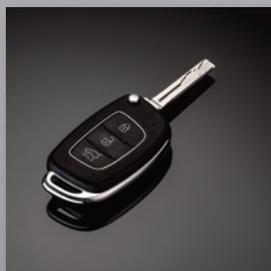
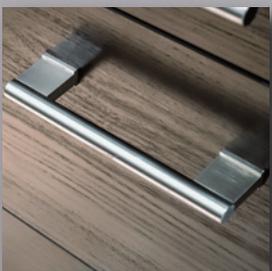
SurTec 855/SurTec 851

Chromium(VI)-free Finish:

SurTec 88X

Passivation:

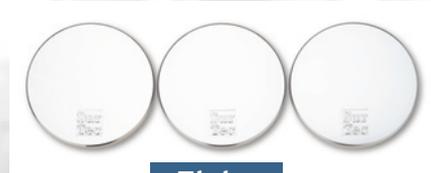
SurTec 880 B



SurTec 851 Satin Finish



Ice



Flake



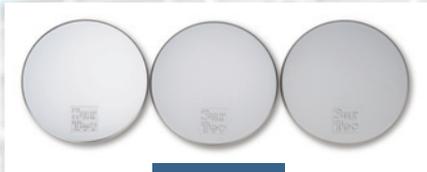
Cirrus



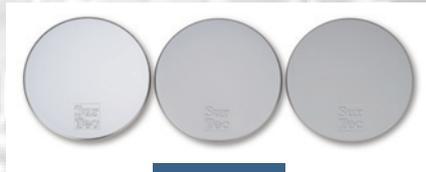
Stratus



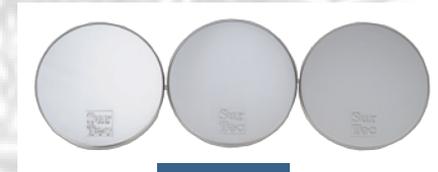
Snow



Frazil



Glaze



Firn

Exclusive Designs with Satin Finish

SurTec's advanced satin technology SurTec 851 enables semi-gloss and non-reflecting nickel coatings with an extreme uniform finish. Its basic additive system prevents pores, black spots and rapid agglomerations. The exclusive satin finish meets all colour code requirements of automotive OEM's such as:

- 3Q7
- Pearl Gloss
- Galvano Silver 09
- Silver Shadow
- HDX-M018
- and many more

SurTec 88X Full Colour Range



SurTec 883 XT



SurTec 881



SurTec 882



SurTec 886



SurTec 887



SurTec 885



SurTec 888

The Chromium(III)-Technology with Chromium(VI) Colour

SurTec 883 XT produces aesthetic surfaces, which show identical colour values as conventional chromium(VI) processes. With the innovative SurTec 883 XT, SurTec has developed a 100% chromium(VI)-replacement and is hence REACH compliant. Due to the identical colour values a mixed installation of chromium(VI) and SurTec 883 XT plated parts is possible without any problems.

Colour values measured with Konica Minolta CM-700d:

L = 83 to 85

a = -0.5 to -0.8

b = -0.5 to -1.5

more than
300,000
in use

100%
identical
colour



Performance Indicators

Plating speed:

0.2 - 0.3 μm within 4 - 6 minutes

Corrosion resistance:

120+ hours in CASS test

Special anode technology:

Longlasting mixed-oxide anodes
with very low consumption

Hardness similar to Cr(VI):

750 - 830 HV 0.05

Low energy consumption:

4 - 6 A/dm^2

Kunststofftechnik Bernt GmbH relies on SurTec 883 XT

Since 2019, Kunststofftechnik Bernt GmbH (KTB) has been gradually converting the previous chromium(VI) processes to the more environmentally friendly chromium(III) process developed by surface specialist SurTec.

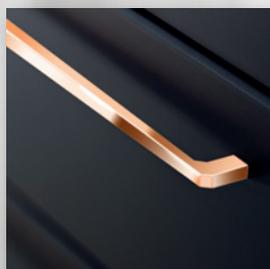
SurTec's new process is not only impressive in terms of colour and quality, but the cost of the chemicals is also comparable.

The full Success Story is available at www.SurTec.com.



KT B
Werkzeugbau • Spritzguss • Galvanik

SurTec 866 Acid Copper



A New Generation of Acid Copper Plating

SurTec 866 is the perfect process for extremely bright copper deposits with excellent levelling especially at lower current densities. The deposited layers' burning and pitting resistance properties are best in class.

SurTec 866 can be applied on ABS and PA as well as on different metals such as steel or zinc die cast. Additionally, it is well suited for parts with deep recesses or complicated shapes.

Improved Economic Efficiency

SurTec 866 comes as a highly concentrated electrolyte.

In combination with its very efficient additive system it reduces maintenance cost and hence provides for a fast, economic and efficient application.



Ammonium-
free

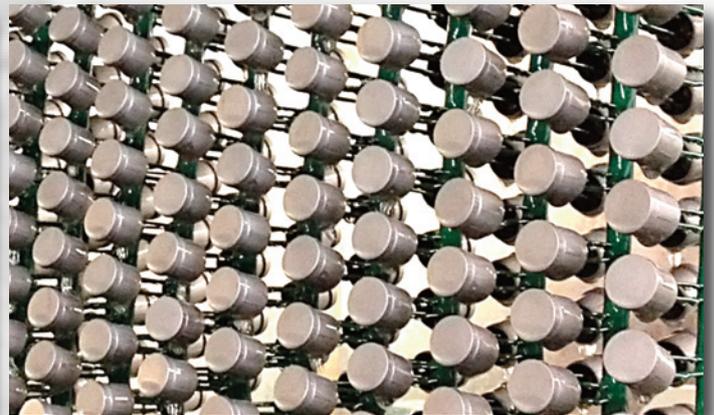
SurTec 971 Electroless Nickel

Ammonium-free Electroless Nickel

SurTec 971 is a well-proven, highly stable, alkaline nickel process without current flow and characterised by a fast deposition of homogenous, well-conducting nickel layers.

The process can be run at a very low working temperature of less than 30°C. The absence of amine complex enables extremely easy waste water treatment which contributes to an improved economic efficiency as does the high concentration of the additive system.

SurTec 971 is applicable for ABS, ABS-PC, PA and high selectivity plating of 2,3-C-ABS.



High-performance Technologies and Outstanding Service all around the Globe

With our very own formulations we are doing pioneering work. Decades of experience result in the development of environmentally friendly and high-performance processes for surface treatment. Close cooperation with customers and the valuable expertise of our global teams play a fundamental role in this process.

Find out more at www.SurTec.com.



Get in contact with us!

Jochen Liebert

Global Product Management Decorative Electroplating

E-Mail: Jochen.Liebert@SurTec.com

Tel. +49 (0) 151 151 87 46 3

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



a brand of
 **FREUDENBERG**