



Protection upgraded



Product Brochure Medical Devices

Industrial Parts Cleaning & Metal Pre-treatment



a brand of FREUDENBERG

Success Story SurTec

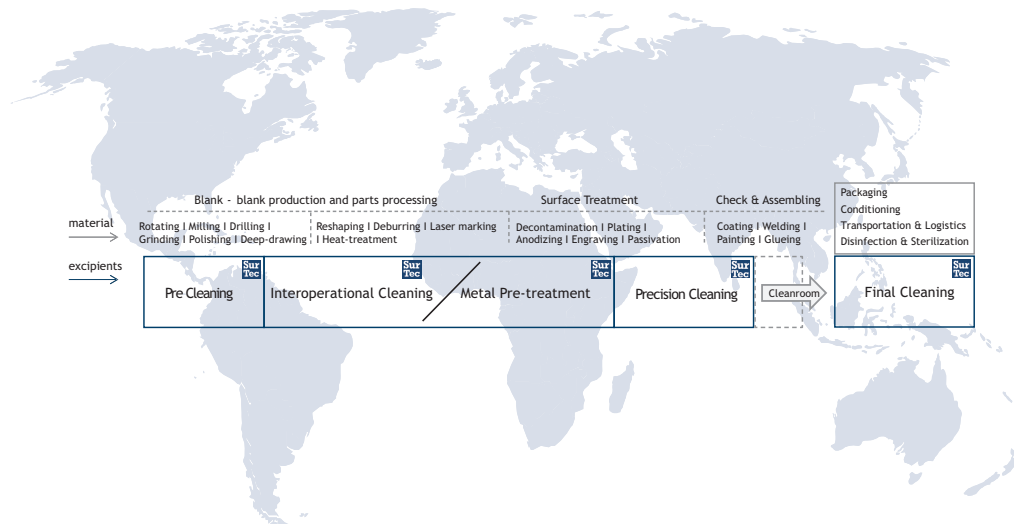
Why customers all over the world trust SurTec products

Key competencies in IPC, MPT and ELP

For more than 25 years, SurTec has been developing, manufacturing and selling chemical specialities for industrial parts cleaning and surface treatment of numerous materials in all markets and industries. In addition to an excellent price-performance ratio, our customers also value our strong focus on sustainability and worldwide presence.

Technical support for your individual process

Through the customer-friendly form of direct sales, experiences and best practices can be incorporated directly into comparable projects and increase the added value of their processes. Choose SurTec and benefit from market-established products and comprehensive technical support when setting up your process.



Simplified cleaning validation

By eliminating difficult-to-rinse components and the use of recyclable cleaning components in the aqueous system, the integration of rinsing steps can achieve effective processes right through to residue-free cleaning. Market-leading advice and support is available from our experts for questions on ensuring biocompatibility (according to ISO 10993-5) or achieving predefined purity goals.

In-house Technical Centres and Field Labs

In addition to global sales and customer support on-site, SurTec can quickly and effectively address customer needs, develop solutions and analyze samples through Regional Technical Centres (EMEA: Germany; ASIA: China; AMERICAS: Brazil) as well as 17 in-country Technical Centres and Field Labs.

Industrial Parts Cleaning of medical devices

High focus on special products

for all substrates and cleaning steps:

- Pre Cleaning
- Interoperational Cleaning
- Precision Cleaning
- Final Cleaning



	SurTec products	pH-value	Process techniques				Substrates					Effective range					Characteristics	
			Ultrasonic cleaning	Spray and injection cleaning	Soak cleaning	Flood washing	Aluminum	Stainless Steel	Titanium	Plastics	Ceramics/ Glasses	Degreasing	Demulsifying	Emulsifying	Hydrophobic Effect	Temporary corrosion protection		
1C-systems	Acid	SurTec 026	2,6 (10 g/l)	✓		✓		●	✓	✓	✓	✓	●	✓			Acid cleaner which removes fats, oils and oxide layers fast and without residues.	
	Neutral	SurTec 101	8,3 (conc.)	✓	✓	●	✓	✓	✓	✓	✓	✓	✓	✓		✓	Fast demulsifying cleaning agent for nearly all substrates with a temporary corrosion protection.	
		SurTec 104	8,9 (conc.)	✓		✓		✓	✓	✓	✓	✓		✓	●	✓	Emulsifying cleaning agent for nearly all substrates with a temporary hydrophobic layer.	
	Alkaline	SurTec 113	11,7 (10 g/l)	✓	✓	●	✓		✓	✓	☒	●	✓	✓			Excellent demulsifying cleaner for nearly all types of plastics.	
Legend			Surfactant	Surfactant	Surfactant	Surfactant	Builder	Builder	Builder	Builder	Builder	Builder	Surfactant	Surfactant	Builder	Builder	Spectrum of a Surfactant and a Builder.	
2C-systems	Surfactant	SurTec 089	9,8 (2 Vol.-%)	✓		✓								✓			Demulsifying surfactant showing the best performance by ultrasonic cleaning in combination with the builders SurTec 132, SurTec 138, SurTec 025 or SurTec 199.	
		SurTec 086	5,7 (20 g/l)		✓		✓							✓			Sprayable surfactant that best performs by ultrasonic cleaning with the builders SurTec 132, SurTec 138, SurTec 025 or SurTec 199.	
	Builder	SurTec 132	8,3 (20 g/l)					✓	✓	✓	✓	✓	✓					Low alkaline builder for nearly all substrates which removes all residues like fats, oils or pigments in combination with the surfactants SurTec 086 or SurTec 089.
		SurTec 138	12,6 (20 g/l)						✓	✓	●	✓	✓					High alkaline builder which removes all residues with low effort in combination with the surfactants SurTec 086 or SurTec 089.
		SurTec 025	1,0 (conc.)					●	✓	✓	✓	✓	✓			✓	✓	Acid Builder for all materials which removes all residues with low effort and leave the surface residue-free. Best performs in combination with the surfactants SurTec 086 or SurTec 089.
		SurTec 199	12,4 (10 g/l)						✓	✓	✓	☒	✓					Excellent alkaline builder for nearly all types of optical glasses and lenses showing the best performance with the surfactants SurTec 086 or SurTec 089.

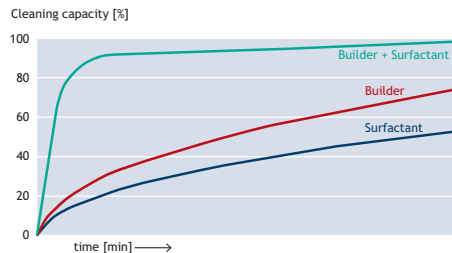
✓ Perfectly suited

☒ Product was developed for this specific substrate

● Limited usability (please ask Technical Centre before usage)

Optimized cleaning systems

For an optimized cleaning performance it requires the perfect interaction between builder and surfactant. With a broad portfolio of 1- and 2-component cleaners, SurTec can respond to your individual cleaning needs in a targeted manner and work with you to develop the best solution for your process.



Cleaning capacity of individual components and the cleaning system consisting of builder and surfactant as a function of time

Individual adaptability

Industrial processes are as unique as your requirements. SurTec understands this and offers not only cleaners for general applications but also special formulations for individual substrates.

SurTec 113 was developed to meet specific requirements of cleaning critical plastics. SurTec 199 achieves superior cleaning results on ceramic or glass substrates. Other individual formulations, such as SurTec 143, allow the purification of aluminum in the high alkaline range. Defoamers, such as SurTec 902, improve process control.

Successful process examples:

- Cleaning of molded parts and machined workpieces made of stainless steel for medical devices
- Cleaning of deep-drawn aluminum precision components for the pharmaceutical industry
- Precision Cleaning of optical lenses and ophthalmic instruments made of glass and ceramic
- Cleaning of dental implants and instruments made of stainless steel and titanium
- Final cleaning of orthopedic implants made of stainless steel and titanium
- Neutral cleaning of medical orthoses and prostheses made of stainless steel
- Degreasing, pickling and anodizing of sterilization containers made of aluminum
- Degreasing, pre-treatment and passivation of stainless steel for medical parts
- Degreasing and electropolishing of medical parts made of stainless steel

Metal Pre-treatment of medical devices

Extensive portfolio

for all relevant substrates and processes in the medical device industry:

- Degreasing
- Pickling
- Polishing
- Passivation

New process generation

As one of the first market participants, SurTec recognized environmentally relevant changes in the industry at an early stage and successfully positioned itself in the market with its sustainable product range. The offered products are established, sustainable and known for their industrial robustness. Specially developed formulations enable exact process control and stable quality values. Optimized process costs complete the excellent price-performance ratio.

	Stainless Steel		Titanium		Aluminum			Plastics/ Ceramics and other metals
	Products	Function	Products	Function	Process	Products	Function	
Pickling	SurTec 432	Removes the upper layer and supports the corrosion protection.	SurTec 432	Removes the upper layer and supports the corrosion protection.	Degreasing	SurTec 061	Degreasing and cleaning of the surface.	For all other substrates: Compare to the portfolio for industrial cleaning agents for the medical device market or ask our Technical Centre for further information. The substrate compatibility for other metals or alloys can be evaluated individually in test programs.
Polishing	SurTec 459	Polishing electrolyte to straighten the surface, minimize the roughness and increase the corrosion protection.	By shaping a natural thin passivation layer (TiO ₂), titanium can build up damaged conversion layers with own efforts.		Pickling	SurTec 495 L	Removes the upper layer and supports the corrosion protection.	
Passivation	SurTec 573	Builds out a thin passivation layer.			Passivation	SurTec 650	Builds out a thin passivation layer.	

Individual adaptability

Besides the tabulated products for selected substrates SurTec has a wide range of products in the field of metal pre-treatment. The special formulations enable a seamless transition of the individual process steps and achieve outstanding results in the functionality of the passivation layer, the corrosion protection and the use as a primer for subsequent processes. Like **SurTec 432 CBM**, there are

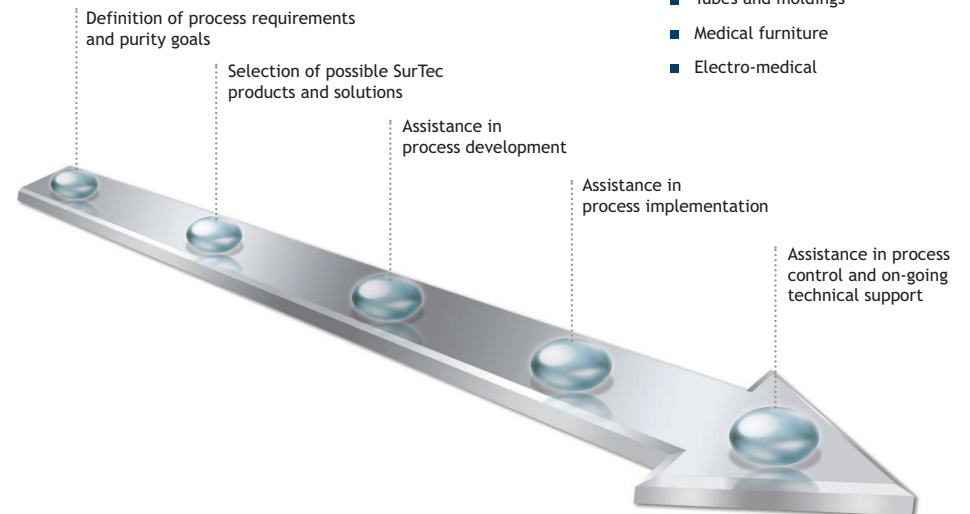
also products specially tailored to the needs of the customers, which in this case is used as a pickle for small capillary systems. These adjustments are possible thanks to the collaboration of the in-house R&D department, analytics and technical service. Of course, ASTM compliant products (such as ASTM 967 for stainless steel) are also in the portfolio.

Your next steps with SurTec

Benefit from the process know-how of SurTec and the support in process development & implementation. In cooperation with SurTec you can generate a high added value for your individual process.

SurTec's superior products are not only compatible with all process steps, but also widely used in all areas of medical devices:

- Implants and stents
- Surgical instruments
- Optical lenses and glasses
- Dental materials
- Probes and cannulas
- Tubes and moldings
- Medical furniture
- Electro-medical



About SurTec

The SurTec Group, based in Bensheim, Germany, has subsidiaries in 22 countries. In addition, it cooperates with partners who represent SurTec in more than 20 countries. SurTec is a division of Freudenberg Chemical Specialties SE & Co. KG, München.

About Freudenberg

Freudenberg is a global technology company that sustainably strengthens its customers and society through pioneering innovations. The Freudenberg group currently employs around 48,000 people in 60 countries and generate sales of more than € 9.3 billion.

Contact us

and learn more about the possibilities to set up and optimize your process:

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