

# SURFOX<sup>TM</sup>

## Weld cleaning – polishing – marking of from stainless steel

**Patented cleaning system for stainless steel** for the removal of heat tinting from welding seams. Restores the original gloss of the welded points. Das System arbeitet elektrochemisch. Poisonous and acidic pickling paste or time consuming grinding and rough surfaces belongs to the past. Also useable for the permanent marking (black etching). Logos, batch no. can be directly “printed” on the stainless steel.

**Fields of use** • Stainless steel manufacturers and secondary industry, chemical and pharmaceutical industry, foodstuffs industry and refrigeration technology



**Tip:**

Special electrodes, cleaning pads and covers for efficient cleaning in corners and hard-to-reach areas are available on request!

**Tip:**

A little handle for SURFOX 103/203 is available as an optional feature!



	SURFOX MINI	SURFOX 204	SURFOX 304
<b>Input:</b>	230 V AC 50/60 Hz	230 V AC 50/60 Hz	230 V AC 50/60 Hz
<b>Output:</b>	30 V AC	12-30 V, 15 A, AC/DC	30 V, 30 A, AC/DC
<b>Dimensions (mm)</b>	280 x 110 x 170	470 x 250 x 380	525 x 370 x 250
<b>Weight (kg)</b>	~3.5	~17.5	~22
<b>Order number</b>	<b>54D056</b>	<b>54D234</b>	<b>54D334</b>

## Poli-Pads improved pads for all SURFOX welding seam cleaners

- ⇒ Flexible – adapt better to components that are difficult to clean
- ⇒ Time-saving through considerably higher performance and speed in combination with our Surfox-T or -H electrolyte



## SURFOX-T The tried and tested bio-chem cleaning electrolyte

- ⇒ Fast – cleaning and passivation of a typical WIG welding seam is completed at a speed of one metre per minute
- ⇒ Free from nitric acid and hydrofluoric acid
- ⇒ Also removes slight scaling from the surface



## SURFOX-H The new bio-chem cleaning electrolyte

- ⇒ Excellent cleaning performance in combination with the new Poli-Pad
- ⇒ Non-hazardous – no transport and storage of dangerous goods required
- ⇒ Enhanced employee protection through hazmat-free working processes

# Passivation

## Why is passivation important?

Stainless steel is able to resist corrosion thanks to a passive chromium oxide layer that forms on its surface. The formation of this protective layer is called passivation. Abrasion or excessive heat (caused by welding) will destroy this protective layer and expose the metal to corrosion.



Passivation occurs when the chromium contained in the stainless steel comes in contact with the oxygen in the air. This chemical reaction forms a passive chromium oxide layer, which will protect the surface of stainless steel. To form a thick and uniform chromium oxide passive layer, the surface of the parent material must be perfectly clean and free of any contaminants.

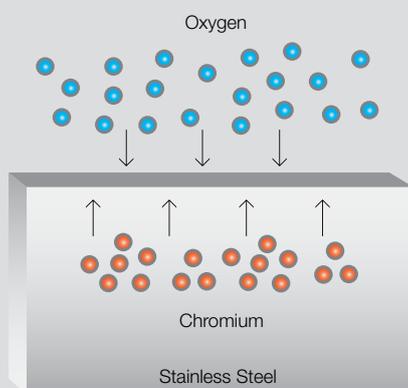
Mechanical abrasion, thermal treatment, welding, salt, strong acids and galvanic contamination will damage the chromium oxide layer and lead to unwanted oxidation. In order to fully restore the corrosion resistance of stainless steel and avoid any interference in the passivation process, the heat tint as well as other surface contaminants must be removed.

SURFOX is a safe, effective and fast electrochemical cleaning system. The rate of cleaning welds with this system is between 3-5 feet per minute.

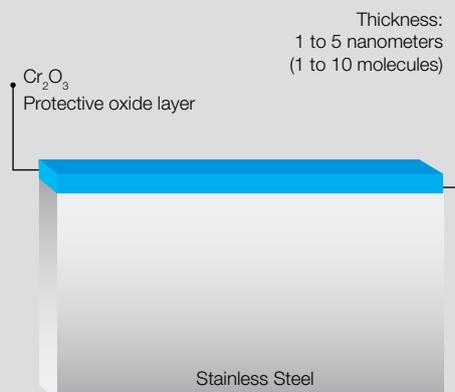
The SURFOX system combines both the cleaning power of electrical current and the passivation properties of electrolyte cleaning solutions.

Passivation instantaneously begins after the SURFOX electrochemical cleaning process is completed. It usually takes between 24 to 48 hours for passivation to be completed and stabilized.

### Beginning of passivation process



### End of passivation process



# Electrochemical cleaning

Using SURFOX-H and SURFOX-T electrolyte solutions

## AC mode (Cleaning Process)

Using SURFOX-G and SURFOX-T electrolyte solutions



The electrochemical cleaning process uses the power of electrical current and the electrolyte cleaning solution to remove heat tint without altering or damaging the surface of the parent material. It will leave a clean surface, free of residue and promote the formation of a uniform and stable chromium oxide passive layer that will protect the surface of stainless steel from oxidation. The electrochemical cleaning should always be done on AC (Alternating Current) mode available on all SURFOX models.

## DC mode (Polishing Process)

Using SURFOX-T electrolyte solution



Electrochemical polishing is a process which removes parent material from the work piece and brightens the weld. This process will alter the surface and is mostly used to clean welds on mirror finished material. Electrochemical polishing is done on DC (Direct Current) mode available on the SURFOX MINI and SURFOX 204.

