

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.

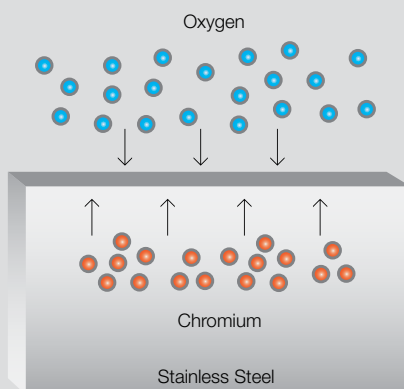
Mechanical abrasion, thermal treatment, welding, salt, strong acids and galvanic contamination will damage the chromium oxide layer and lead to unwanted oxidation. In order to fully restore the corrosion resistance of stainless steel and avoid any interference in the passivation process, the heat tint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

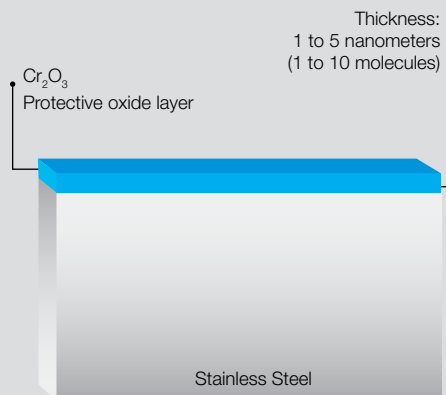
The SURFOX system combines both the cleaning power of electrical current and the passivation properties of electrolyte cleaning solutions.

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



Watch a short video about passivation on your smart phone.