



Aluminium surface treatment

*A full range combining
regulatory constraints
and performance*

The Surface Company

SOCOMORE

Surface treatment experts

For twenty years, SOCOMORE has developed its expertise in surface treatments for aluminium alloys, with two main goals:

To offer durable solutions

that are chromium-, borate- and fluoride-free to protect users

To offer alternatives qualified

by most OEMs, allowing users to adopt a single process for multiple OEMs and benefit from a single supplier for each step.

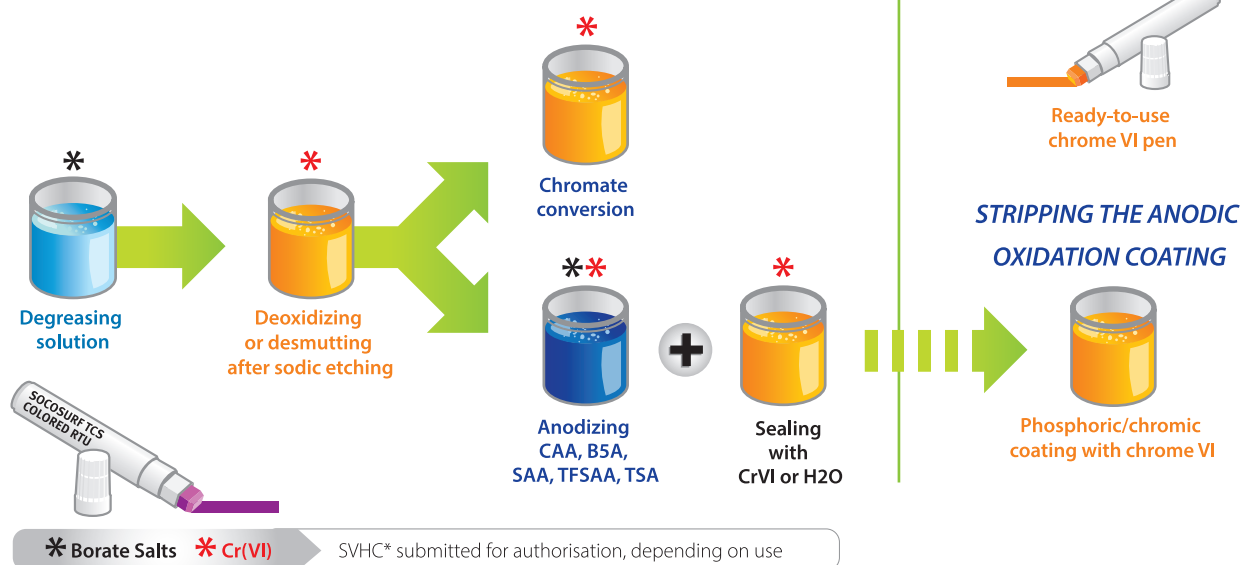
What is aluminium surface treatment?

Surface treatment is a sequence of steps to prepare and protect the surface against corrosion or prepare the surface before painting, non-destructive testing (NDT), bonding, etc. It is an immersion process, which also has applications for local touch-ups. Surface treatment baths are also used to protect and strip anodic oxidation coatings.

REACH issues in aluminium surface treatment

Two substances traditionally used for surface treatment are subject to strict regulations under the European REACH regulation. These are substances based on Chromium VI and borates, which, among other things, have CMR (Carcinogenic, Mutagenic or Reprotoxic) properties. Under REACH, these substances are classified as SVHC (Substances of Very High Concern), with the aim of phasing them out in the medium to short term within Europe. Therefore, industries must now begin substituting these compounds.

ALUMINIUM SURFACE TREATMENT REACH AND E&H CONTEXT



*Substance of Very High Concern

Surface preparation



Degreasing solution



Deoxidizing or desmutting after sodic etching



SOCOCLEAN A3432

Borate-free degreaser

SOCOCLEAN A1858 / A1806

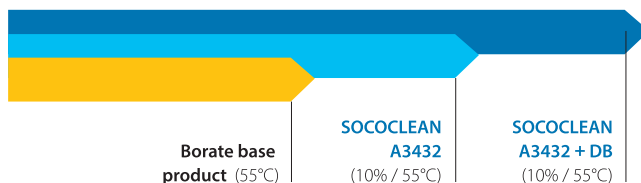
Chrome- and fluoride-free deoxidizer

Main characteristics

Borate-free degreaser meeting material compatibility and degreasing efficiency requirements; silicate-free to limit white marks.

EFFICIENT DEGREASING

(neat oil remove test)



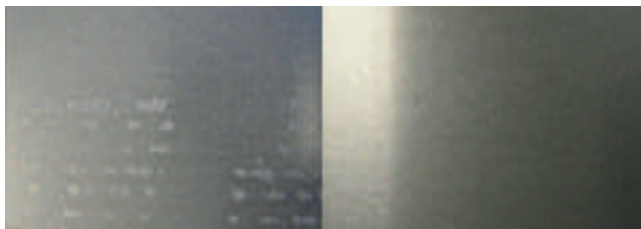
● SOCOCLEAN DB additive:

- Improved degreasing properties,
- Optimized bath life.

EFFICIENT INK REMOVAL

BORATE BASED PRODUCT

SOCOCLEAN A3432 + 5% SOCOCLEAN IR



● SOCOCLEAN IR ADDITIVE:

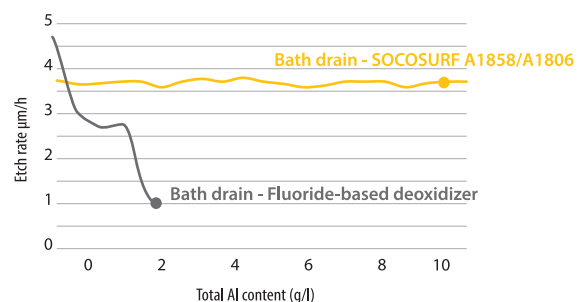
- Improved ink removal properties,
- Reduced cycle times,
- Removed shadow effects.

Main characteristics

- **STABLE PERFORMANCES**, even at high concentration of metallic elements
- **IMPROVED PERFORMANCE** (Health, Safety, Environment)

CONSTANT ETCH RATE

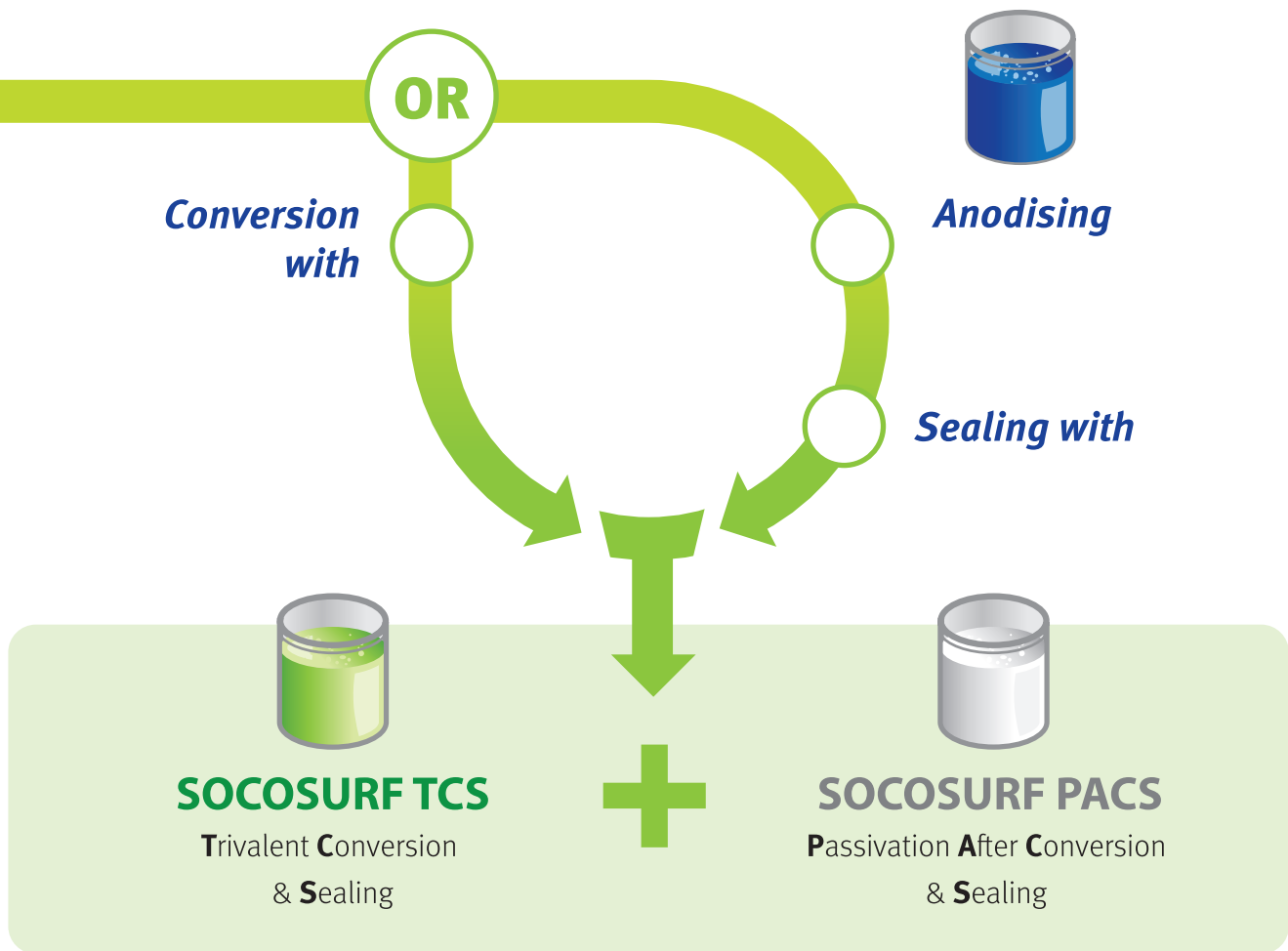
SOCOSURF A1858/A1806 is fluoride-free. Etch rate is linked to bath temperature. It is therefore **stable** throughout the bath life, even with a high level of aluminium dissolved, unlike the fluorinated deoxidizer.



● SPECIFIC ADDITIVES TO MAINTAIN BATH PERFORMANCE:

SOCOSURF A1850 and SOCOMUL TA to prolong process performance over time and control operational costs.

Cr(III)-based chemical conversion and sealing after anodization



Main characteristics

- **WITHOUT HEXAVALENT CHROMIUM.**
- **1 SOLUTION FOR 2 PROCESSES:**
 - Conversion
 - Impregnation after anodising
- **A DURABLE PROCESS TO COMPLY WITH REQUIREMENTS FOR:**
 - Electrical resistance
 - Paint adhesion
 - Corrosion protection

TREATMENT OPTIONS FOR 168 H SST CORROSION PROTECTION

2XXX / 7XXX
Corrosion-sensitive
aluminium alloy



SOCOSURF
TCS

+



SOCOSURF
PACS

5XXX / 6XXX
Non-corrosion-sensitive
aluminium alloy



SOCOSURF
TCS

+



SOCOSURF
PACS

OU



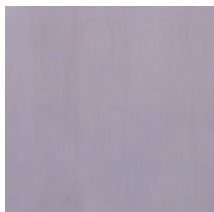
SOCOSURF
TCS

Conversion and sealing process for touch-ups

SOCOSURF TCS COLORED RTU* & SOCOSURF PACS RTU*

Main characteristics:

- The ready-to-use conversion or sealing solution for **touch-ups** forms a **visible** layer.



TREATED



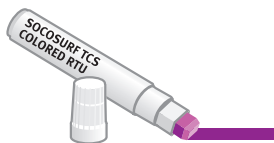
UNTREATED

- Easy to apply and quality control.
- A durable process to comply with requirements for:
 - electrical resistance
 - paint adhesion
 - corrosion protection

ONE-STEP PROCESS

SOCOSURF TCS colored RTU

- Corrosion protection - 96 hours SST (2024 T3)

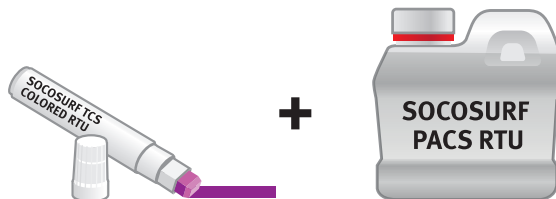


TWO-STEP PROCESS

SOCOSURF TCS colored RTU

+ SOCOSURF PACS RTU

- Durable corrosion protection
168 hours BS (2024 T3)



*Ready-to-use

PRODUCTS UNDER DEVELOPMENT



STRIPPING SOLUTION

for chromium-free anodic oxidation coatings

DETECTION SOLUTION

for new conversion layers

ANTI-CORROSION PAINT SOLUTION

chrome-free primer

A range of products designed in accordance with REACH regulations, enabling our customers to comply with the latest industry requirements



Contact your Socomore representative to learn about the different available formats.

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We have sales and technical teams, subsidiaries,
and strategic partnerships located around the world
to service our customers' needs.**

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