

SurTec® 650 RTU

chromitAL® TCP – RTU

Ready to Use Solution

Properties

- free of hexavalent chromium
- trivalent chromium passivation for aluminium
- ready to use solution for spray and wipe application
- viscous adjusted solution for better and longer moistening
- excellent bare corrosion protection, comparable to hexavalent passivations
- suitable as pretreatment before lacquering, powder coating and gluing
- produces an iridescent, faintly blue to tan and visible layer
- SurTec 650 RTU meets or exceeds MIL-DTL-81706 and MIL 5541 for bare corrosion (336 h in NSS per ASTM B-117, respectively, DIN 50021 SS)
- low contact resistance: < 5000 μOhm per square inch per MIL-DTL-81706B (as SI unit: < 32.25 mOhm $\cdot \text{cm}^2$)
- heat resistant up to 100°C with minimal loss in corrosion resistance

Application

SurTec 650 RTU is used undiluted for spray or wipe application.

temperature:	room temperature
pH-value:	3.8 (the ready to use solution is adjusted accordingly)
application time:	2 min (1-10 min)
spraying pressure:	1 bar (0.5-1.5 bar)
tank material:	stainless steel or steel with acid and fluoride resistant coating
heating/cooling:	not necessary
exhaust:	required for worker's protection

hints: During storage a slight precipitation may occur which does not impair the quality and the function of the product.

Treated surfaces with SurTec 650 RTU can be coated immediately after drying or stored as long as they are protected from contamination and temperature extremes. For optimum results, the parts should be coated within 7 days.

Treatment Procedure

pretreatment: Prior to passivation with SurTec 650 RTU, the aluminium surface must be cleaned and deoxidized thoroughly. The surface must be water-break free.

Cleaning can be done with:

- solvents or solvent-based cleaners (e.g. by abrasion of the surface with a soaked cloth), if applicable the surface can be treated with Scotch Brite or abrasive paper in order to remove corrosion products from the surface; abrasion should be done under water cooling, the abrasive dust must be removed by a wet cloth
- aqueous, acidic, phosphate-free cleaners (a subsequent rinsing is required)
- a combination of alkaline cleaning and subsequent acidic desmutting (between the two steps and after desmutting, the surface has to be rinsed with water)

treatment with SurTec 650 RTU chromitAL:

Wet the surface with the ready to use solution, e.g. by using a sponge, brush, cloth or spray pistol.

Make sure that the surface is completely wettable with SurTec 650 RTU solution (no contraction/coalescence of the liquid film and no dewetting or formation of separate drops). In case of dewetting the pretreatment/cleaning must be repeated.

During the required application period (typically 2-4 min) the surface must be kept permanently wet with SurTec 650 RTU solution. There must not be any drying on the surface. In order to avoid a surface drying use more SurTec 650 RTU solution, if necessary.

Continuous, slight, mechanical treatment (wiping, brushing) will support the uniform formation of the passive layer.

posttreatment: After passivation in SurTec 650 RTU, the parts have to be rinsed. For best corrosion resistance, a rinsing with deionised water is recommended. For successive lacquering, the last rinse must have a conductivity of less than 30 $\mu\text{S}/\text{cm}$.

The parts can be dried at environmental conditions, in case of forced drying the drying temperature should not exceed 65°C at the part's surface.

Technical Specification

(at 20°C)	Appearance	Density (g/ml)	pH-value (conc.)
SurTec 650 RTU	liquid, green, clear-turbid contingency precipitate	1.003 (1.00-1.01)	3.3 (3-4)

Maintenance and Analysis

SurTec 650 RTU is supplied as a ready to use solution. Therefore, an analysis is not necessary.

Ingredients

- trivalent chromium salts

Consumption and Stock Keeping

The consumption depends heavily on the drag-out. To determine the exact amounts of drag-out, see [SurTec Technical Letter 11](#).

In order to prevent delays in the production process, per 1,000 l bath the following amount should be kept in stock:

SurTec 650 RTU 1000 kg

Product Safety and Ecology

The safety instructions and the instructions for environmental protection have to be followed in order to avoid hazards for people and environment. The Material Safety Data Sheets (according to European legislation) contain explicit details for this.

The following hazard designations and classifications into water hazard classes (WHC) have to be taken into account:

<u>product</u>	<u>hazard designation</u>	<u>water hazard class</u>
SurTec 650 RTU	-	WHC 1

Warranty

We are responsible for our products in the context of the valid legal regulations. The warranty exclusively accesses for the delivered state of a product. Warranties and claims for damages after the subsequent treatment of our products do not exist. For details please consider our [general terms and conditions](#).

Further Information and Contact

In our forum, you can discuss topics of the surface technology:
<http://forum.SurTec.com/>

If you have any questions concerning the process, please contact your local technical department: <http://SurTec.com/International.html>