

SurTec® 495

Desmutting for Aluminium

Properties

- powder product
- highly concentrated
- removes even hard etching residues and oxides
- suited for highly alloyed and copper containing aluminium

Application

SurTec 495 can be applied in immersion or spray application.

make-up values:	<i>immersion</i>	<i>spray</i>
SurTec 495	50 g/l (30-90 g/l)	20 g/l (15-30 g/l)
sulfuric acid	50 g/l (30-60 g/l)	20 g/l (15-30 g/l)
application time:	3 min (2-5 min)	60 s (30-120 s)

make-up:

Steps for make-up:

1. Fill half of the bath with water.
2. Add sulfuric acid.
3. Add the required amount of SurTec 495.
4. Fill up to the final volume.

temperature: room temperature up to 50°C

pH-value: < 2
adjust with sulfuric acid

spraying pressure: 1.3 bar (1.0-1.5 bar)

agitation: air agitation

tank material: stainless steel or steel with acid and fluoride resistant coating

heating: not required, if desired, of acid and fluoride resistant material

cooling: not necessary

exhaust: required for workers' protection

hints: It is not necessary to increase the pH. The pH-value will rise during the process.

A slight turbidity of the bath solution will not disturb the desmutting process.

Technical Specification

(at 20 °C)	Appearance	Bulk density (kg/l)	pH-value (at 10 g/l)
SurTec 495	powder, yellowish	0.600 (0.48-0.64)	2.0 (1-3)

Maintenance and Analysis

Analyse and adjust the concentration of SurTec 495 and of sulfuric acid regularly.

Sample Preparation

Take a sample at a homogeneously mixed position. Let it cool down to room temperature. If the sample is turbid, let the turbidity settle and decant or filter through a fluted filter.

SurTec 495 – Analysis by Titration

reagents:	0.1 mol/l EDTA solution (Titrplex III) sodium hydroxide solution (10 %) indicator: 5-sulfo salicylic acid · 2 H ₂ O (2 % solution)
procedure:	<ol style="list-style-type: none">1. Pipette 5 ml bath sample into a 250 ml Erlenmeyer flask.2. Dilute to approx. 100 ml with deionised water.3. Adjust the pH-value to pH 2.5 with 10 % sodium hydroxide solution.4. Add 2 ml indicator solution.5. Titrate with 0.1 mol/l EDTA solution from violet to yellow.
calculation:	consumption in ml · 5.71 = g/l SurTec 495

Sulfuric Acid – Analysis by Titration

reagents:	1 mol/l NaOH sodium fluoride indicator: phenolphthalein (0.1 % in ethanol)
procedure:	<ol style="list-style-type: none">1. Pipette 5 ml bath sample into a 250 ml Erlenmeyer flask.2. Dilute with deionised water to approx. 100 ml.3. Add approx. 5 g sodium fluoride.4. Add 1 ml indicator solution (not more, the colour is more difficult to observe).5. Titrate with 1 mol/l NaOH-solution from colourless to pink.
calculation:	consumption in ml · 9.8 = g/l sulfuric acid

Ingredients

- fluorides
- nitrates

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 1000 l bath, the following amount should be kept in stock:

SurTec 495 100 kg

Product Safety and Ecology

The safety instructions and the instructions for environmental protection have to be followed when handling the products in order to avoid hazards for people and environment. The EU Material Safety Data Sheets 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 495	C - Corrosive	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>

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