SurTec® 676
Yellow Chromate for Zinc

Properties

- liquid concentrate
- suited for rack and barrel processing
- produces on cyanide, alkaline and especially acid zinc surfaces very scratch resistant, bright, iridescent yellow chromate layers
- very good rust protection, long life time
- post dips, stabilisation solutions (e.g. SurTec 550) and sealings (e.g. SurTec 555) lead to better corrosion resistance and reduce the iridescence
- IMDS-number: 899343

Application

make-up value:	1.5 %vol	(0.75-3 %vol)
pH-value:	1.7 adjust with sulfuric or nitric acid; pH-value rises with age of the bath	(1.5-1.9)
temperature:	25 °C	(18-30 °C)
immersion time:	20 s	(15-40 s)
tank material:	steel with chromic acid resistant plastic lining	
agitation:	recommended, slight air agitation or slow, tacted barrel movement	
exhaust:	recommended because of the slight hydrogen generation, to prevent Cr(IV) aerosols	
hint:	An activation in 0.5-1 % nitric acid is recommended.	

Technical Specification

(at 20 °C)	Appearance	Density (g/ml)	pH-value (at 10 g/l)
SurTec 676	liquid, orange-red	1.320 (1.28-1.35)	1.7

Maintenance and Analysis

Check the pH-value regularly. Analyse and adjust the concentration of SurTec 676 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 down and decant or filter the solution.

SurTec 676 – Analysis by Titration

reagents:	hydrochloric acid (conc.) potassium iodide 0.1 N sodium thiosulfate solution starch solution (1 %)
procedure:	1. Pipette 5 ml bath sample into a 250 ml Erlenmeyer flask. 2. Dilute to approx. 100 ml with deionised water. 3. Acidify with 10 ml conc. hydrochloric acid. 4. Add 2 g potassium iodide. 5. Titrate with 0.1 N sodium thiosulfate solution from brown to light yellow. 6. Add 3 drops of starch solution. 7. Titrate again until discolouration.
calculation:	consumption in ml · 0.268 = %vol SurTec 676

Ingredients

- chromic acid
- sulfates
- chlorides

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 676 Yellow Chromate 35 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:

product	*hazard designation*	*water hazard class*
SurTec 676	T - Toxic N - Dangerous for the environment	WHC 3

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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