

SurTec® 622

Black/Brown Patina for Copper and Brass

Properties

- liquid concentrate
- produces (with subsequent lacquering) adhesive decorative layers
- colour shade is adjustable from light brown to black
- can be dried with hot air and lacquered in succession
- suitable for final mechanical treatment (e.g. brushing)
- suitable for barrel and rack application

Application

SurTec 622 is applied either on pretreated and activated copper or brass parts or on freshly electroplated copper or brass layers (min. 7 µm).

	<i>brown patina</i>		<i>black patina</i>	
make-up value:	7.5 %vol	(5-10 %vol)	25 %vol	(20-30 %vol)
application time:	45 s	(30-60 s)	2 min	(1-3 min)
temperature:	25°C	(20-40°C)	25°C	(20-40°C)

tank material: plastic or steel with plastic coating

hints: Higher concentrations and longer application times will induce deeper colours.

Optimal conditions are depending also on the base material and should be established in test runs.

Mechanical treatment should be done before drying.

Technical Specification

(at 20 °C)	Appearance	Density (g/ml)	pH-value (conc.)
SurTec 622	liquid, greenish-blue, clear	1.096 (1.09-1.10)	< 3

Maintenance and Analysis

Analyse and adjust the concentration of SurTec 622 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 622 – Analysis by Titration

- reagents: hydrochloric acid (1:1)
0.1 N sodium thiosulfate solution
potassium iodide solution (10 %)
starch solution (1 %, freshly made)
0.1 mol/l EDTA solution (Titrplex III)
indicator: murexide
- procedure:
1. Pipette 10 ml bath sample into a 250 ml Erlenmeyer flask.
 2. Dilute with approx. 100 ml deionised water.
 3. Add a spatula tip of indicator.
 4. Titrate with 0.1 M EDTA from orange to purple.
 5. Add 25 ml half conc. hydrochloric acid.
 6. Add 5 drops of starch solution.
 7. Add some drops of potassium iodide solution, until a light blue colour appears (avoid an excess of potassium iodide!).
 8. Titrate with 0.1 N sodium thiosulfate solution to colourless.
 9. Add some more drops potassium iodide and titrate again to colourless. The end of the titration is reached, when the solution is constant colourless.
- calculation: consumption in ml thiosulfate in ml · 1.235 = %vol SurTec 622

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 622 200 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 622	Xi - Irritant N - Dangerous for the environment	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>

26 January 2011/DK, OP