



## CL-Technology GmbH

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## CL BRIGHT CHROME NF

### PROPERTIES

CL NF is a fluoride-free bright chrome electrolyte which operates without soil formation.

The current efficiency is approx. 24%.

### ELECTROLYTE COMPOSITION

Chromic acid	240 - 320 g/l (optimum 300 g/l)
Sulphate	2,4 – 3,0 g/l (0,8-1,2%)
Catalyst CL NF	25 – 35 ml/l (optimum 30 ml/l)

The sulphate content is adjusted and corrected with sulphuric acid.

### OPERATION AND MAINTENANCE

The chromic acid- and sulphate content must be frequently checked via analysis.

The Catalyst CL NF is only occasionally analysed and corrected. Drag—out losses however must be compensated.

By make-up / replenishing of the chromic acid in the bath, it is of great importance that also Catalyst CL NF is added at the following ratio:

### 100 kg chromic acid and 4 l. Catalyst CL NF

### OPERATING INSTRUCTIONS

Working temperature	30 – 40 °C
Current density	5 – 20 A/dm <sup>2</sup>
Current efficiency	up to 24%

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HRB 5025 Amtsgericht Solingen. Ust-ID-Nr. DE 813 359 241

Geschäftsführer : Uwe Lüttke

## **EQUIPMENT**

Tank	PVC, Koroseal-Keragelith or Teflon lining
Cooling	Teflon, lead or double tank
Heating	Bath heaters made from porcelain or Teflon
Temperature control	necessary
Suction device	necessary
Anodes	Lead-tin alloyed anodes or platinised titanium anodes.
Current source	Infinitely adjustable rectifier. Voltage 4 – 15 Volt. Residual ripple under 5%

## **MAKE-UP**

Fill up a thoroughly cleaned tank with 2/3 of the volume with possibly chloride-free water and add the required quantities of chromic acid, sulphuric acid and Catalyst CL NF. Solve the salts at a temperature of 50 – 60 °C and stir well. After this fill up the tank until it's nominal values are reached. Apply the anodes and work the bath through for 3 hours at the working temperature.

## **SPECIAL INDICATIONS**

Chloride ions deteriorate the deposition properties and deposit results. Drag-in has to be avoided. The trivalent chrome is adjusted by an optimum anode-cathode ratio to 3 – 5 g/l.

Higher values must be avoided. The ratio between the anode and cathode surface should be around 2 : 1. metal impurities reduce the deposition rate and should be kept below 10 g/l.

## **HAZARD INDICATION**

Attention has to be paid to the legal regulations for the handling of dangerous working substances. Chemicals without a hazardous indication should not be seen as harmless.

Also with the handling of chemicals which do not require a registration, we recommend to take care and to avoid for example skin contact.

## **WARRANTY**

Seller makes no warranty, whether of merchantability, fitness or otherwise, expressed or implied, concerning the product other than it shall be of the specifications stated herein. Any recommendations made by Seller concerning the use of the product are believed to be reliable, but seller makes no warranty of the results obtained. Buyer agrees to inspect the product supplied hereunder immediately after delivery. Failure to give notice in writing as aforesaid within the specified time constitutes an unqualified acceptance of the product and a waiver of all claims with respect thereto.

## **2004/FL**

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