

## High-dissolving zinc anode for alkaline baths

Evolution from the city Balve in the region „Sauerland“. Balver Zinn Josef Jost GmbH & Co. KG is a certified producer of zinc, tin and lead anodes as well as alloys. As part of a 2-year research project, the project partners (Balver Zinn Josef Jost GmbH & Co. KG, Galvanotechnik Jens Holzapfel GmbH, B+T Oberflächentechnik GmbH, Holder GmbH Oberflächentechnik, Dr.-Ing. Max Schlötter GmbH & Co. KG, Coventya GmbH, TU Chemnitz) sought for ways to increase the rate of dissolution of zinc anodes and to reduce possible sludge formation in the baskets.

A truncated cone shape with tapered hole brought the success. This geometry improves the thermodynamics in the bulk material, so that the zinc anodes, with the brand name "Optiloo® \*\*", dissolve completely.



Picture 1: Views Optiloo®, Image source: Balver Zinn®

The tests at three galvanic plants and one electrolyte producer show an increase of up to 30% in the dissolution rate compared to the full zinc spheres. In the KOH-based electrolyte, the Optiloo® was on par with the performance of a zinc continuous casting plate.



Image source: Holder GmbH Oberflächentechnik/Kirchheim

Picture 2: opening stages Optiloo®

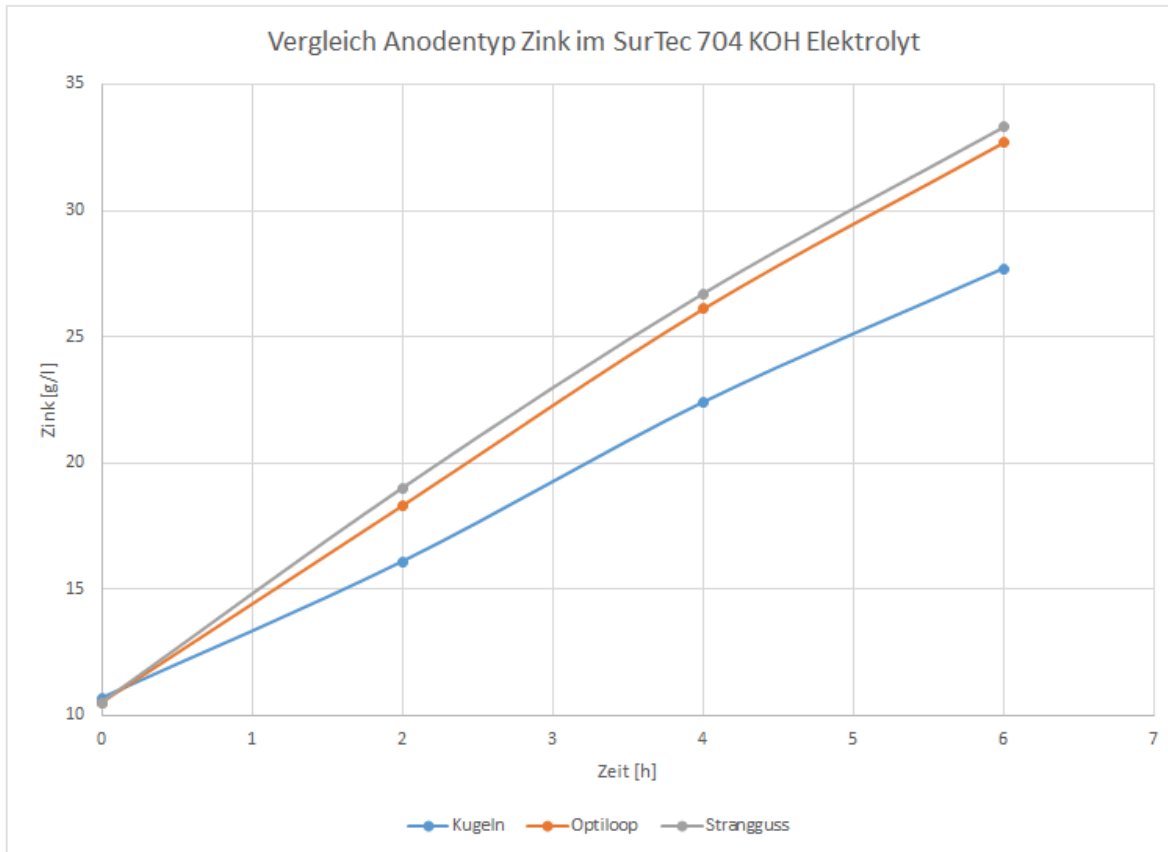


Image source: SurTec International GmbH/Bensheim  
 Picture 3: Optiloop® compared to balls and continuous casting plates

Optiloop® has the following features compared to the zinc spheres:

- Analogous surface
- Lower single piece weight of approx 44%
- weight 3.4 kg / l bulk density (instead of 4.1 kg / l sphere)
- Higher dissolution rate in the alkaline electrolyte of up to 30%
- Reduction of sludge in the baskets
- Reduction of the bath sludge
- Lower zinc losses
- Possible improvement of production processes

The product is available now. Optiloop® also replaces clippings and pellets advantageously. Our technical department will be pleased to clarify the requirements with you on site. Balver Zinn has the metallurgical process engineering and metrological analytics to produce high quality products and to exhibit qualified working documents.

\*: Patent application no. DE 10 2017 116 934 A1  
 ®: Registered word and trademark