



TECGA

Technischer Galvanoservice AG



CARBOLUX[®]

OUR PATENTED SELF-DEVELOPMENT



OPERATIONAL AREA:

Efflorescence of Carbonate, Sulfate and Chloride

- | | | |
|-------------------|------------------|----------------------|
| ✓ Cyanide zinc | ✓ Cyanide silver | ✓ Zinc-ferrous |
| ✓ Cyanide cooper | ✓ Cyanide tin | ✓ Pickling vats |
| ✓ Cyanide brass | ✓ Alk. zinc | ✓ Acid-cooper |
| ✓ Cyanide cadmium | ✓ Alk. cooper | ✓ Others application |
| ✓ Cyanide bronze | ✓ Zinc-Nickel | |

CECO Mefiag



PRECIPITATION OF FERROUS CHLORIDE, FERROUS SULFATE, SODIUM-CARBONAT

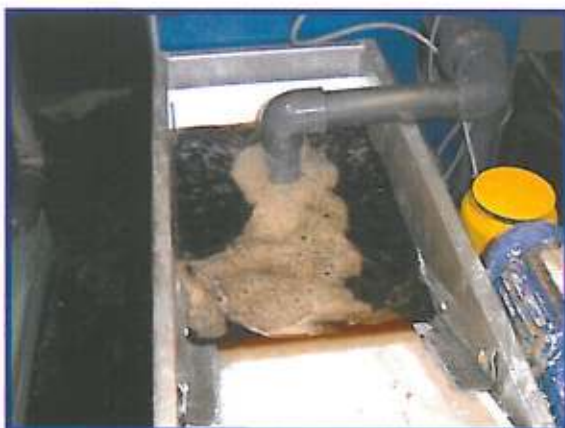


Without affecting production, a small quantity of electrolyte is taken continuously from the bath and cooled down to a precisely defined temperature. The resultant crystals are filtered off and the purified liquor returned automatically to the bath. Afterwards the waste material is easily disposed of in the solid form.





Carbolux brings efficient, costeffective efflorescence of electrolytes and liquors in electrical and hot-dip galvanizing, metal hardening and other industrial operations. This sensationel new Leutwyer development separates waste products from a wide variety of industrial electrolytes and liquors.



Fully automated with belt filter



Semi-automatic with bag filter

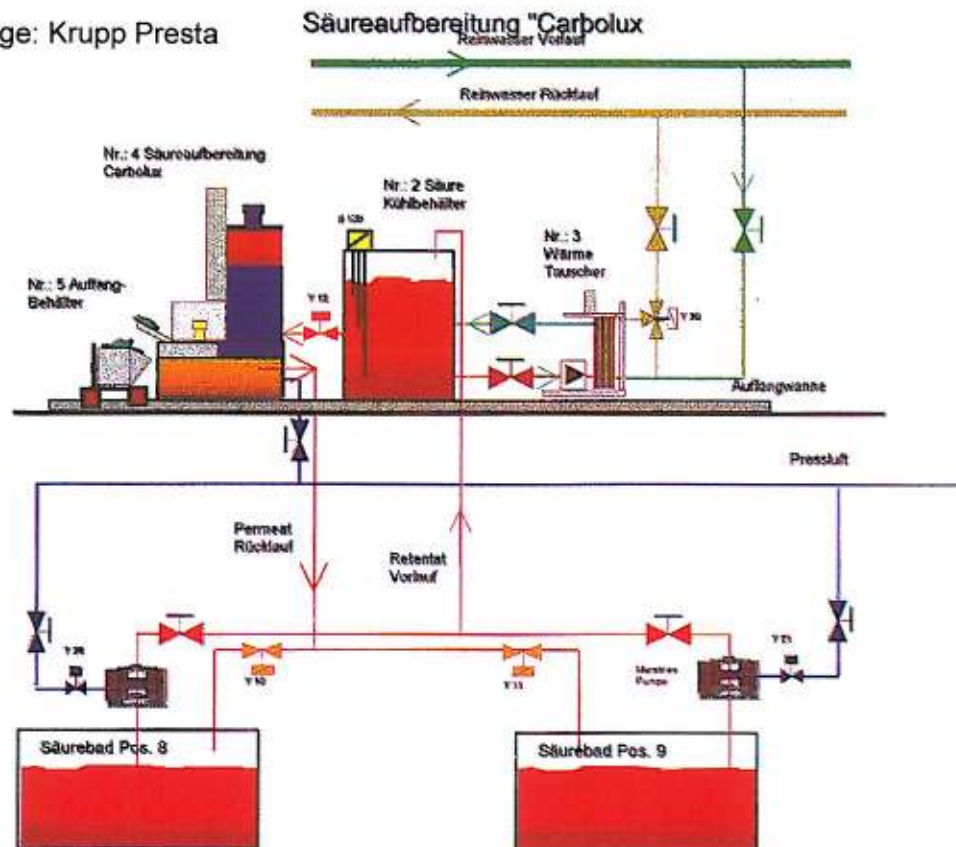
ADVANTAGES

- 👍 Optimal media constancy
- 👍 Long media life
- 👍 Minimale entrainment
- 👍 Lower power consumption
- 👍 Reduced chemicals consumption
- 👍 Less wastewater
- 👍 Uniform product quality
- 👍 Uninterrupted production
- 👍 Easy redissolving
- 👍 Low outlay for labour and waste disposal
- 👍 Complies with DIN 9002/9003
- 👍 Short payback time





Anlage: Krupp Presta



The course of Acid Processing

- 1 Acid medium (Retentat) becomes by means compressed air membrane pump alternately from the Pos. 8 and 9 in the cooling container Nr. 2 pumped.
Important: Suction conduction Pos. 8 and 9 must be 20 mm over the Tub bottom.
- 2 Acid medium of the container Nr. 2 becomes over the plate exchange Nr. 3 in circulation on ca. 30° C cool off. (Adjustable)
Cool medium is pure water.
Basic attitude +32° C + - 4°C
- 3 Precooled acid medium will be sucked from the Carbolux plant Nr. 4 from the container Nr. 2 by each batch and by further cooling, the ferrous sulfate will be efflorescenced.
With Temperature regulate, adjustable from +6° C until 0° C will be regulate the efflorescence of the quantity from ferrous sulfate.
- 4 The acid medium without ferrous (Permeat) flows back in loads in the appropriate bath Pos. 8 or 9.
- 5 The ferrous sulfate, witch by cooling of the acid medium who results in form of wet granulates, will be delivered with the conveyor out of the Carboluxplant in the receptacle Nr. 5.
- 6 The resulting remainder liquid from the receptacle Nr.5 must be given manual to the cooling container .
- 7 The ferrous sulfate have to be dispose in accordance with the „Disposal Industrial waste“

PATENTED SELF-DEVELOPMENT

BUNDESREPUBLIK DEUTSCHLAND



URKUNDE

über die Erteilung des

Patents

Nr. 42 00 774

Bezeichnung:
Verfahren zum Entfernen von Carbonaten aus galvanischen
Bädern

Patentinhaber:
Leutwyler, René, Mägenwil, CH

Erfinder:
gleich Inhaber

Tag der Anmeldung: 15.01.1992

München, den 25.11.1993



Der Präsident
des Deutschen Patentamts

Prof. Dr. Häußer



*The
United
States
of
America*



The Commissioner of Patents
and Trademarks

*Has received an application for a patent
for a new and useful invention. The title
and description of the invention are en-
closed. The requirements of law have
been complied with, and it has been de-
termined that a patent on the invention
shall be granted under the law.*

Therefore, this

United States Patent

*Grants to the person or persons having
title to this patent the right to exclude
others from making, using or selling the
invention throughout the United States
of America for the term of seventeen
years from the date of this patent, sub-
ject to the payment of maintenance fees
as provided by law.*

Bence Lehman

Commissioner of Patents and Trademarks

Kenneth Cooper

Attest



WORLDWIDE REFERENCES

Julius Blum GmbH
WAG Wasseraufbereitung
LGTB
Empire Buff LTD
Brunner AG
Chromwerk AG
Färber & Schmid AG
FL Metalltechnik AG
Foma Galvanik AG
Forster Hermann AG
Friedrich Suter
Galvano Wullimann AG
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Liechti Metallveredlung
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Ruag Components
Stalder AG
Swissair AG
Verzinkerei Kriessern
MDC Daetwyler
Zwilling J.A. Henckels
CVP Galvanika s.r.o
Sroubarna Turnov a.s.
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Profothea SA	E-	Madrid
EDF Moret	F-	Moret
Electropol Production	F-	Isigny le Buat
Erard SA	F-	Pont de Chéruey
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Kerbirio	F-	Gretz Armainvilliers
Marquet Traitement Surface	F-	Cluses Cedex
Michel Caux & C. s.a	F-	Cluses Cedex
Sleti S.A	F-	Vaul en Velin
Sommier SA	F-	Brive la Gaillard
Stocko France SA	F-	67140 Andlau
Hilti AG	FL-	Schaan
Thyssen Krupp Presta AG	FL-	Eschen
Krupp Presta	FL-	Eschen
B.G. Plating	GB-	Birmingham
Huber + Suhner Electronics	GB-	Bicester, oxf.
Royal Mint Königl. Münzendruckerei	GB-	Mid Glamorgan
O.Daring & Co.	GR-	Chalkis
Hydrochem	I-	Bologna
Trevi	I-	Bologna
Chromluc B.V.	NL-	Rotterdam
Enviro-Pure	NL-	Den Haag
Mefiag B.V.	NL-	Heerenveen
Chromlux B.V	NL-3087	BK Rotterdam
Scandymet AB	S-	Kilafors
Ampcor II	USA-	Laporte
Ann Arbor Tech	USA-	Ann Arbor, MI
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