

Title (en)

PROCESS FOR FORMING AND REGENERATING A COPPER CATHODE FOR AN ELECTROCHEMICAL CELL AND ELECTROCHEMICAL CELL FOR THE PRODUCTION OF INDUSTRIAL PRODUCTS

Title (de)

VERFAHREN ZUR HERSTELLUNG UND REGENERIERUNG EINER KUPFERKATHODE FÜR EINE BATTERIEZELLE UND BATTERIEZELLE ZUR HERSTELLUNG VON INDUSTRIEPRODUKTEN

Title (fr)

PROCÉDÉ DE FORMATION ET DE RÉGÉNÉRATION D'UNE CATHODE EN CUIVRE POUR CELLULE ÉLECTROCHIMIQUE ET CELLULE ÉLECTROCHIMIQUE DESTINÉE A LA FABRICATION DE PRODUITS INDUSTRIELS

Publication

**EP 4010513 A1 20220615 (EN)**

Application

**EP 20761314 A 20200804**

Priority

- IT 201900014580 A 20190809
- IB 2020057363 W 20200804

Abstract (en)

[origin: WO2021028779A1] A process for forming and regenerating a copper cathode (1) for an electrochemical cell (10) for the production of industrial products, for example syngas, comprises an operating step of anodising a copper substrate (2) in a solution containing chlorides and sulphates at atmospheric pressure and ambient temperature, to which an alternating wave electric potential of 0 mV to 1500 mV is applied, at a frequency of 100 Hz to 1500 Hz, for at least 1 minute, so that copper salts form and are deposited on the substrate (2). The process further comprises an electrochemical reduction step in a non-acidic working solution for the formation of surface catalytic nanostructures (4) on the substrate (2). An electrochemical cell (10) for the production of industrial products is also part of the present patent application.

IPC 8 full level

**C25B 1/00** (2021.01)

CPC (source: EP)

**C25B 1/00** (2013.01); **C25B 3/25** (2021.01); **C25B 9/19** (2021.01); **C25B 11/031** (2021.01); **C25B 11/075** (2021.01); **C25B 11/091** (2021.01); **C25D 3/54** (2013.01); **C25D 5/34** (2013.01); **C25D 11/024** (2013.01); **C25D 11/34** (2013.01)

Citation (search report)

See references of WO 2021028779A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2021028779 A1 20210218**; EP 4010513 A1 20220615; IT 201900014580 A1 20210209

DOCDB simple family (application)

**IB 2020057363 W 20200804**; EP 20761314 A 20200804; IT 201900014580 A 20190809