

Title (en)

METHOD FOR EXFOLIATING COATING LAYER OF ELECTRODE FOR ELECTROLYSIS

Title (de)

VERFAHREN ZUM ABLÖSEN EINER SCHICHT AUF EINER ELEKTRODE FÜR DIE ELEKTROLYSE

Title (fr)

PROCÉDÉ D'EXFOLIATION D'UNE COUCHE DE REVÊTEMENT D'ÉLECTRODE POUR ÉLECTROLYSE

Publication

**EP 2783025 B1 20190206 (EN)**

Application

**EP 12806173 A 20121120**

Priority

- JP 2011253772 A 20111121
- JP 2012080526 W 20121120

Abstract (en)

[origin: WO2013077454A2] The present invention relates to a method to effectively exfoliate a coating layer from the surface of the conductive substrate comprising titanium or titanium alloy substrate material of a used electrode for electrolysis comprising an insoluble metal electrode having the coating layer containing electrode substance comprising noble metals and/or their metal oxides on the surface of the used electrode substrate comprising valve metals, such as titanium and tantalum or valve metal alloys and then to recover the electrode substances and/or electrode substrates for recycling use. A method for exfoliating the coating layer from the surface of the electrode substrate, characterized in that in the exfoliation method for the coating layer from the surface of the electrode substrate, wherein the insoluble metal electrode surface having the coating layer containing electrode substance comprising noble metals and/or metal oxides thereof on the surface of the electrode substrate comprising valve metals including titanium and tantalum or valve metal alloys is treated, in succession, with the alkali treatment process using a caustic alkali aqueous solution, the heating and baking process and the acid treatment process by immersion in hydrochloric acid, sulfuric acid, nitric acid or the mixture thereof, the alkali treatment process is conducted by applying an alkali treatment solution prepared by adding thickener to the caustic alkali aqueous solution.

IPC 8 full level

**C25B 11/00** (2006.01); **C25B 15/00** (2006.01); **C25C 7/06** (2006.01)

CPC (source: EP US)

**C23G 1/02** (2013.01 - US); **C23G 1/14** (2013.01 - US); **C25B 11/00** (2013.01 - EP US); **C25B 15/00** (2013.01 - EP US); **C25C 7/06** (2013.01 - EP US)

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

DOCDB simple family (publication)

**WO 2013077454 A2 20130530; WO 2013077454 A3 20130718**; CN 103946424 A 20140723; EP 2783025 A2 20141001; EP 2783025 B1 20190206; JP 2014509347 A 20140417; JP 5651252 B2 20150107; KR 101583176 B1 20160107; KR 20140098159 A 20140807; MY 165960 A 20180518; PL 2783025 T3 20190830; TR 201904606 T4 20190422; US 2014305468 A1 20141016

DOCDB simple family (application)

**JP 2012080526 W 20121120**; CN 201280057191 A 20121120; EP 12806173 A 20121120; JP 2013550191 A 20121120; KR 20147016932 A 20121120; MY PI2014001298 A 20121120; PL 12806173 T 20121120; TR 201904606 T 20121120; US 201214359444 A 20121120