

Title (en)

PASSIVATION PROCESS OF A STEEL TINPLATE

Title (de)

PASSIVIERUNGSVERFAHREN EINER STAHLZINNPLATTE

Title (fr)

PROCÉDÉ DE PASSIVATION DE FER BLANC D'ACIER

Publication

**EP 3626862 A1 20200325 (EN)**

Application

**EP 19198876 A 20190923**

Priority

IT 201800008861 A 20180924

Abstract (en)

The present invention concerns a Cr-free passivation process of a tinplate comprising the following steps in sequence: a. subjecting said tinplate to at least one cathodic electrolytic treatment in an aqueous solution containing at least one sulphate of an alkali metal to obtain a tin oxide surface layer having thickness lower than  $6 \text{ mC/cm}^2$ ; b. subjecting said tinplate to at least one cathodic electrolytic treatment in an aqueous solution containing at least sulphate ions and zirconium ions to form a passivation layer containing zirconium on said tin oxide surface layer. The process allows obtaining passivated tinplates on which the coatings, such as enamels, paints and polymeric films, adhere well, without using chromium-containing compounds.

IPC 8 full level

**C25D 5/48** (2006.01); **C25D 9/08** (2006.01); **C25D 7/06** (2006.01)

CPC (source: CN EP)

**B05D 3/14** (2013.01 - CN); **C25D 5/48** (2013.01 - EP); **C25D 9/04** (2013.01 - CN); **C25D 9/08** (2013.01 - EP); **C25F 5/00** (2013.01 - CN); **B05D 2350/60** (2013.01 - CN); **C25D 7/0614** (2013.01 - EP)

Citation (applicant)

- EP 2180084 A1 20100428 - NIPPON STEEL CORP [JP]
- EP 2557202 A1 20130213 - NIPPON STEEL & SUMITOMO METAL CORP [JP]

Citation (search report)

- [AD] EP 2180084 A1 20100428 - NIPPON STEEL CORP [JP]
- [A] EP 0732425 A1 19960918 - BRITISH STEEL PLC [GB]
- [A] US 2010119867 A1 20100513 - DATE HIROMITSU [JP]
- [A] JP 2018012858 A 20180125 - NIHON PARKERIZING

Cited by

IT202000014572A1; WO2021255699A1

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)

**EP 3626862 A1 20200325**; **EP 3626862 B1 20210310**; CN 110938852 A 20200331; CN 110938852 B 20231212; ES 2872278 T3 20211102

DOCDB simple family (application)

**EP 19198876 A 20190923**; CN 201910896690 A 20190923; ES 19198876 T 20190923