

Title (en)

ALUMINIUM-BASED COATING FOR STEEL SHEETS OR STEEL STRIPS AND METHOD FOR THE PRODUCTION THEREOF

Title (de)

ALUMINIUMBASIERTE BESCHICHTUNG FÜR STAHLBLECHE ODER STAHLBÄNDER UND VERFAHREN ZUR HERSTELLUNG HIERZU

Title (fr)

REVÊTEMENT À BASE D'ALUMINIUM POUR TôLES D'ACIER OU BANDES D'ACIER ET PROCÉDÉ POUR LEUR FABRICATION

Publication

EP 3414355 A1 20181219 (DE)

Application

EP 17703386 A 20170202

Priority

- DE 102016102172 A 20160208
- DE 102016102504 A 20160212
- EP 2017052266 W 20170202

Abstract (en)

[origin: WO2017137304A1] The invention relates to an aluminium-based coating for steel sheets or steel strips, the coating comprising an aluminium-based coat applied in a hot-dip coating method, a covering layer containing aluminium oxide and/or hydroxide being arranged on the coat. The aim of the invention is to provide an aluminium-based coating which is highly suitable for hot forming and cold forming. To this end, the covering layer is produced by means of plasma oxidation and/or hot water treatment at temperatures of at least 90°C, advantageously at least 95°C, and/or steam treatment at temperatures of at least 90°C, advantageously at least 95°C. Alternatively, the covering layer containing aluminium oxide and/or hydroxide can be produced by anodic oxidation, the coat being produced in a molten bath with a Si content of between 8 and 12 wt. %, and an Fe content of between 1 and 4 wt. %, the remainder being aluminium. The invention also relates to a method therefor and to a method for producing press-hardened components therewith, and to the associated press-hardened component.

IPC 8 full level

C23C 2/12 (2006.01); **C21D 9/46** (2006.01); **C23C 2/26** (2006.01); **C23C 2/40** (2006.01); **C23C 8/36** (2006.01); **C23C 8/42** (2006.01)

CPC (source: EP KR US)

C21D 1/673 (2013.01 - EP KR US); **C21D 8/0284** (2013.01 - EP KR US); **C21D 9/46** (2013.01 - EP KR US); **C21D 9/52** (2013.01 - EP KR US); **C22C 21/02** (2013.01 - EP US); **C23C 2/12** (2013.01 - EP KR US); **C23C 2/26** (2013.01 - EP KR US); **C23C 2/28** (2013.01 - EP US); **C23C 2/29** (2022.08 - EP US); **C23C 2/40** (2013.01 - EP KR US); **C23C 8/16** (2013.01 - KR); **C23C 8/36** (2013.01 - EP KR US); **C23C 8/42** (2013.01 - EP KR US); **C23C 28/321** (2013.01 - KR US); **C23C 28/345** (2013.01 - KR US); **C25D 11/026** (2013.01 - KR); **C25D 11/08** (2013.01 - KR); **C25D 11/10** (2013.01 - KR); **C25D 11/04** (2013.01 - US); **Y10T 428/12757** (2015.01 - 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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

DE 102016102504 A1 20170810; CN 108699665 A 20181023; CN 108699665 B 20200424; EP 3414355 A1 20181219; EP 3414355 B1 20200408; KR 102186771 B1 20201207; KR 20180112799 A 20181012; RU 2704340 C1 20191028; US 10876195 B2 20201229; US 2019040513 A1 20190207; WO 2017137304 A1 20170817

DOCDB simple family (application)

DE 102016102504 A 20160212; CN 201780009440 A 20170202; EP 17703386 A 20170202; EP 2017052266 W 20170202; KR 20187024810 A 20170202; RU 2018128960 A 20170202; US 201716072119 A 20170202