

Title (en)

METHOD FOR REFINING A METALLIC COATING ON A STEEL STRIP

Title (de)

VERFAHREN ZUM VEREDELN EINER METALLISCHEN BESCHICHTUNG AUF EINEM STAHLBAND

Title (fr)

PROCÉDÉ D'AFFINEMENT D'UN REVÊTEMENT MÉTALLIQUE SUR UNE BANDE D'ACIER

Publication

EP 2681348 B1 20170315 (DE)

Application

EP 12700622 A 20120102

Priority

- DE 102011000984 A 20110301
- EP 2012050012 W 20120102

Abstract (en)

[origin: CA2827617A1] The invention relates to a method for enhancing a metallic coating on a steel strip or steel plate, the coating being melted by heating to a temperature above the melting temperature of the material of the coating, the heating taking place by irradiation of the surface of the coating with electromagnetic radiation having a high power density over a limited irradiation time of not more than 10 µs, and the mandated irradiation time and the energy density introduced into the coating by the electromagnetic radiation being selected such that the coating melts completely over its entire thickness down to the boundary layer with the steel strip, thereby forming a thin alloy layer at the boundary layer between the coating and the steel strip. The invention further relates to a steel strip or steel plate having a metallic coating, more particularly a coating of tin, zinc or nickel, in which, at the boundary layer between the steel and the coating, an alloy layer which is thin - compared with the thickness of the coating - and at the same time is dense, and is composed of iron atoms and atoms of the coating material, is formed, the thickness of the alloy layer corresponding to an alloy-layer add-on of less than 0.3 g/m².

IPC 8 full level

B05D 3/06 (2006.01); **C23C 2/08** (2006.01); **C23C 2/28** (2006.01); **C23C 26/00** (2006.01); **C25D 5/50** (2006.01)

CPC (source: EP US)

B05D 3/06 (2013.01 - US); **C23C 2/08** (2013.01 - EP US); **C23C 26/00** (2013.01 - US); **C25D 5/505** (2013.01 - EP US); **Y10T 428/12722** (2015.01 - EP US); **Y10T 428/12799** (2015.01 - EP US); **Y10T 428/12937** (2015.01 - 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)

DE 102011000984 A1 20120906; BR 112013022008 A2 20161129; CA 2827617 A1 20120907; CN 103476967 A 20131225; EP 2681348 A1 20140108; EP 2681348 B1 20170315; JP 2014512454 A 20140522; JP 5767345 B2 20150819; RU 2013141507 A 20150410; RU 2560468 C2 20150820; US 2014162087 A1 20140612; US 9115428 B2 20150825; WO 2012116847 A1 20120907

DOCDB simple family (application)

DE 102011000984 A 20110301; BR 112013022008 A 20120102; CA 2827617 A 20120102; CN 201280011382 A 20120102; EP 12700622 A 20120102; EP 2012050012 W 20120102; JP 2013555807 A 20120102; RU 2013141507 A 20120102; US 201214001939 A 20120102