

Title (en)

COLD-ROLLED STEEL SHEET, MANUFACTURING METHOD THEREFOR, AND CAR PART

Title (de)

KALTGEWALZTES STAHLBLECH, HERSTELLUNGSVERFAHREN DAFÜR UND AUTOTEIL

Title (fr)

TÔLE D'ACIER LAMINÉE À FROID, PROCÉDÉ DE FABRICATION S'Y RAPPORTANT ET PIÈCE DE VOITURE

Publication

**EP 3115482 A4 20170510 (EN)**

Application

**EP 15759246 A 20150219**

Priority

- JP 2014041089 A 20140304
- JP 2015000777 W 20150219

Abstract (en)

[origin: EP3115482A1] There are provided a cold-rolled steel sheet having excellent chemical convertibility and high corrosion resistance after coating and a method for producing the cold-rolled steel sheet, and an automotive component. The method includes performing first pickling with an acid liquid 1) or an acid liquid 2) below on a steel sheet subjected to continuous annealing after cold-rolling and performing second pickling with an acid liquid made of a non-oxidizing acid on the steel sheet: the acid liquid 1) containing nitric acid and hydrochloric acid, in which the nitric acid has a concentration of more than 50 g/L to 200 g/L or less, a ratio R1 (hydrochloric acid/nitric acid) of a concentration of the hydrochloric acid to the concentration of the nitric acid is 0.01 to 0.25, and a concentration of iron ions is 3 to 50 g/L, and the acid liquid 2) containing nitric acid and hydrofluoric acid, in which the nitric acid has a concentration of more than 50 g/L to 200 g/L or less, a ratio R2 (hydrofluoric acid/nitric acid) of a concentration of the hydrofluoric acid to the concentration of the nitric acid is 0.01 to 0.25, and a concentration of iron ions is 3 to 50 g/L.

IPC 8 full level

**C23G 1/08** (2006.01); **C21D 9/46** (2006.01); **C22C 38/00** (2006.01); **C22C 38/06** (2006.01)

CPC (source: EP)

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Citation (search report)

- [X] EP 2612957 A1 20130710 - JFE STEEL CORP [JP]
- [X] WO 2013108785 A1 20130725 - JFE STEEL CORP [JP]
- [E] WO 2016035261 A1 20160310 - JFE STEEL CORP [JP]
- See references of WO 2015133077A1

Cited by

EP4282994A4

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 3115482 A1 20170111**; **EP 3115482 A4 20170510**; **EP 3115482 B1 20220126**; CN 106062253 A 20161026; CN 106062253 B 20191018; JP 6108028 B2 20170405; JP WO2015133077 A1 20170406; MX 2016011278 A 20161125; WO 2015133077 A1 20150911

DOCDB simple family (application)

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