Title (en)
PICKLING METHOD FOR STEEL PLATES, AND PICKLING APPARATUS

Title (de)
BEIZVERFAHREN FÜR STAHLPLATTEN UND BEIZVORRICHTUNG

Title (fr)
PROCÉDÉ DE DÉCAPAGE POUR TÔLES D'ACIER ET APPAREIL DE DÉCAPAGE

Publication
EP 2302102 A4 20150715 (EN)

Application
EP 09754861 A 20090528

Priority
• JP 2009060205 W 20090528
• JP 2008143582 A 20080530

Abstract (en)
[origin: EP2302102A1] The present invention provides a pickling method of steel sheet and pickling system of steel sheet able to efficiently remove oxide scale from steel sheet. That is, it provides a continuous pickling method of steel sheet having a step A of pickling the steel sheet in a pickling tank, a step B of blowing gas toward at least part of the surfaces of the steel sheet in the air after the step A, and a step C of pickling the steel sheet in a pickling tank after the step B, wherein at step B, the steel sheet is temporarily taken out from the pickling solution and gas is blown to at least part of the surfaces of the steel sheet in the air so as to evaporate the acid solution deposited on the surface of the steel sheet and locally increase the acid concentration to thereby efficiently remove even the stubborn Si oxides included in the oxide scale.

IPC 8 full level
C23G 1/08 (2006.01); C23G 3/00 (2006.01); C23G 3/02 (2006.01)

CPC (source: EP US)
C22C 38/02 (2013.01 - EP US); C23G 1/00 (2013.01 - EP US); C23G 1/08 (2013.01 - EP US); C23G 3/021 (2013.01 - EP US); C23G 3/027 (2013.01 - EP US)

Citation (search report)
• [A] JP 2005298937 A 20051027 - MITSUBISHI HITACHI METALS
• [XY] DATABASE WPI Week 198748, Derwent World Patents Index; AN 1987-338696, XP002738972
• [Y] DATABASE WPI Week 200035, Derwent World Patents Index; AN 2000-405182, XP002738973
• See references of WO 2009145353A1

Designated contracting state (EPC)
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 SE SI SK TR

DOCDB simple family (publication)
EP 2302102 A1 20110330; EP 2302102 A4 20150715; EP 2302102 B1 20171115; BR PI0913196 A2 20160112; BR PI0913196 B1 20190416; CN 102046850 A 20110504; CN 102046850 B 20140129; JP 4714800 B2 20110629; JP WO2009145353 A1 20111020; KR 101249167 B1 20130329; KR 20110003556 A 20110112; US 2011079244 A1 20110407; WO 2009145353 A1 20091203

DOCDB simple family (application)
EP 09754861 A 20090528; BR PI0913196 A 20090528; CN 200980119474 A 20090528; JP 2009060205 W 20090528; JP 2010514573 A 20090528; KR 20107026664 A 20090528; US 73699609 A 20090528