

Title (en)
METHOD FOR PRODUCING A HOT-ROLLED FLAT STEEL PRODUCT

Title (de)
VERFAHREN ZUM HERSTELLEN EINES WARMGEWALZTEN STAHLFLACHPRODUKTS

Title (fr)
PROCÉDÉ DE FABRICATION D'UN PRODUIT EN ACIER PLAT LAMINÉ A CHAUD

Publication
EP 2663411 A1 20131120 (DE)

Application
EP 11794191 A 20111214

Priority
• DE 102011000089 A 20110111
• EP 2011072671 W 20111214

Abstract (en)
[origin: WO2012095232A1] The invention relates to a method for generating a flat steel product, in an economical and reliably operating manner, from a steel comprising a high Al content in addition to a high Mn content. The method according to the invention comprises the working steps of: fusing a steel melt S, comprising, in addition to Fe and unavoidable contaminants (in wt %) C: 0.5 - 1.3 %, Mn: 18 - 26 %, Al: 5.9 - 11.5 %, Si: < 1 %, Cr: < 8 %, Ni : < 3 %, Mo: < 2 %, N: < 0.1 %, B: < 0.1 %, Cu: < 5 %, Nb: < 1 %, Ti: < 1 %, V: < 1 %, Ca: < 0.05 %, Zr: < 0.1 %, P: < 0.04 %, S: < 0.04 %; casting the steel melt into a cast strip; heating the cast strip to an initial hot-rolling temperature of 1100 - 1300 °C at a heating rate of at least 20 K/s; hot rolling the cast strip heated to the initial hot-rolling temperature into a hot strip; cooling the hot strip within 10 s after the hot rolling at a cooling rate of at least 100 K/s to < 400 °C; and winding the cooled hot strip into a coil at a coiling temperature of up to 400 °C.

IPC 8 full level
B22D 11/12 (2006.01); **B22D 11/06** (2006.01); **C21D 8/00** (2006.01); **C21D 8/02** (2006.01); **C22C 38/00** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01)

CPC (source: EP US)
B22D 11/0622 (2013.01 - EP US); **B22D 11/1213** (2013.01 - EP US); **C21D 8/005** (2013.01 - US); **C21D 8/02** (2013.01 - EP US); **C21D 8/0226** (2013.01 - EP US); **C22C 38/00** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C21D 2211/001** (2013.01 - EP US)

Citation (search report)
See references of WO 2012095232A1

Cited by
WO2019239206A1

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)
WO 2012095232 A1 20120719; BR 112013017753 A2 20161011; CA 2823095 A1 20120719; CA 2823095 C 20150908; CN 103328120 A 20130925; CN 103328120 B 20160622; DE 102011000089 A1 20120712; EP 2663411 A1 20131120; EP 2663411 B1 20170215; ES 2625281 T3 20170719; JP 2014505172 A 20140227; KR 20130100215 A 20130909; MX 2013007874 A 20130729; MX 345374 B 20170126; RU 2013137456 A 20150220; RU 2554265 C2 20150627; US 2014007992 A1 20140109

DOCDB simple family (application)
EP 2011072671 W 20111214; BR 112013017753 A 20111214; CA 2823095 A 20111214; CN 201180064797 A 20111214; DE 102011000089 A 20110111; EP 11794191 A 20111214; ES 11794191 T 20111214; JP 2013548768 A 20111214; KR 20137021027 A 20111214; MX 2013007874 A 20111214; RU 2013137456 A 20111214; US 201113978969 A 20111214