

Title (en)  
METHOD FOR MAKING A HOT ROLLED THIN CAST STRIP PRODUCT

Title (de)  
HERSTELLUNGSVERFAHREN FÜR EIN HEISSGEWALZTES DÜNNES GUSSBANDPRODUKT

Title (fr)  
PROCÉDÉ DE PRODUCTION D' UN PRODUIT DE COULÉE EN BANDE MINCE LAMINÉE À CHAUD

Publication  
**EP 2398602 B1 20181031 (EN)**

Application  
**EP 10743332 A 20100220**

Priority  
• AU 2010000189 W 20100220  
• US 15423309 P 20090220

Abstract (en)  
[origin: US2010215981A1] A hot rolled steel strip made by the steps including assembling a twin roll caster, forming a casting pool of molten steel having a free oxygen content between 20 and 75 ppm and having a composition such that the cast strip comprises by weight, less than 0.25% carbon, between 0.9 and 2.0% manganese, between 0.05 and 0.50% silicon, greater than 0.01% and less than or equal to 0.15% phosphorus, and less than 0.01% aluminum, counter rotating the casting rolls forming the steel strip, hot rolling the strip such that mechanical properties at 10% and 35% reduction are within 10% for yield strength, tensile strength and total elongation, and coiling the strip at a temperature between 300 and 700° C. to provide a majority of the microstructure comprising bainite and acicular ferrite. Alternatively, the steel may have between 0.20 and 0.60% copper and manganese as low as 0.08%.

IPC 8 full level  
**B21B 1/46** (2006.01); **B22D 11/06** (2006.01); **C21D 8/02** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/08** (2006.01); **C22C 38/12** (2006.01); **C22C 38/16** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP US)  
**B22D 11/0622** (2013.01 - EP US); **C21D 8/0215** (2013.01 - EP US); **C21D 8/0226** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C21D 2211/002** (2013.01 - EP US); **C21D 2211/005** (2013.01 - EP US); **Y10T 428/12799** (2015.01 - EP US)

Citation (examination)  
SPIEKERMANN P: "Alloys - a special problem of patent law", NONPUBLISHED ENGLISH TRANSLATION OF DOCUMENT, 31 December 2000 (2000-12-31), pages 1 - 20, XP002184689

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 SM TR

DOCDB simple family (publication)  
**US 2010215981 A1 20100826**; AU 2010215077 A1 20110728; AU 2010215077 B2 20170525; AU 2017202997 A1 20170601; AU 2017202997 B2 20190117; CN 102325608 A 20120118; CN 102325608 B 20151125; CN 105215299 A 20160106; EP 2398602 A1 20111228; EP 2398602 A4 20140924; EP 2398602 B1 20181031; EP 3431201 A2 20190123; EP 3431201 A3 20190313; JP 2012518539 A 20120816; JP 5509222 B2 20140604; KR 101715086 B1 20170310; KR 20110117142 A 20111026; MY 173389 A 20200122; PL 2398602 T3 20190430; RU 2011138463 A 20130327; RU 2532794 C2 20141110; WO 2010094076 A1 20100826

DOCDB simple family (application)  
**US 70863510 A 20100219**; AU 2010000189 W 20100220; AU 2010215077 A 20100220; AU 2017202997 A 20170505; CN 201080008606 A 20100220; CN 201510522890 A 20100220; EP 10743332 A 20100220; EP 18190655 A 20100220; JP 2011550383 A 20100220; KR 20117018562 A 20100220; MY PI2011700114 A 20100220; PL 10743332 T 20100220; RU 2011138463 A 20100220