

Title (en)
A HOT ROLLED PRECIPITATION STRENGTHENED AND GRAIN REFINED HIGH STRENGTH DUAL PHASE STEEL SHEET POSSESSING 600 MPa MINIMUM TENSILE STRENGTH AND A PROCESS THEREOF

Title (de)
WARMGEWALZTES, PRÄZIPITATIONSGESTÄRKTES UND KORNVERFEINERTES HOCHFESTES ZWEI-PHASEN-STAHLBLECH MIT EINER MINDESTZUGFESTIGKEIT VON 600 MPa UND VERFAHREN DAFÜR

Title (fr)
TÔLE D'ACIER HAUTE RÉSISTANCE À DEUX PHASES RENFORCÉ PAR DISPERSION ET À AFFINAGE DE GRAIN LAMINÉE À CHAUD PRÉSENTANT UNE RÉSISTANCE À LA TRACTION MINIMALE DE 600 MPa ET SON PROCÉDÉ

Publication
EP 3408418 A1 20181205 (EN)

Application
EP 17740800 A 20170510

Priority
• IN 201731004831 A 20170210
• IN 2017050171 W 20170510

Abstract (en)
[origin: WO2018146695A1] The invention relates to a process for producing dual phase steel sheet comprises steps of making a liquid steel having chemical composition in wt% of C: 0.03 - 0.12, Mn: 0.8 1.5, Si:<0.1, O: 0.3 0.7, 9 0.008 max, P - 0.025 max, Al- 0.01 to 0.1, N- - 0.007 max Nb: 0.005 0.035, and V- 0.06 max, continuous casting the liquid steel in a slab, hot rolling the slab into a hot rolled sheet at finish rolling temperature (FRT) 840 ±30 deg. C, cooling the hot rolled sheet on Run Out Table at cooling rate, 10 - 70°C/s achieving intermediate temperature (TINT) 720 ≤ TINT ≤ 650; natural cooling the hot rolled sheet for duration 5 7 - seconds and rapidly cooling the hot rolled sheet to transform remaining carbon enriched austenite to martensite, at cooling rate of 40 -70 deg. C/s to achieve cooling temperature below 400 - deg. C.

IPC 8 full level
C21D 8/02 (2006.01); **C21D 1/18** (2006.01); **C21D 9/34** (2006.01); **C22C 38/04** (2006.01); **C22C 38/12** (2006.01); **C22C 38/18** (2006.01)

CPC (source: EP KR US)
C21D 1/185 (2013.01 - EP KR); **C21D 6/002** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/008** (2013.01 - US);
C21D 8/0205 (2013.01 - US); **C21D 8/0226** (2013.01 - EP KR US); **C21D 8/0263** (2013.01 - EP KR US); **C21D 9/34** (2013.01 - EP KR);
C21D 9/46 (2013.01 - US); **C22C 38/001** (2013.01 - US); **C22C 38/002** (2013.01 - US); **C22C 38/02** (2013.01 - US);
C22C 38/04 (2013.01 - EP KR US); **C22C 38/06** (2013.01 - US); **C22C 38/12** (2013.01 - EP KR); **C22C 38/18** (2013.01 - EP KR US);
C22C 38/26 (2013.01 - US); **C21D 8/0426** (2013.01 - EP); **C21D 8/0463** (2013.01 - EP); **C21D 2211/002** (2013.01 - US);
C21D 2211/005 (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US)

Citation (search report)
See references of WO 2018146695A1

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)
WO 2018146695 A1 20180816; EP 3408418 A1 20181205; EP 3408418 B1 20230510; ES 2951778 T3 20231024; JP 2020509151 A 20200326;
JP 7063810 B2 20220509; KR 20190131408 A 20191126; US 2020123630 A1 20200423

DOCDB simple family (application)
IN 2017050171 W 20170510; EP 17740800 A 20170510; ES 17740800 T 20170510; JP 2018534952 A 20170510; KR 20187014213 A 20170510;
US 201716070605 A 20170510