Title (en)

HIGH STRENGTH AIR HARDENABLE MULTI PHASE STEEL WITH EXCELLENT WORKABILITY AND SHEET MANUFACTURING PROCESS THEREOF

Title (de)

HÖCHSTFESTER LUFTHÄRTENDER MEHRPHASENSTAHL MIT HERVORRAGENDEN VERARBEITUNGSEIGENSCHAFTEN UND VERFAHREN ZUR HERSTELLUNG EINES BANDES AUS DIESEM STAHL

Title (fr)

ACIER MULTIPHASES AUTOTREMPANT EN PROFONDEUR À HAUTE RÉSISTANCE MÉCANIQUE AVEC EXCELLENT APTITUDE AU FACONNAGE ET PROCÉDÉ DE FABRICATION D'UNE BANDE DE CET ACIER

Publication

EP 3221483 A1 20170927 (DE)

Application

EP 15821018 A 20151106

Priority

- DE 102014017274 A 20141118
- DE 2015100474 W 20151106

Abstract (en)

[origin: WO2016078644A1] The invention relates to a high-strength air-hardenable multiphase steel which has excellent processing properties and consists of a composition defined in claim 1 and in which, in order to allow for a process window that is as large as possible for the continuous annealing of hot and cold strips from said steel, the combined content of Mn+Si+Cr is adjusted as follows in accordance with the strip thickness obtained: up to 1.00 mm: sum of Mn+Si+Cr ≥ 2.800 and ≤ 3.000 wt%; more than 1.00 and up to 2.00 mm: sum of Mn+Si+Cr ≥ 2.850 and ≤ 3.100 wt %; more than 2.00 mm: sum of Mn+Si+Cr ≥ 2.900 and ≤ 3.200 wt%.

IPC 8 full level

C21D 1/84 (2006.01); **C21D 1/26** (2006.01); **C21D 1/28** (2006.01); **C21D 1/74** (2006.01); **C21D 1/76** (2006.01); **C21D 8/02** (2006.01); **C21D 8/04** (2006.01); **C21D 9/46** (2006.01); **C21D 9/48** (2006.01); **C21D 9/56** (2006.01); **C21D 9/58** (2006.01); **C22C 38/02** (2006.01); **C22C 38/04** (2006.01); **C22C 38/06** (2006.01); **C22C 38/22** (2006.01); **C22C 38/26** (2006.01); **C22C 38/28** (2006.01); **C22C 38/32** (2006.01); **C22C 38/38** (2006.01); **C23C 2/00** (2006.01)

CPC (source: CN EP KR RU US)

C21D 1/84 (2013.01 - EP); **C21D 6/002** (2013.01 - US); **C21D 6/005** (2013.01 - US); **C21D 6/007** (2013.01 - EP); **C21D 6/008** (2013.01 - US); **C21D 8/02** (2013.01 - RU); **C21D 8/0205** (2013.01 - US); **C21D 8/0247** (2013.01 - CN EP KR); **C21D 8/0263** (2013.01 - CN KR US); **C21D 8/0273** (2013.01 - CN EP KR); **C21D 8/0278** (2013.01 - US); **C21D 9/46** (2013.01 - CN KR RU); **C21D 9/48** (2013.01 - EP); **C21D 9/52** (2013.01 - US); **C21D 9/561** (2013.01 - EP); **C21D 9/562** (2013.01 - EP); **C21D 9/58** (2013.01 - EP); **C22C 38/001** (2013.01 - EP US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - CN EP US); **C22C 38/04** (2013.01 - CN EP KR); **C22C 38/06** (2013.01 - EP US); **C22C 38/22** (2013.01 - CN EP KR US); **C22C 38/24** (2013.01 - US); **C22C 38/26** (2013.01 - CN EP KR US); **C22C 38/28** (2013.01 - CN EP KR US); **C22C 38/32** (2013.01 - CN EP KR US); **C22C 38/38** (2013.01 - CN EP KR RU US); **C23C 2/0038** (2022.08 - CN EP KR RU US); **C23C 2/0224** (2022.08 - CN EP KR RU US); **C23C 2/024** (2022.08 - CN EP KR RU US); **C23C 2/29** (2022.08 - CN EP KR RU US); **C23C 2/40** (2013.01 - US); C21D 1/26 (2013.01 - EP); C21D 1/28 (2013.01 - EP); C21D 1/74 (2013.01 - EP); C21D 1/76 (2013.01 - EP); C21D 6/002 (2013.01 - EP); C21D 6/005 (2013.01 - EP); C21D 8/0447 (2013.01 - EP); C21D 8/0473 (2013.01 - EP); C21D 9/46 (2013.01 - EP); C21D 2211/002 (2013.01 - US); C21D 2211/005 (2013.01 - CN EP KR US); C21D 2211/008 (2013.01 - CN EP US); C21D 2241/00 (2013.01 - US)

Citation (search report)

See references of WO 2016078644A1

Cited by

EP3950994A4; EP3825432A4; EP3825433A4; EP3950994B1; EP3825433B1

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)

DE 102014017274 A1 20160519; CN 107208232 A 20170926; CN 107208232 B 20190226; EP 3221483 A1 20170927; EP 3221483 B1 20200506; KR 20170084210 A 20170719; MX 2017006374 A 20180216; RU 2017120860 A 20181219; RU 2017120860 A3 20190726; RU 2721767 C2 20200522; US 10626478 B2 20200421; US 2019316222 A1 20191017; WO 2016078644 A1 20160526

DOCDB simple family (application)

DE 102014017274 A 20141118; CN 201580073755 A 20151106; DE 2015100474 W 20151106; EP 15821018 A 20151106; KR 20177015846 A 20151106; MX 2017006374 A 20151106; RU 2017120860 A 20151106; US 201515528021 A 20151106