Title (en)

METHOD OF PRODUCING AUSTENTIC IRON/CARBON/MANGANESE STEEL SHEETS HAVING VERY HIGH STRENGTH AND ELONGATION CHARACTERISTICS AND EXCELLENT HOMOGENEITY

Title (de)

VERFAHREN ZUR HERSTELLUNG VON AUSTENITISCHEN EISEN-/KARBON-/MANGAN-STAHLBLECHEN MIT SEHR GUTEN FESTIGKEITS- UND DEHNUNGSEIGENSCHAFTEN SOWIE AUSGEZEICHNETER HOMOGENITÄT

Title (fr)

PROCEDE DE FABRICATION DE TOLES D' ACIER AUSTENITIQUE , FER-CARBONE-MANGANESE A TRES HAUTES CARACTERISTIQUES DE RESISTANCE ET EXCELLENTE HOMOGÉNÉITÉ.

Publication

EP 1819461 B1 20200415 (FR)

Application

EP 05814950 A 20051104

Priority

- FR 2005002740 W 20051104
- FR 0412477 A 20041124

Abstract (en)

[origin: WO2006056670A2] The invention relates to a hot rolled sheet which is made from austenitic iron/carbon/manganese steel and which has a strength of greater than 1200 MPa, of which the product P (resistance (MPa) x elongation at rupture (%)) is greater than 65000 MPa %. The nominal chemical composition of the inventive sheet comprises the following concentrations expressed as weight: 0.85 %= C= 1.05 %, 16 %= Mn=19 %, Si =2 %, Al =0.050 %, S=0.030 %, P=0.050 %, N=0.1 %, and, optionally, one or more elements selected from among Cr=1 %, Mo=0.40 %, Ni=1 %, Cu=5 %, Ti=0.50 %, Nb=0.50 %, V= 0.50 %, the rest of the composition comprising iron and inevitable impurities resulting from production. According to the invention, the recrystallised surface fraction of the steel is equal to 100 %, the surface fraction of precipitated carbides of said steel is equal to 0 % and the average grain size thereof is less than or equal to 10 micrometers.

IPC 8 full level

C22C 38/04 (2006.01); **B22D 11/06** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/02** (2006.01)

CPC (source: EP KR US)

B22D 11/06 (2013.01 - KR); **C21D 8/02** (2013.01 - KR); **C21D 8/0205** (2013.01 - EP US); **C21D 9/46** (2013.01 - KR); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP KR US); C21D 8/0226 (2013.01 - EP US); C21D 8/0236 (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK YU

DOCDB simple family (publication)

FR 2878257 A1 20060526; **FR 2878257 B1 20070112**; BR PI0517890 A 20081021; BR PI0517890 B1 20141223; CA 2587858 A1 20060601; CA 2587858 C 20111025; CN 101090982 A 20071219; CN 101090982 B 20100908; EP 1819461 A2 20070822; EP 1819461 B1 20200415; ES 2791675 T3 20201105; HU E050022 T2 20201130; JP 2008520830 A 20080619; JP 2012072499 A 20120412; JP 5142101 B2 20130213; KR 101275895 B1 20130617; KR 20070091300 A 20070910; KR 20100084570 A 20100726; KR 20120014070 A 20120215; MX 2007006240 A 20071008; PL 1819461 T3 20201005; RU 2007123594 A 20081227; RU 2366727 C2 20090910; UA 90873 C2 20100610; US 2008035248 A1 20080214; US 7794552 B2 20100914; WO 2006056670 A2 20060601; WO 2006056670 A3 20070705; ZA 200703890 B 20080528

DOCDB simple family (application)

FR 0412477 A 20041124; BR PI0517890 A 20051104; CA 2587858 A 20051104; CN 200580042631 A 20051104; EP 05814950 A 20051104; ES 05814950 T 20051104; FR 2005002740 W 20051104; HU E05814950 A 20051104; JP 2007542029 A 20051104; JP 2011251070 A 20111028; KR 20077014265 A 20070622; KR 20107012508 A 20051104; KR 20117031699 A 20051104; MX 2007006240 A 20051104; PL 05814950 T 20051104; RU 2007123594 A 20051104; UA A200707030 A 20051104; US 72001805 A 20051104; ZA 200703890 A 20070514