Title (en)

HOT-ROLLED STEEL SHEET HAVING HIGH YIELD RATIO AND EXCELLENT LOW-TEMPERATURE IMPACT ENERGY ABSORPTION AND HAZ SOFTENING RESISTANCE AND METHOD FOR PRODUCING SAME

Title (de)

HEISSGEWALZTES STAHLBLECH MIT HOHER STRECKGRENZE UND HERVORRAGENDER NIEDRIGTEMPERATUR-SCHLAGENERGIEABSORPTION UND WEZ-ERWEICHUNGSBESTÄNDIGKEIT SOWIE VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

FEUILLE D'ACIER LAMINÉE À CHAUD AYANT UN RAPPORT DE LIMITE D'ÉLASTICITÉ ÉLEVÉ ET UNE EXCELLENTE ABSORPTION D'ÉNERGIE D'IMPACT À BASSE TEMPÉRATURE ET UNE RÉSISTANCE AU RAMOLLISSEMENT HAZ ET SON PROCÉDÉ DE FABRICATION

Publication

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Application

EP 12822363 A 20120808

Priority

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Abstract (en)

Hot rolled steel sheet which has a maximum tensile strength of 600 MPa or more and has an excellent low temperature impact energy absorption and HAZ softening resistance and a method of production of the same are provided, that is, sheet which contains, by mass%, C: 0.04 to 0.09%, Si: 0.4% or less, Mn: 1.2 to 2.0%, P: 0.1% or less, S: 0.02% or less, Al: 1.0% or less, Nb: 0.02 to 0.09%, Ti: 0.02 to 0.07%, and N: 0.005% or less, where 2.0#¤Mn+8[%Ti]+12[%Nb]#¤2.6, has a balance of Fe and unavoidable impurities, has an area percentage of pearlite of 5% or less, has a total area percentage of martensite and retained austenite of 0.5% or less, has a balance of a metal structure of ferrite and/or bainite, has an average grain size of ferrite and bainite of 10 μm or less, has an average particle size of alloy carbonitrides with incoherent interfaces which contain Ti and Nb of 20 nm or less, and has a yield ratio of 0.85 or more.

IPC 8 full level

C22C 38/00 (2006.01); **B21B 3/00** (2006.01); **C21D 9/46** (2006.01); **C22C 38/14** (2006.01); **C22C 38/58** (2006.01); **C23C 2/02** (2006.01); **C23C 2/28** (2006.01)

CPC (source: CN EP KR US)

B21B 3/00 (2013.01 - KR); **C21D 8/0226** (2013.01 - CN KR); **C21D 8/0263** (2013.01 - CN EP KR US); **C21D 8/0426** (2013.01 - EP US); **C21D 8/0473** (2013.01 - EP US); **C21D 8/0484** (2013.01 - EP US); **C21D 9/46** (2013.01 - KR); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - CN EP US); **C22C 38/005** (2013.01 - CN EP US); **C22C 38/02** (2013.01 - CN EP KR US); **C22C 38/04** (2013.01 - CN EP KR US); **C22C 38/06** (2013.01 - CN EP KR US); **C22C 38/08** (2013.01 - CN); **C22C 38/12** (2013.01 - CN EP KR US); **C22C 38/14** (2013.01 - CN EP KR US); **C22C 38/16** (2013.01 - CN EP US); **C22C 38/18** (2013.01 - CN); **C22C 38/32** (2013.01 - CN); **C22C 38/42** (2013.01 - EP US); **C22C 38/48** (2013.01 - EP US); **C22C 38/50** (2013.01 - EP US); **C22C 38/58** (2013.01 - KR); **C23C 2/02** (2013.01 - CN EP US); **C23C 2/0224** (2022.08 - CN EP KR US); **C23C 2/024** (2022.08 - CN EP KR US); **C23C 2/28** (2013.01 - CN EP KR US); C21D 9/56 (2013.01 - EP US); C21D 2211/001 (2013.01 - CN KR); C21D 2211/002 (2013.01 - CN EP KR US); C21D 2211/005 (2013.01 - CN EP KR US); C21D 2211/008 (2013.01 - CN KR); C21D 2211/009 (2013.01 - CN KR); Y10T 428/12972 (2015.01 - EP US)

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