

Title (en)

HIGH-RIGIDITY HIGH-STRENGTH THIN STEEL SHEET AND METHOD FOR PRODUCING SAME

Title (de)

HOCHSTEIFES HOCHFESTES DÜNNES STAHLBLECH UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

FEUILLE D'ACIER MINCE AVEC RIGIDITE ET RESISTANCE MECHANIQUE ELEVEE ET PROCEDE POUR SA PRODUCTION

Publication

EP 1731627 A1 20061213 (EN)

Application

EP 05728004 A 20050331

Priority

- JP 2005006327 W 20050331
- JP 2004107040 A 20040331
- JP 2004346620 A 20041130

Abstract (en)

There is provided a high-stiffness high-strength thin steel sheet having a tensile strength of not less than 590 MPa and a Young's modulus of not less than 230 GPa, which comprises C: 0.02-0.15%, Si: not more than 1.5%, Mn: 1.0-3.5%, P: not more than 0.05%, S: not more than 0.01%, Al: not more than 1.5%, N: not more than 0.01% and Ti: 0.02-0.50% as mass%, provided that C, N, S and Ti contents satisfy $Ti^* = Ti - (47.9/14) \times N - (47.9/32.1) \times S \neq 0.01$ and $0.01 \leq C - (12/47.9) \times Ti^* \neq 0.05$ and the remainder being substantially iron and inevitable impurities, and has a texture comprising a ferrite phase as a main phase and having a martensite phase at an area ratio of not less than 1%.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 9/46** (2006.01); **C22C 38/14** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)

C21D 9/46 (2013.01 - EP KR US); **C22C 38/02** (2013.01 - EP KR US); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/12** (2013.01 - KR); **C22C 38/14** (2013.01 - EP KR US); **C22C 38/16** (2013.01 - KR); **C22C 38/18** (2013.01 - KR); **C22C 38/38** (2013.01 - KR); **C21D 2211/005** (2013.01 - EP KR US); **C21D 2211/008** (2013.01 - EP KR US)

Cited by

WO2019174730A1; EP2778247A4; EP2138599A4; EP2169083A4; US2018057907A1; US10570476B2

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

EP 1731627 A1 20061213; **EP 1731627 A4 20071031**; **EP 1731627 B1 20130821**; AU 2005227564 A1 20051013; AU 2005227564 B2 20080221; CA 2546009 A1 20051013; KR 100881047 B1 20090205; KR 20060134029 A 20061227; TW 200604352 A 20060201; TW I312810 B 20090801; US 2007144633 A1 20070628; WO 2005095664 A1 20051013

DOCDB simple family (application)

EP 05728004 A 20050331; AU 2005227564 A 20050331; CA 2546009 A 20050331; JP 2005006327 W 20050331; KR 20067014872 A 20060724; TW 94110219 A 20050331; US 57852405 D 20050331