

Title (en)
Steel sheet for the manufacture of light structures and manufacturing process of this sheet

Title (de)
Stahlblech für die Herstellung leichter Strukturen und Herstellungsverfahren dieses Blattes

Title (fr)
Tole d'acier pour la fabrication de structures allegées et procédé de fabrication de cette tole

Publication
EP 1897963 A1 20080312 (FR)

Application
EP 06291413 A 20060906

Priority
EP 06291413 A 20060906

Abstract (en)
Steel sheet comprises (in wt.%) carbon (0.01-0.2), manganese (0.06-3), silicon (= 1.5), aluminum (0.005-1.5), phosphorous (= 0.04), titanium (2.5-7.2) and boron according to a formula given in the specification, optionally other elements such as nickel (= 1), molybdenum (= 1), chromium (= 3), niobium (= 0.1), vanadium (= 0.1) and iron and impurities (rest), where the impurities are unavoidable impurities resulting from elaboration. Independent claims are included for: (1) an object manufactured from the steel pieces of the same or different composition and thickness in which at least one of the steel pieces is the given steel sheet, welded together; (2) a manufacturing process comprising supplying steel compositions and casting the steel in the form of semi-finished product; and (3) production of structural parts, comprising cutting out a blank from a steel sheet or an object and deforming the blank at 20-900[deg] C.

Abstract (fr)
L'invention concerne une tôle d'acier dont la composition comprend, les teneurs étant exprimées en poids : 0,010% # C # 0,20% , 0,06 % # Mn # 3%, Si # 1,5%, 0,005% # Al # 1,5%, S # 0,030%, P # 0,040%, 2,5% # Ti # 7,2%, (0,45 xTi) - 0,35% # B # (0,45 xTi) + 0,70%, et optionnellement, un ou plusieurs éléments choisis parmi : Ni # 1%, Mo # 1%, Cr # 3%, Nb # 0,1%, V # 0,1%, le reste de la composition étant constitué de fer et d'impuretés inévitables résultant de l'élaboration

IPC 8 full level
C22C 38/00 (2006.01); **C22C 38/14** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR)
C22C 38/001 (2013.01 - KR); **C22C 38/02** (2013.01 - EP); **C22C 38/04** (2013.01 - KR); **C22C 38/06** (2013.01 - KR);
C22C 38/14 (2013.01 - EP KR)

Citation (search report)
• [A] JP 2005154826 A 20050616 - AICHI STEEL WORKS LTD, et al
• [A] SU 1122009 A1 19961210 - NAUCHNO-PROIZVODSTVENNOE OB EDINENIE PO TEK H MASHINOSTROENIJA TSNITMASH [RU]
• [A] EP 1156126 A1 20011121 - IMPHY UGINE PRECISION [FR]

Cited by
EP2703509A1; WO2018193290A1; WO2018193411A1; CN110976796A; EP3441497A4; WO2013171231A1; US11078554B2; US11725265B2; US9315883B2; JP2015534605A; EP2703510A1; WO2014040783A1; WO2013050397A1; US11427898B2

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)
EP 1897963 A1 20080312; BR PI0716877 A2 20131015; BR PI0716877 B1 20170502; CA 2662741 A1 20080313; CA 2662741 C 20120207; CN 101563476 A 20091021; CN 101563476 B 20111116; EP 2064360 A2 20090603; EP 2064360 B1 20171227; ES 2659987 T3 20180320; HU E036845 T2 20180828; JP 2010502838 A 20100128; JP 5298017 B2 20130925; KR 20090043555 A 20090506; MA 30698 B1 20090901; MX 2009002411 A 20090320; PL 2064360 T3 20180629; RU 2009108338 A 20100920; RU 2416671 C2 20110420; TR 201802707 T4 20180321; UA 95490 C2 20110810; WO 2008029011 A2 20080313; WO 2008029011 A3 20080502; ZA 200901377 B 20091230

DOCDB simple family (application)
EP 06291413 A 20060906; BR PI0716877 A 20070827; CA 2662741 A 20070827; CN 200780033041 A 20070827; EP 07823448 A 20070827; ES 07823448 T 20070827; FR 2007001401 W 20070827; HU E07823448 A 20070827; JP 2009527173 A 20070827; KR 20097004737 A 20090306; MA 31679 A 20090303; MX 2009002411 A 20070827; PL 07823448 T 20070827; RU 2009108338 A 20070827; TR 201802707 T 20070827; UA A200902135 A 20070827; ZA 200901377 A 20090226