

Title (en)
WEAR-RESISTANT STEEL SHEET HAVING EXCELLENT WELDED PART TOUGHNESS AND LAGGING DESTRUCTION RESISTANCE PROPERTIES

Title (de)
VERSCHLEISSFESTES STAHLBLECH MIT AUSGEZEICHNETER FESTIGKEIT DES GESCHWEISSTEN TEILS SOWIE HOHER BESTÄNDIGKEIT GEGEN ZERSTÖRUNG DURCH VERZUG

Title (fr)
TÔLE D'ACIER RÉSISTANT À L'USURE AVEC D'EXCELLENTES PROPRIÉTÉS EN TERMES DE TÉNACITÉ D'UNE PIÈCE SOUDÉE ET DE RÉSISTANCE À LA DESTRUCTION D'UNE ENVELOPPE

Publication
EP 2589675 A1 20130508 (EN)

Application
EP 11801023 A 20110629

Priority
• JP 2011142507 A 20110628
• JP 2010149650 A 20100630
• JP 2011065410 W 20110629

Abstract (en)
An abrasion resistant steel plate which is excellent in toughness and delayed fracture resistance of a multi pass weld and is preferably used in construction machines, industrial machines and the like is provided. To be more specific, the composition of the steel plate contains by mass% 0.20 to 0.30% C, 0.05 to 1.0% Si, 0.40 to 1.2% Mn, 0.010% or less P, 0.005% or less S, 0.40 to 1.5% Cr, 0.005 to 0.025% Nb, 0.05 to 1.0% Mo, 0.005 to 0.03% Ti, 0.1% or less Al, 0.01% or less N, and 0.0003 to 0.0020% B, and further contains one, two or more kinds of components selected from a group consisting of W, Cu, Ni, V, REM, Ca and Mg when necessary, wherein DI^* ($DI^* = 33.85 \times (0.1 \times C) 0.5 \times (0.7 \times Si + 1) \times (3.33 \times Mn + 1) \times (0.35 \times Cu + 1) \times (0.36 \times Ni + 1) \times (2.16 \times Cr + 1) \times (3 \times Mo + 1) \times (1.75 \times V + 1) \times (1.5 \times W + 1)$) is 45 to 180, $C + Mn/4 - Cr/3 + 10P \neq 0.47$, and a base phase of the microstructure is formed of martensite.

IPC 8 full level
C21D 8/02 (2006.01); **C22C 38/00** (2006.01); **C22C 38/32** (2006.01); **C22C 38/54** (2006.01)

CPC (source: EP KR US)
C21D 8/0226 (2013.01 - EP KR US); **C21D 8/0263** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP KR US); **C22C 38/005** (2013.01 - EP KR US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/20** (2013.01 - US); **C22C 38/22** (2013.01 - EP KR US); **C22C 38/24** (2013.01 - EP KR US); **C22C 38/26** (2013.01 - EP KR US); **C22C 38/28** (2013.01 - EP KR US); **C22C 38/32** (2013.01 - EP US); **C22C 38/42** (2013.01 - EP KR US); **C22C 38/44** (2013.01 - US); **C22C 38/46** (2013.01 - US); **C22C 38/48** (2013.01 - US); **C22C 38/50** (2013.01 - US); **C22C 38/54** (2013.01 - US)

Cited by
EP2695960A4; EP2692890A4; EP2589676A4; EP2789699A1; EP3098331A4; US10662493B2; US9938599B2; US9879334B2; US10253385B2; US10093998B2; WO2015028557A1; US9982331B2; US10577671B2

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

DOCDB simple family (publication)
EP 2589675 A1 20130508; **EP 2589675 A4 20180103**; AU 2011272249 A1 20130214; AU 2011272249 B2 20140911; AU 2011272249 C1 20170202; CA 2801708 A1 20120105; CA 2801708 C 20160426; CN 102959112 A 20130306; JP 2012031511 A 20120216; KR 101502845 B1 20150317; KR 20130025947 A 20130312; MX 2013000014 A 20130201; MX 353802 B 20180130; RU 2013103813 A 20140810; RU 2550987 C2 20150520; US 2013206286 A1 20130815; WO 2012002563 A1 20120105

DOCDB simple family (application)
EP 11801023 A 20110629; AU 2011272249 A 20110629; CA 2801708 A 20110629; CN 201180031907 A 20110629; JP 2011065410 W 20110629; JP 2011142507 A 20110628; KR 20137001873 A 20110629; MX 2013000014 A 20110629; RU 2013103813 A 20110629; US 201113807798 A 20110629