Title (en)

HIGH-STRENGTH STEEL SHEET AND PROCESS FOR PRODUCTION THEREOF

Title (de)

HOCHFESTES STAHLBLECH UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

TÔLE D'ACIER HAUTE RÉSISTANCE ET SON PROCÉDÉ DE PRODUCTION

Publication

EP 2246456 B1 20150812 (EN)

Application

EP 09706046 A 20090129

Priority

- JP 2009051915 W 20090129
- JP 2008021403 A 20080131

Abstract (en)

[origin: EP2246456A1] There is provided a high strength steel sheet having a tensile strength of 900 MPa or higher that can achieve both high strength and good formability. The high strength steel sheet has a composition including, on a mass basis, C: 0.1% or more and 0.3% or less; Si: 2.0% or less; Mn: 0.5% or more and 3.0% or less; P: 0.1% or less; S: 0.07% or less; Al: 1.0% or less; and N: 0.008% or less, with the balance Fe and incidental impurities. In the high strength steel sheet, a steel microstructure includes, on an area ratio basis, 5% or more and 80% or less of ferrite, 15% or more of autotempered martensite, 10% or less of bainite, 5% or less of retained austenite, and 40% or less of as-quenched martensite; the mean hardness of the autotempered martensite is HV #¤ 700; and the mean number of precipitated iron-based carbide grains each having a size of 5 nm or more and 0.5 µm or less and included in the autotempered martensite is 5 × 10 4 or more per 1 mm 2 .

IPC 8 full level

C22C 38/60 (2006.01); **C21D 9/46** (2006.01); **C23C 2/06** (2006.01); **C23C 2/28** (2006.01)

CPC (source: EP KR US)

C21D 1/25 (2013.01 - EP US); **C21D 6/005** (2013.01 - EP US); **C21D 8/0426** (2013.01 - EP US); **C21D 8/0436** (2013.01 - EP US); **C21D 8/0447** (2013.01 - EP US); **C21D 9/46** (2013.01 - KR); **C22C 38/001** (2013.01 - KR); **C22C 38/02** (2013.01 - KR); **C22C 38/04** (2013.01 - EP KR US); **C22C 38/06** (2013.01 - KR); **C22C 38/60** (2013.01 - KR); **C23C 2/02** (2013.01 - EP US); **C23C 2/0224** (2022.08 - EP KR US); **C23C 2/024** (2022.08 - EP KR US); **C23C 2/06** (2013.01 - EP KR US); **C23C 2/28** (2013.01 - EP US); **C23C 2/29** (2022.08 - KR); C21D 8/0468 (2013.01 - EP US); C21D 2211/002 (2013.01 - EP KR US); C21D 2211/004 (2013.01 - EP KR US); C21D 2211/005 (2013.01 - EP KR US); C21D 2211/008 (2013.01 - EP KR US)

Cited by

EP2341156A1; EP2762590A4; EP3473741A4; EP3406748A4; EP3572546A4; EP2703511A4; US10329636B2; US11186900B2; US10941476B2; US10100394B2; US9617624B2; EP2690184A1; EP3543363A1; WO2014016421A1; US10597745B2; US10760150B2; US9970092B2; US10301700B2; US11220722B2; WO2015087224A1; EP3572546B1

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