

Title (en)

HIGH-STRENGTH STEEL SHEET FOR WARM FORMING AND PROCESS FOR PRODUCING SAME

Title (de)

HOCHFESTES STAHLBLECH ZUM WARMFORMEN UND VERFAHREN ZU SEINER HERSTELLUNG

Title (fr)

FEUILLE D'ACIER À HAUTE RÉSISTANCE POUR LE FORMAGE À CHAUD ET SON PROCÉDÉ DE FABRICATION

Publication

**EP 2735623 A1 20140528 (EN)**

Application

**EP 12815520 A 20120711**

Priority

- JP 2011158508 A 20110720
- JP 2012004462 W 20120711

Abstract (en)

The invention provides a high-strength steel sheet having good warm press formability and exhibiting excellent strength and ductility after warm press forming, and a method for manufacturing such steel sheets. The high-strength steel sheet is such that the tensile strength at room temperature is not less than 780 MPa, the yield stress at a heating temperature range of 400°C to 700°C is not more than 80% of the yield stress at room temperature, the total elongation at the heating temperature range is not less than 1.1 times the total elongation at room temperature, the yield stress of the steel sheet after the steel sheet is heated to the heating temperature range, subjected to a strain of not more than 20% and cooled from the heating temperature to room temperature is not less than 70% of the yield stress at room temperature before the heating, and the total elongation of the steel sheet after the steel sheet is heated to the heating temperature range, subjected to a strain of not more than 20% and cooled from the heating temperature to room temperature is not less than 70% of the total elongation at room temperature before the heating.

IPC 8 full level

**C22C 38/00** (2006.01); **B21B 3/00** (2006.01); **C21D 8/02** (2006.01); **C21D 9/46** (2006.01); **C22C 38/04** (2006.01); **C22C 38/12** (2006.01); **C22C 38/14** (2006.01); **C22C 38/58** (2006.01)

CPC (source: EP KR US)

**B21B 1/026** (2013.01 - US); **B21B 3/00** (2013.01 - KR); **C21D 6/005** (2013.01 - EP US); **C21D 8/0263** (2013.01 - US); **C21D 9/46** (2013.01 - EP KR US); **C22C 38/001** (2013.01 - EP KR US); **C22C 38/002** (2013.01 - EP US); **C22C 38/02** (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/06** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US); **C22C 38/14** (2013.01 - EP KR US); **C22C 38/58** (2013.01 - KR); **C23C 2/06** (2013.01 - KR); **Y10T 428/12799** (2015.01 - EP US)

Cited by

EP2767606A4; US10301698B2; WO2017144419A1

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 2735623 A1 20140528**; **EP 2735623 A4 20150812**; **EP 2735623 B1 20180704**; CA 2840724 A1 20130124; CA 2840724 C 20160209; CN 103687976 A 20140326; CN 103687976 B 20160518; JP 2013023721 A 20130204; JP 5754279 B2 20150729; KR 101607033 B1 20160328; KR 20140026608 A 20140305; MX 2014000642 A 20140430; MX 363738 B 20190402; US 2014141280 A1 20140522; WO 2013011660 A1 20130124

DOCDB simple family (application)

**EP 12815520 A 20120711**; CA 2840724 A 20120711; CN 201280035912 A 20120711; JP 2011158508 A 20110720; JP 2012004462 W 20120711; KR 20147000633 A 20120711; MX 2014000642 A 20120711; US 201214131824 A 20120711