

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 A4 20150812 (EN)

Application

EP 12815520 A 20120711

Priority

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- JP 2012004462 W 20120711

Abstract (en)

[origin: EP2735623A1] 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

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Citation (search report)

- [A] EP 2177640 A1 20100421 - JFE STEEL CORP [JP]
- [A] JP 2003321736 A 20031114 - JFE STEEL KK
- [X] YOSHIMASA FUNAKAWA ET AL: "Stabilization in Strength of Hot-rolled Sheet Steel Strengthened by Nanometer-sized Carbides", TETSU TO HAGANE: JOURNAL OF THE IRON AND STEEL INSTITUTE OF JAPAN, IRON AND STEEL INSTITUTE OF JAPAN. TOKYO, JP, vol. 93, no. 1, 1 January 2007 (2007-01-01), pages 49 - 56, XP003031621, ISSN: 0021-1575
- [A] YOSHIMASA FUNAKAWA ET AL: "Development of High Strength Hot-rolled Sheet Steel Consisting of Ferrite and Nanometer-sized Carbides", ISIJ INTERNATIONAL, TOKYO, JP, vol. 44, no. 11, 15 November 2004 (2004-11-15), pages 1945 - 1951, XP003031620
- See references of WO 2013011660A1

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EP2767606A4; WO2017144419A1; US10301698B2

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