

Title (en)

HIGH-STRENGTH STEEL SHEET WITH EXCELLENT WORKABILITY AND MANUFACTURING PROCESS THEREFOR

Title (de)

HOCHFESTES STAHLBLECH MIT HERVORRAGENDER BEARBEITBARKEIT UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

FEUILLE D'ACIER À HAUTE RÉSISTANCE AVEC UNE EXCELLENTE APTITUDE AU FAÇONNAGE ET SON PROCÉDÉ DE FABRICATION

Publication

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Application

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Priority

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- JP 2011197670 A 20110909
- JP 2011197671 A 20110909
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Abstract (en)

Provided are: a high-strength steel sheet which is improved in both elongation and local formability and thus exhibits excellent workability; and a manufacturing method thereof. The high-strength steel sheet contains C, Si, Mn, Al, P and S with the remainder including iron and unavoidable impurities, and has a metal structure which includes polygonal ferrite, bainite, tempered martensite, and retained austenite. In the metal structure, (1) the bainite has a composite microstructure including both a high-temperature-formed bainite having an average distance between adjacent regions of retained austenite and/or carbide of 1 μm or more and a low-temperature-formed bainite having an average distance between adjacent regions of retained austenite and/or carbide of less than 1 μm each identified upon observation with a scanning electron microscope; and (2) the retained austenite is present in a volume percentage of 5% or more of the entire metal structure as determined by a saturation magnetization measurement.

IPC 8 full level

C22C 38/00 (2006.01); **C21D 9/46** (2006.01); **C22C 38/60** (2006.01); **C23C 2/02** (2006.01); **C23C 2/06** (2006.01); **C23C 2/28** (2006.01); **C23C 2/40** (2006.01)

CPC (source: EP KR US)

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Citation (applicant)

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