

Title (en)

HIGH-CARBON COLD-ROLLED STEEL SHEET AND METHOD FOR MANUFACTURING SAME

Title (de)

HOCHGEKOHLTES KALTGEWALZTES STAHLBLECH UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

TÔLE D'ACIER À HAUTE TENEUR EN CARBONE LAMINÉE À FROID ET SON PROCÉDÉ DE FABRICATION

Publication

EP 3216889 A1 20170913 (EN)

Application

EP 16836913 A 20160719

Priority

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- JP 2016071133 W 20160719

Abstract (en)

Provided is a high-carbon cold-rolled steel sheet having a thickness of less than 1.0 mm and capable of having good impact and hardness characteristics after a short solution treatment, and thereafter quenching and low-temperature tempering. A high-carbon cold-rolled steel sheet having a steel sheet chemical composition containing, in terms of mass%, C: 0.85-1.10%, Mn: 0.50-1.0%, Si: 0.10-0.35%, P: 0.030% or less, S: 0.030% or less, and Cr: 0.35-0.45%, and furthermore containing Nb: 0.005-0.020 mass% with the remainder being Fe and unavoidable impurities, having a steel sheet structure in which the average particle diameter (d_{av}) of carbide dispersed in the steel sheet is 0.2-0.7 (μm) and the spheroidization ratio is 90% or higher, and having a thickness of less than 1.0 mm. Mechanical characteristics having an excellent impact characteristic in which the impact value is 5 J/cm² or higher and a sufficient hardness characteristic within the range of 600-750 HV can thereby be manifested by a short solution treatment of 3-15 minutes, and thereafter quenching and low-temperature tempering.

IPC 8 full level

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Cited by

EP3980571A4; EP4435132A1; EP3848477A4; EP4265776A4; WO2020246937A1; WO2024141228A1

Designated contracting state (EPC)

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