

Title (en)

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

Title (de)

HOCHFESTES KALTGEWALZTES STAHLBLECH UND VERFAHREN ZUR HERSTELLUNG DAVON

Title (fr)

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

Publication

**EP 3216889 A4 20171025 (EN)**

Application

**EP 16836913 A 20160719**

Priority

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- JP 2016071133 W 20160719

Abstract (en)

[origin: EP3216889A1] 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 ( $\mu\text{m}$ ) 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/cm<sup>2</sup> 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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Citation (search report)

- [A] JP 2006063384 A 20060309 - NISSHIN STEEL CO LTD
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