

Title (en)

Method of manufacturing a cold rolled steel sheet exhibiting an excellent resistance to cold-work embrittlement and a small planar anisotropy.

Title (de)

Verfahren zum Herstellen von kaltgewalzten Stahlblechern mit hoher Beständigkeit gegen Versprödung durch Kaltbearbeitung und mit niedriger ebener Anisotropie.

Title (fr)

Procédé de fabrication de tôles d'acier laminées à froid ayant une résistance à la fragilité suite au travail à froid ainsi qu'une anisotropie plane réduite.

Publication

EP 0539962 A1 19930505 (EN)

Application

EP 92118452 A 19921028

Priority

JP 28297891 A 19911029

Abstract (en)

A method of manufacturing a cold rolled steel sheet includes the steps of preparing, as a material, a steel whose composition consists of C : 0.004 wt% or less, Si : 0.10 wt% or less, Mn : 0.50 wt% or less, Ti : between 0.01 wt% and 0.10 wt%, Nb : between 0.003 wt% and 0.03 wt%, B : between 0.001 wt% and 0.004 wt%, Al : between 0.03 wt% and 0.10 wt%, P : 0.025 wt% or less, S : 0.01 wt% or less, N : 0.006 wt% or less; performing a hot rolling on the material steel under the conditions of a finishing temperature between 800 DEG C and 900 DEG C; coiling the material at a temperature lower than 650 DEG C; performing a cold rolling; performing a continuous annealing at a temperature between 830 DEG C and Ac<7> transformation point; and performing a skin pass rolling. <IMAGE>

IPC 1-7

C21D 8/04; **C22C 38/12**; **C22C 38/14**

IPC 8 full level

C21D 8/04 (2006.01); **C21D 9/48** (2006.01); **C22C 38/00** (2006.01); **C22C 38/14** (2006.01)

CPC (source: EP)

C21D 8/0426 (2013.01); **C21D 8/0473** (2013.01)

Citation (search report)

- [X] EP 0421087 A2 19910410 - KOBE STEEL LTD [JP]
- [X] EP 0108268 B1 19870311
- [A] EP 0295697 A2 19881221 - KAWASAKI STEEL CO [JP]
- [A] EP 0203809 A2 19861203 - KAWASAKI STEEL CO [JP]
- [AD] PATENT ABSTRACTS OF JAPAN vol. 13, no. 479 (C-648)18 October 1989 & JP-A-11 88 630 (NIPPON STEEL CORPORATION) 27 July 1989

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DOCDB simple family (application)

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