Title (en)

Method for producing a grain-oriented electrical steel sheet having a mirror surface and improved core loss

Title (de)

Herstellungsverfahren eines kornorientiertes Elektrostahlbleches mit einer Spiegeloberfläche und mit geringen Eisenverlusten

Title (fr)

Procédé pour la fabrication d'une tÔle d'acier électrique à grains orientés ayant une surface miroir et une faible perte dans le fer

Publication

EP 0753588 A1 19970115 (EN)

Application

EP 95111069 A 19950714

Priority

EP 95111069 A 19950714

Abstract (en)

Disclosed is a method for producing a grain-oriented electrical steel sheet having mirror surface containing 0.8 to 4.8% of Si in the form of a strip which has been subjected to a conventional series of operations including hot rolling with or without annealing, cold rolling once or at least twice with intermediate annealing to obtain a final thickness, decarburization annealing with or without nitriding treatment, coating the steel sheet with an annealing separator mainly containing non-hydrating oxide and final annealing, the improvement comprising: satisfying the relationship <MATH> where ÄAÜ is the total concentration of alkali metal impurity in the annealing separator (weight %), and ÄOÜ is the amount of oxygen contained in the steel sheet just prior to the final annealing (g/m<2>). <IMAGE>

IPC 1-7

C21D 8/12

IPC 8 full level

C21D 8/12 (2006.01); **C22C 38/02** (2006.01)

CPC (source: EP)

C21D 8/1283 (2013.01); **C22C 38/02** (2013.01)

Citation (search report)

- [A] EP 0305966 A1 19890308 - NIPPON STEEL CORP [JP]
- [A] EP 0607440 A1 19940727 - NIPPON STEEL CORP [JP]
- [AD] US 3785882 A 19740115 - JACKSON J
- [A] PATENT ABSTRACTS OF JAPAN vol. 18, no. 226 (C - 1194) 25 April 1994 (1994-04-25)
- [AD] PATENT ABSTRACTS OF JAPAN vol. 9, no. 166 (C - 290) 11 July 1985 (1985-07-11)

Cited by

EP2319944A1; EP1464712A4; EP1728885A1; EP1006207A4; US7364629B2

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